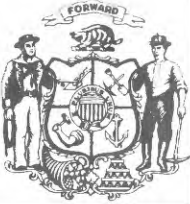


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Water Resources Data Wisconsin Water Year 1986



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WI-86-1
Prepared in cooperation with the State of Wisconsin
and with other agencies

1985

OCTOBER							NOVEMBER							DECEMBER						
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Water Resources Data Wisconsin Water Year 1986

by B.K. Holmstrom, P.A. Kammerer, Jr., and R.M. Erickson



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WI-86-1
Prepared in cooperation with the State of Wisconsin
and with other agencies

**UNITED STATES DEPARTMENT OF THE INTERIOR
DONALD PAUL HODEL, *SECRETARY***

**GEOLOGICAL SURVEY
DALLAS L. PECK, *DIRECTOR***

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Green Lake Sanitary District
Lac La Belle Management District
Okauchee Lake Management District
Morris Lake Management District
Wolf Lake Management District
Park Lake Management District
Wind Lake Management District
Town of Sand Lake
Wood County Board

For additional information write to:

District Chief, Water Resources Division
U.S. Geological Survey
6417 Normandy Lane
Madison, Wisconsin 53719

PREFACE

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

This report is the culmination of a concerted effort by a number of people 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:

Jack T. Freshwaters, Rice Lake, northwest
James W. George, Merrill, northeast
Josef Habale, Madison, southwest

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

R. B. Bodoh	G. L. Goddard	B. A. Jenkin	T. J. Popowski
M. D. Duerk	J. J. Hanig	K. R. Koenig	P. A. Stark
B. R. Ellefson	H. L. Hanson	S. A. March	T. J. Vollmer
G. W. Gill	K. J. Hedmark	G. L. Patterson	T. A. Wittwer
			J. K. Zahn

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, R. D. Cotter, Hydrogeologic Studies Section Chief, Robert A. Lidwin, Acting Hydrogeologic Studies Section Chief, and Vernon W. Norman, District Chief, Wisconsin.

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CONTENTS

	Page
Preface.....	III
List of illustrations.....	VI
List of gaging stations in downstream order, for which records are published.....	VII
Introduction.....	1
Cooperation.....	2
Summary of hydrologic conditions.....	3
Streamflow.....	3
Water quality.....	8
Ground-water levels.....	10
Special networks and programs.....	10
Explanation of the records.....	12
Station identification numbers.....	12
Downstream order and station number.....	13
Numbering system for ground-water and lake data sites.....	13
Records of stage and water discharge.....	13
Data collection and computation.....	14
Data presentation.....	15
Identifying estimated daily discharge.....	17
Accuracy of the records.....	17
Other records available.....	18
Records of surface-water quality.....	18
Classification and arrangement of records.....	18
On-site measurements and sample collection.....	18
Sediment.....	19
Laboratory measurements.....	20
Data presentation.....	20
Remark codes.....	21
Records of ground-water levels.....	22
Data collection and computation.....	22
Data presentation.....	23
Records of ground-water quality.....	24
Data collection and computation.....	24
Data presentation.....	24
Access of WATSTORE data.....	24
Definition of terms.....	25
Publications on techniques of water-resources investigations.....	31
Surface-water records.....	36
Gaging station records.....	36
Discharge at partial-record stations and miscellaneous sites.....	294
Crest-stage partial-record stations.....	294
Measurements at miscellaneous sites.....	302
Water-quality partial-record stations.....	304
Ground-water records.....	317
Ground-water levels.....	319
Quality of ground water.....	345
Acid deposition records.....	355
Discontinued gaging stations.....	391
Wisconsin District Publications.....	394
Index.....	398

ILLUSTRATIONS

	Page
Figure 1. 1986 runoff as percent of long-term average runoff.....	4
2. Comparison of discharge at representative gaging stations during 1986 water year with discharge for 1916-86.....	5
3. Comparison of dissolved-solids concentrations in streams during 1986 water year with monthly means.....	9
4. Relation of seasonal water-table levels to long-term means.....	11
5. Major surface-water drainage basins and index of hydrologic records.....	34
Lake Superior basin location map.....	35
Menominee-Oconto-Peshtigo River basin location map.....	46
Fox-Wolf River basin location map.....	61
Lake Michigan basin location map.....	86
St. Croix River basin location map.....	111
Chippewa River basin location map.....	120
Trempealeau-Black River basin location map.....	139
Upper Wisconsin River basin location map.....	158
Central Wisconsin River basin location map.....	169
Lower Wisconsin River basin location map.....	178
Pecatonica-Sugar River basin location map.....	220
Rock-Fox River basin location map.....	226
6. Location of observation wells and ground-water-quality sites in Wisconsin.....	318
7. Location of acid deposition sites in Wisconsin.....	356
8. Location of data-collection stations at acid deposition sites in Wisconsin.....	357

GAGING STATIONS IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

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

	Page
ST. LAWRENCE RIVER BASIN	
STREAMS TRIBUTARY TO LAKE SUPERIOR	
Lake Superior basin location map.....	34
Nemadji River near South Superior (04024430) [d,c,m,s].....	36
Amnicon Lake (head of Amnicon River) near South Range (04024500) [g].....	39
Bois Brule River near Brule (04025500) [d].....	40
Bad River near Odanah (04027000) [d].....	41
White River near Ashland (04027500) [d].....	42
Bad River at Odanah (04027595) [c,m,s].....	43
Middle Branch Ontonagon River:	
West Branch Ontonagon River:	
Cisco Branch Ontonagon River at Cisco Lake Outlet, MI (04037500)[d].....	45
STREAMS TRIBUTARY TO LAKE MICHIGAN	
Menominee-Oconto-Peshtigo River basin location map:.....	46
Brule River near Florence (04061000) [d].....	47
Menominee River near Florence (04063000) [d].....	48
Pine River:	
Popple River near Fence (04063700) [d,c,m,s].....	49
Menominee River below Pemene Creek near Pembine (04066003) [d].....	52
Menominee River near McAllister (04067500) [d,c,m,s].....	53
Peshtigo River:	
East Thunder Creek (head of Thunder River):	
McCaslin Lake near Lakewood (452241088224800) [c,g].....	56
Peshtigo River at Peshtigo (04069500) [d].....	57
North Branch Oconto River (head of Oconto River):	
Wheeler Lake near Lakewood (04070000) [c].....	58
Oconto River near Gillett (04071000) [d].....	59
Pensaukee River near Pensaukee (04071858) [d].....	60
Fox-Wolf River basin location map.....	61
Fox River:	
Park Lake at Pardeeville (433239089175800) [c,g].....	62
Patrick Lake (head of Montello River) near Grand Marsh (435313089392000) [c,g]...	64
Montello Lake at Montello (434813089204000) [c,g].....	65
Mecan River:	
Chaffee River:	
Wedde Creek:	
Sharon Lake near Dakota (435842089231400) [c,g].....	66
Puchyan River:	
White Creek at Forest Glen beach near Green Lake (04073462) [d,c,s].....	67
Fox River at Berlin (04073500) [d].....	73
Wolf River:	
Swamp Creek above Rice Lake at Mole Lake (04074538) [d].....	74
Wolf River at Langlade (04074950) [d].....	76
Wolf River near Shawano (04077400) [d].....	77
Wolf River at New London (04079000) [d].....	78
Willow Creek:	
Lake Morris near Mount Morris (440654089120500) [c,g].....	79

GAGING STATIONS IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Lake Winnebago at Oshkosh (04082500) [g].....	81
Lake Winnebago near Stockbridge (04084255) [g].....	82
Fox River at Rapide Croche Dam, near Wrightstown (04084500) [d].....	83
Fox River at Wrightstown (04085000) [c,m,s].....	84
— Lake Michigan basin location map.....	86
Kewaunee River near Kewaunee (04085200) [d].....	87
East Twin River at Mishicot (04085281) [d].....	88
Manitowoc River at Manitowoc (04085427) [d,c,m,s].....	89
— Wolf Lake near Mt. Calvary (435152088123100) [c,g].....	92
Sheboygan River at Sheboygan (04086000) [d].....	94
Milwaukee River:	
Big Cedar Lake (head of Cedar Creek) near West Bend (432324088154200) [c,g]....	95
Cedar Creek near Cedarburg (04086500) [d].....	96
Milwaukee River near Cedarburg (04086600) [d].....	97
Milwaukee River at Milwaukee (04087000) [d,c,m,s].....	98
Menomonee River at Menomonee Falls (04087030) [d].....	101
Underwood Creek at Wauwatosa (04087088) [d].....	102
Menomonee River at Wauwatosa (04087120) [d].....	103
Kinnickinnic River at South 11th Street at Milwaukee (04087159) [d].....	104
Oak Creek at South Milwaukee (04087204) [d].....	105
Root River near Franklin (04087220) [d].....	106
Root River Canal near Franklin (04087233) [d].....	107
Root River at Racine (04087240) [d].....	108
Pike River near Racine (04087257) [d].....	109
UPPER MISSISSIPPI RIVER BASIN	
ST. CROIX RIVER BASIN	
St. Croix River Basin location map.....	111
St. Croix River:	
Namekagon River:	
McKenzie Creek:	
McKenzie Lake near Spooner (05333000) [c,g].....	112
St. Croix River near Danbury (05333500) [d].....	113
Clam River:	
Clam Lake near Siren (454711090203000) [c,g].....	114
St. Croix River at St. Croix Falls (05340500) [d,c,m,s].....	115
Apple River:	
Bone Lake (head of Fox Creek) near Luck (05341000) [c,g].....	118
Mississippi River at Prescott (05344500) [d].....	119
CHIPPEWA RIVER BASIN	
Chippewa River basin location map.....	120
Chippewa River at Bishops Bridge, near Winter (05356000) [d].....	121
Couderay River:	
Big Sissabagama Lake (head of Sand Lake) near Stone Lake (454724091303600) [c,g].....	122
Chippewa River near Bruce (05356500) [d].....	124
Flambeau River near Bruce (05360500) [d].....	125
Jump River at Sheldon (05362000) [d].....	126
Eau Claire River:	
North Fork Eau Claire River near Thorp (05365707) [d].....	127
Red Cedar River:	
Hay River at Wheeler (05368000) [d].....	128
Red Cedar River at Menomonie (05369000) [d].....	129
Chippewa River at Durand (05369500) [d,c,m,s,r].....	130

GAGING STATIONS IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Eau Galle River at Low-Water Bridge at Spring Valley (05369945) [d].....	133
Eau Galle River at Spring Valley (05370000) [d,c,t].....	134
BUFFALO RIVER BASIN	
Trempealeau-Black River basin location map.....	139
Buffalo River:	
Crystal Lake at Strum (443311091231000) [c,g].....	140
Mississippi River at Winona, MN (05378500) [d,c,m,t,s].....	141
TREMPEALEAU RIVER BASIN	
Trempealeau River:	
Elk Creek:	
Bugle Lake at Independence (442129091251100) [c,g].....	146
Trempealeau River at Dodge (05379500) [d].....	147
BLACK RIVER BASIN	
Black River at Medford (05380806) [d].....	148
Black River at Neillsville (05381000) [d].....	149
Black River near Galesville (05382000) [d,c,m,s].....	150
LA CROSSE RIVER BASIN	
La Crosse River:	
Neshonoc Lake (435447091042600) [c,g].....	153
Mississippi River at McGregor, IA (05389500) [d,c,t,s].....	154
WISCONSIN RIVER BASIN	
Upper Wisconsin River basin location map.....	158
Wisconsin River:	
Eagle River:	
Anvil Lake (head of Blackjack Creek) near Eagle River (05390500) [c,g].....	159
Little St. Germain Creek:	
Alma Lake near St. Germain (455426089254700) [c,g].....	160
Moon Lake near St. Germain (455504089260500) [c].....	161
Little St. Germain Lake near St. Germain (455550089263600) [g].....	162
Swamp Creek:	
Muskellunge Lake (head of Muskellunge Creek) near	
Lake Tomahawk (454809089284200) (c,g).....	163
Wisconsin River at Rainbow Lake, near Lake Tomahawk (05391000) [d].....	164
Tomahawk River:	
Bear Lake (head of Bear Creek) near Hazelhurst (454554089473400) [c,g].....	165
Spirit River at Spirit Falls (05393500) [d].....	166
Prairie River near Merrill (05394500) [d].....	167
Wisconsin River at Merrill (05395000) [d].....	168
Central Wisconsin River basin location map.....	169
Eau Claire River at Kelly (05397500) [d].....	170
Wisconsin River at Rothschild (05398000) [d].....	171
Big Eau Pleine River near Stratford (05399500) [d].....	172
Little Plover River at Plover (05400650) [d].....	173
Wisconsin River at Wisconsin Rapids (05400760) [d].....	174
Yellow River at Babcock (05402000) [d].....	175
Lemonweir River at New Lisbon (05403500) [d].....	176
Wisconsin River near Wisconsin Dells(05404000) [d].....	177
Lower Wisconsin River basin location map.....	178
Baraboo River:	
Redstone Lake (on Big Creek) near La Valle (433606090060000) [c,g].....	179
Devils Lake near Baraboo(05404500) [c,g].....	180
Baraboo River near Baraboo (05405000) [d].....	181

GAGING STATIONS IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Fish Lake near Sauk City (05406050) [c,g].....	182
Blue Mound Creek:	
Black Earth Creek at Cross Plains (05406460) [d,c,t,s].....	183
Brewery Creek at Cross Plains (05406470) [d,c,t,s].....	191
Garfoot Creek near Cross Plains (05406491) [d,c,t,s].....	198
Black Earth Creek at Black Earth (05406500) [d,c,t,s].....	205
Wisconsin River at Muscoda (05407000) [d,c,m,s].....	213
Kickapoo River at La Farge (05408000) [d].....	216
Kickapoo River at Steuben (05410490) [d].....	217
Reservoirs in the Wisconsin River basin.....	218
GRANT RIVER BASIN	
Pecatonica-Sugar River basin location map.....	220
Grant River at Burton (05413500) [d,s].....	221
PLATTE RIVER BASIN	
Platte River near Rockville (05414000) [d].....	224
GALENA RIVER BASIN	
Galena River at Buncombe (05415000) [d].....	225
ROCK RIVER BASIN	
Rock-Fox River basin location map.....	226
Rock River:	
Oconomowoc River:	
North Lake near North Lake (430844088233300) [c,g].....	227
Okauchee Lake at Okauchee (430723088252100) [c,g].....	228
Okauchee Lake, No. 1, at Okauchee (430723088252100) [c].....	229
Okauchee Lake near Okauchee (430759088244200) [c].....	230
Okauchee Lake, No. 2, at Okauchee (430645088264500) [c].....	230
Okauchee Lake, No. 3, at Okauchee (430642088252400) [c].....	230
Okauchee Lake, No. 4, at Okauchee (430757088261700) [c].....	230
Oconomowoc Lake No. 1 (center) at Oconomowoc (4305510882735) [c,g].....	231
Oconomowoc Lake No. 2 (off Hewitt Point) at Oconomowoc (430609088262200) [c].....	233
Rock River at Watertown (05425500) [d].....	234
Crawfish River:	
Beaverdam River at Beaver Dam (05425912) [d].....	235
Crawfish River at Milford (05426000) [d].....	237
Rock River at Jefferson (05426031) [d].....	238
Bark River near Rome (05426250) [d].....	239
Rock River at Indianford (05427570) [d].....	240
Yahara River:	
Pheasant Branch at Middleton (05427948) [d,s,c].....	241
Spring Harbor storm sewer at Madison (05427965) [d,s].....	243
Lake Mendota at Madison (05428000) [g].....	245
Lake Monona at Madison (05429000) [g].....	246
Yahara River near McFarland (05429500) [d].....	247
Badfish Creek at County Highway A near Stoughton (05430095) [d].....	248
Badfish Creek near Cooksville (05430150) [d].....	249
Yahara River near Fulton (05430175) [d].....	250
Rock River at Afton (05430500) [d].....	251
Turtle Creek:	
Jackson Creek at Petrie Road near Elkhorn (05431014) [d].....	252
Jackson Creek Tributary near Elkhorn (054310157) [d,c,s].....	253
Delavan Lake Inlet at US Hwy 50 at Lake Lawn (05431017) [d,c].....	260
Delavan Lake Tributary at South Shore Drive at Delavan Lake (05431018) [d].....	263

GAGING STATIONS IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Delavan Lake at sw end near Delavan Lake (423526088380101) [c,g].....	264
Delavan Lake at center near Delavan Lake (423556088365001) [c,g].....	266
Delavan Lake at north end near Lake Lawn (423659088354401) [c,g].....	269
Delavan Lake near Delavan (423706088363400) [g].....	271
Delavan Lake Outlet at Borg Road near Delavan (05431022) [d,c,s].....	272
Turtle Creek at Carvers Rock Road near Clinton (05431486) [d].....	275
Pecatonica River at Darlington (05432500) [d].....	276
East Branch Pecatonica River near Blanchardville (05433000) [d].....	277
Pecatonica River at Martintown (05434500) [d].....	278
Sugar River near Brodhead (05436500) [d,c,s].....	279
Rock River at Rockton, IL (05437500) [d].....	284
ILLINOIS RIVER BASIN	
Kankakee River (head of Illinois River):	
Des Plaines River at Russell, IL (05527800) [d].....	285
Illinois River:	
Fox River at Waukesha (05543830) [d].....	286
Mukwonago River at Mukwonago (05544200) [d].....	287
Wind Lake Drainage Canal:	
Wind Lake at Wind Lake (424848088083100) [c,g].....	288
Honey Creek:	
Pleasant Lake near La Grange (424727088332300) [c,g].....	290
Fox River at Wilmot (05546500) [d].....	291
Nippersink Creek:	
North Branch Nippersink Creek:	
East Branch Nippersink Creek:	
Powers Lake at Powers Lake (05548164) [c,g].....	292

WATER RESOURCES DATA FOR WISCONSIN, 1986

INTRODUCTION

Water-resources data for Wisconsin for the 1986 water year include records of streamflow at gaging stations, partial-record stations, and miscellaneous sites; stage and contents of lakes and reservoirs; chemical, physical, and biological characteristics of surface and ground water; and water levels in observation wells. Records from several stations in bordering states are also included. This report contains discharge records from 106 gaging stations and peak stage and discharge from 104 crest-stage stations; stage for 38 lakes and contents for 24 reservoirs; water-quality data from 20 streams, from 31 lakes, and from 165 wells; and water-level records from 64 observation wells. Various discharge, stage, precipitation, ground-water level, and water quality data are collected at four acid-deposition sites in northern Wisconsin. Additional water data were collected at various sites not involved in the systematic data-collection program, and are published in this report as miscellaneous measurements.

The Water Resources Division of the U.S. Geological Survey, in cooperation with local, State and Federal agencies, obtains a large amount of data pertaining to the water resources of Wisconsin each year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Wisconsin." This series of annual reports for Wisconsin began in the 1961 water year with streamflow data, the 1964 water year with water-quality data, and the 1971 water year with ground-water data. Beginning with the 1975 water year, streamflow, water quality, and ground water data for each State were published in present format. These annual reports are for sale, in paper copy or microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Wisconsin were published in U.S. Geological Survey Water-Supply Papers. 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 above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Box 25425, Federal Center, Denver, CO 80225.

Additional information, including current prices for ordering specific reports, may be obtained from the District Chief at the address given on the back of the title page, or by telephone (608)274-3535.

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.

U.S. Army Corps of Engineers.

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.

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

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

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

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

City of Medford, Arthur Salzwedel, mayor.

City of Middleton, Dan Ramsey, mayor.

City of Beaver Dam, John Omen, mayor.

City of Galena, IL, Frank L. Einsweiler, mayor.

City of Thorp, Dave M. Keating, mayor.

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.

Illinois Department of Transportation.

U. S. Bureau of Indian Affairs.

Village of Slinger.

Village of Oconomowoc Lake.

Menominee Indian Tribe of Wisconsin.

Lac Courte Oreilles Governing Board.

Delavan Lake Sanitary District, Kevin L. MacKinnon.

District of Powers Lake.

Green Lake Sanitary District, Daniel R. Simonson.

Morris Lake Management District.

Okauchee Lake Management District.

Park Lake Management District.

Wind Lake Management District.

Town of Sand Lake.

Wolf Lake Management District.

Wood County Board.

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., Scott Paper Co., and Milwaukee County Park Commission.

Organizations that supplied data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow

Runoff throughout Wisconsin was above normal during the 1986 water year. Average runoff for the year varied from approximately 101 to 280 percent of the long-term average (fig. 1). The Grant River basin in southwestern Wisconsin exhibited the lowest runoff (101 percent) compared to its long-term average runoff (1935-86). The Crawfish River basin in southeastern Wisconsin shows the greatest runoff (280 percent) compared to its long-term average (1932-86). The comparison of the monthly and annual mean discharges for the 1986 water year to a 71-year base period at three gaging stations is shown in figure 2.

Average runoff for selected gaging stations throughout the State draining about 40,200 square miles was 10.4 inches for the 30-year period from 1951-80. Average runoff for these stations was 15.8 inches for the 1986 water year, or approximately 152 percent above the average runoff for the 1951-80 period. Largest runoff values occurred in streams in eastern Wisconsin draining into Lake Michigan. These runoff values for the 1986 water year were up to 225 percent above average. The Rock River basin in southeastern Wisconsin had runoff values two times the average runoff for the 1951-80 period.

1986 was the ninth consecutive water year that streamflow had been above normal. Streamflow in Wisconsin has not been normal or below normal since the drought of 1976-77. Above normal precipitation in October, November, August, and September and snowmelt and precipitation in early spring accounted for peaks at over 50 different gaging stations that exceeded the 2-year recurrence interval.

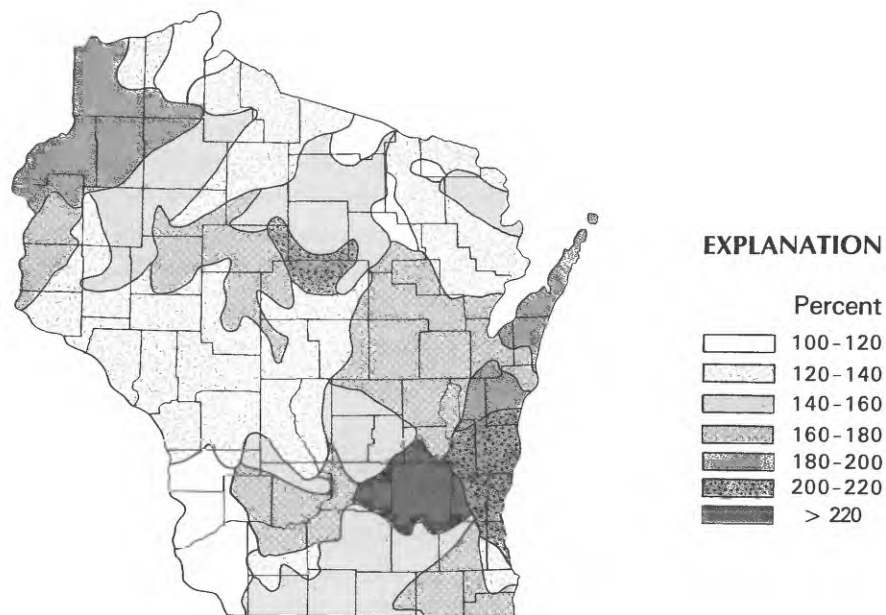


Figure 1. 1986 runoff as percent of long-term average runoff.

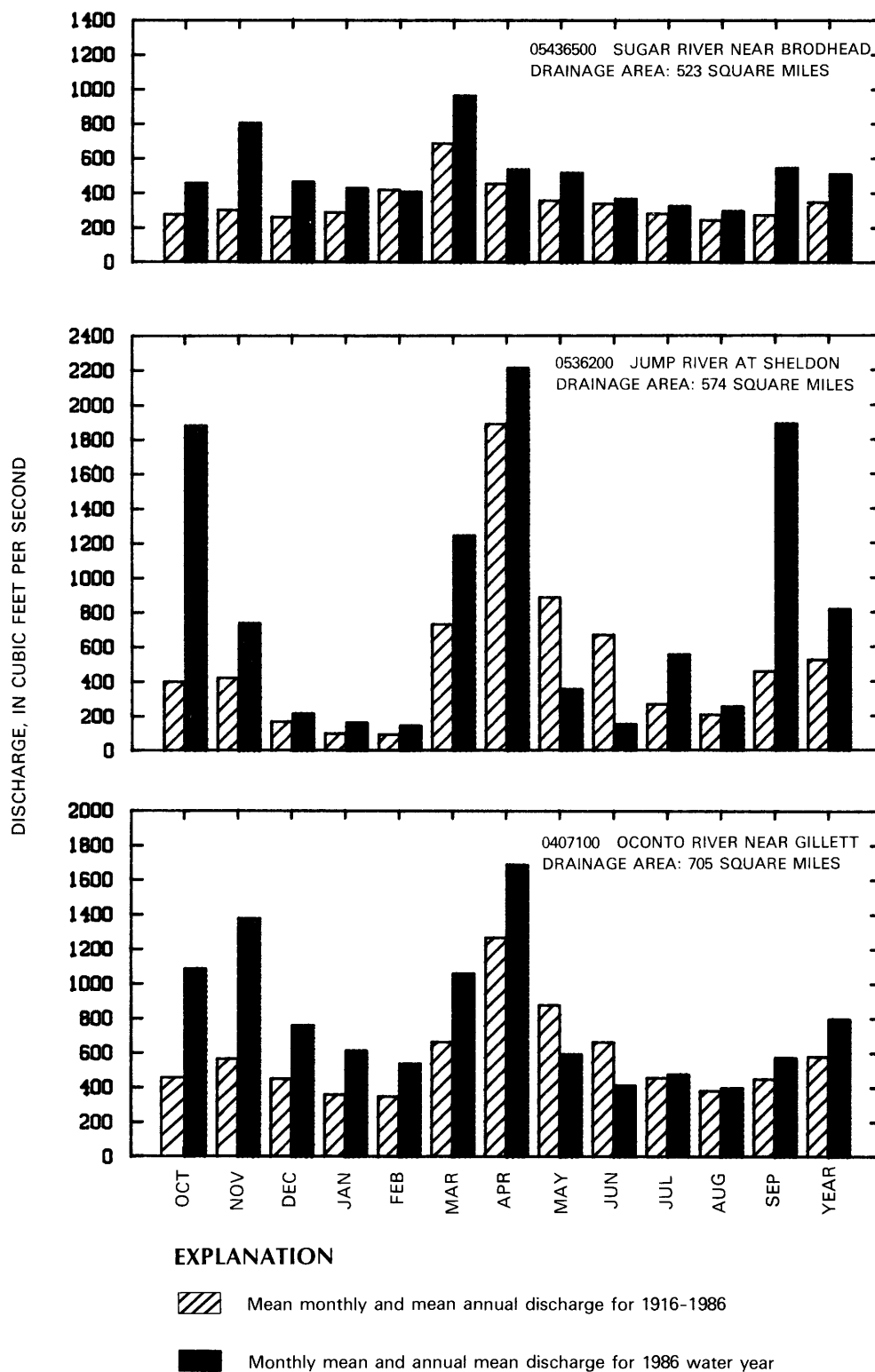


Figure 2. Comparison of discharge at representative gaging stations during 1986 water year with discharge for 1916-86.

The following is a description of the seasonal variation in streamflow in the State.

October - December

Above normal precipitation with high soil moisture conditions in October and November caused above normal runoff for the October through December period. Highest average streamflows occurred on streams in eastern Wisconsin flowing into Lake Michigan (which were four to six times greater than normal) and in the Crawfish River basin in southeastern Wisconsin (approximately 660 percent greater than normal).

January - March

Average flows for January through March period were above normal for most of the State and ranged from 80 percent of normal in southwestern Wisconsin to 230 percent in the Crawfish River basin in southeastern Wisconsin. A combination of snowmelt and precipitation produced peaks at several gaging stations in southeastern and east-central Wisconsin with recurrence intervals exceeding five years. These peaks are listed in the following table:

Station number	Station name	Date	Peak discharge (ft ³ /s)	Recurrence interval (years)
04073500	Fox River at Berlin	Mar. 26	4,960	6
04079000	Wolf River at New London	Mar. 29	10,200	6
04087233	Root River Canal near Franklin	Mar. 10	1,120	7
05425500	Rock River at Watertown	Mar. 24	4,030	18
05426000	Crawfish River at Milford	Mar. 24	3,740	7
05430500	Rock River at Afton	Mar. 27	9,270	6

April - June

Average flows for April through June period ranged from 51 percent of normal in the upper Black River basin in west central Wisconsin to 204 percent of normal in the St. Croix River basin in northwestern Wisconsin. Average flows started out above normal in April and declined to below normal conditions in late June, which was caused by below normal precipitation in late May and June. The overall average flows for this period were about normal. There were numerous peak discharges in northern Wisconsin that exceeded the 5-year recurrence interval. These peaks were caused by above normal snowfall and snowmelt runoff in early April along with thunderstorms in mid-May and late June and are listed in the following table:

Station number	Station name	Date	Peak discharge (ft ³ /s)	Recurrence interval (years)
04025500	Bois Brule River near Brule	May 13	976	6
04027000	Bad River near Odanah	Apr. 1	11,500	5
04063700	Popple River near Fence	Apr. 7	1,100	9
04066003	Menominee River below Pemene Creek near Pembine	Apr. 7	18,400	5

04067500	Menominee River near McAllister	Apr. 8	22,300	6
04077400	Wolf River near Shawano	Apr. 1	4,440	25
04087088	Underwood Creek at Wauwatosa	June 27	1,460	9
05340500	St. Croix River at St. Croix Falls	May 14	37,000	8
05356500	Chippewa River near Bruce	Apr. 1	17,500	17
05360500	Flambeau River near Bruce	Apr. 2	17,600	26
05362000	Jump River at Sheldon	Apr. 1	14,000	7
05369500	Chippewa River at Durand	Apr. 4	68,500	6
05395000	Wisconsin River at Merrill	Apr. 1	21,900	10

July - September

Above normal precipitation from July through September caused average flows that were above normal for most of the State. September's statewide average rainfall exceeded 8.5 inches that approached Wisconsin's record September rainfall of 9.0 inches, which occurred in 1881 (Wisconsin State Journal, 1986). Average streamflows were four to five times greater than normal in the eastern tributaries to Lake Michigan. The Crawfish River in southeastern Wisconsin had average flows that were about seven times higher than normal.

A severe thunderstorm in the Milwaukee metropolitan area occurred on August 6 and caused record flooding that resulted in two deaths and massive property damage (Gebert, 1987). The total 24-hour rainfall was 6.84 inches; this was estimated to be about a 300-year event by the Southeastern Wisconsin Regional Planning Commission (SEWRPC, 1986). The storm produced a peak discharge of 10,600 ft³/s on the Kinnickinnic River at South 11th Street at Milwaukee, which was estimated to exceed a 500-year flood. Flood waters were the cause of two deaths in this basin. Total property damage in the Milwaukee area as a result of the August 6 floods was estimated to be about 21 million dollars by the Wisconsin Department of Natural Resources (Wisconsin DNR, 1986).

A number of gaging stations recorded floods that exceeded the 5-year recurrence interval as a result of August thunderstorms and the combination of precipitation and saturated soils in September. These peak discharges are listed in the following table:

Station number	Station name	Date	Peak discharge (ft ³ /s)	Recurrence interval (years)
04087088	Underwood Creek at Wauwatosa	Aug. 6	1,350	8
04087120	Menomonee River at Wauwatosa	Aug. 6	10,600	75
04087159	Kinnickinnic River at South 11th Street at Milwaukee	Aug. 6	10,600	>500
04087204	Oak Creek at South Milwaukee	Aug. 6	1,140	55
05381000	Black River at Neillsville	Sept. 22	28,100	17
05382000	Black River at Galesville	Sept. 24	43,600	14
05393500	Spirit River at Spirit Falls	Sept. 27	2,970	13
05398000	Wisconsin River at Rothschild	Sept. 28	46,700	13
05400760	Wisconsin River at Wisconsin Rapids	Sept. 29	59,000	17

05402000	Yellow River at Babcock	Sept. 22	8,640	13
05404000	Wisconsin River near Wisconsin Dells	Sept. 30	53,400	9

References Cited

Gebert, W.A., 1987, Flood of August 6, 1986, in Milwaukee, Wisconsin Metropolitan Area, National Water Summary 1986, U.S. Geological Survey Water-Supply Paper 2325.

Southeastern Wisconsin Regional Planning Commission, 1986, Major storm event causes flooding and local storm water drainage problems in Southeastern, Southeastern Wisconsin Regional Planning Newsletter, Vol. 26, No. 6, Nov.-Dec. 1986.

Wisconsin Department of Natural Resources, 1986, Interagency Hazard Mitigation Report, FEMA-770-DR-WI, August 1986, 20 p.

Wisconsin State Journal, "September rain near 9", September 30, 1986.

Water Quality

Dissolved solids concentrations represent the total dissolved mineral content of water. Dissolved solids concentrations in rivers and streams change with changes in runoff. Concentrations are generally highest during base flow, when streamflow is ground-water runoff and decrease as base flow is diluted by runoff from snowmelt and precipitation.

Dissolved solids concentrations measured at selected National Stream-Quality Accounting Network (NASQAN) stations and a Hydrologic Benchmark Network (HBMN) station during the 1986 water year reflect runoff conditions in the State. Dissolved solids concentrations measured at these stations during the year are compared to monthly mean concentrations for the period of record in figure 3.

Dissolved-solids concentrations were generally less than long-term monthly mean concentrations throughout the State because of above-normal runoff. Runoff at the Popple River near Fence (HBMN station) was only 114 percent of normal for the water year, but runoff in November, January, and April was 200, 154, and 151 percent of normal, respectively, causing dissolved solids concentrations less than long-term monthly means. Runoff in August was 71 percent of normal, and the dissolved-solids concentration measured during the month was close to the mean concentration. Dissolved-solids concentrations at the NASQAN stations Milwaukee River at Milwaukee and Manitowoc River at Manitowoc were considerably below long-term means through March. Runoff in eastern Wisconsin during this period was considerably above normal. Later in the water year, departure from average runoff decreased and dissolved solids concentrations approached long-term means. Runoff at the NASQAN station on the Black River near Galesville was 131 percent of normal for the water year and dissolved-solids concentrations were close to long-term mean concentrations. Runoff at this station was below normal for the period April-June, and dissolved-solids concentrations measured during this period exceeded the monthly mean.

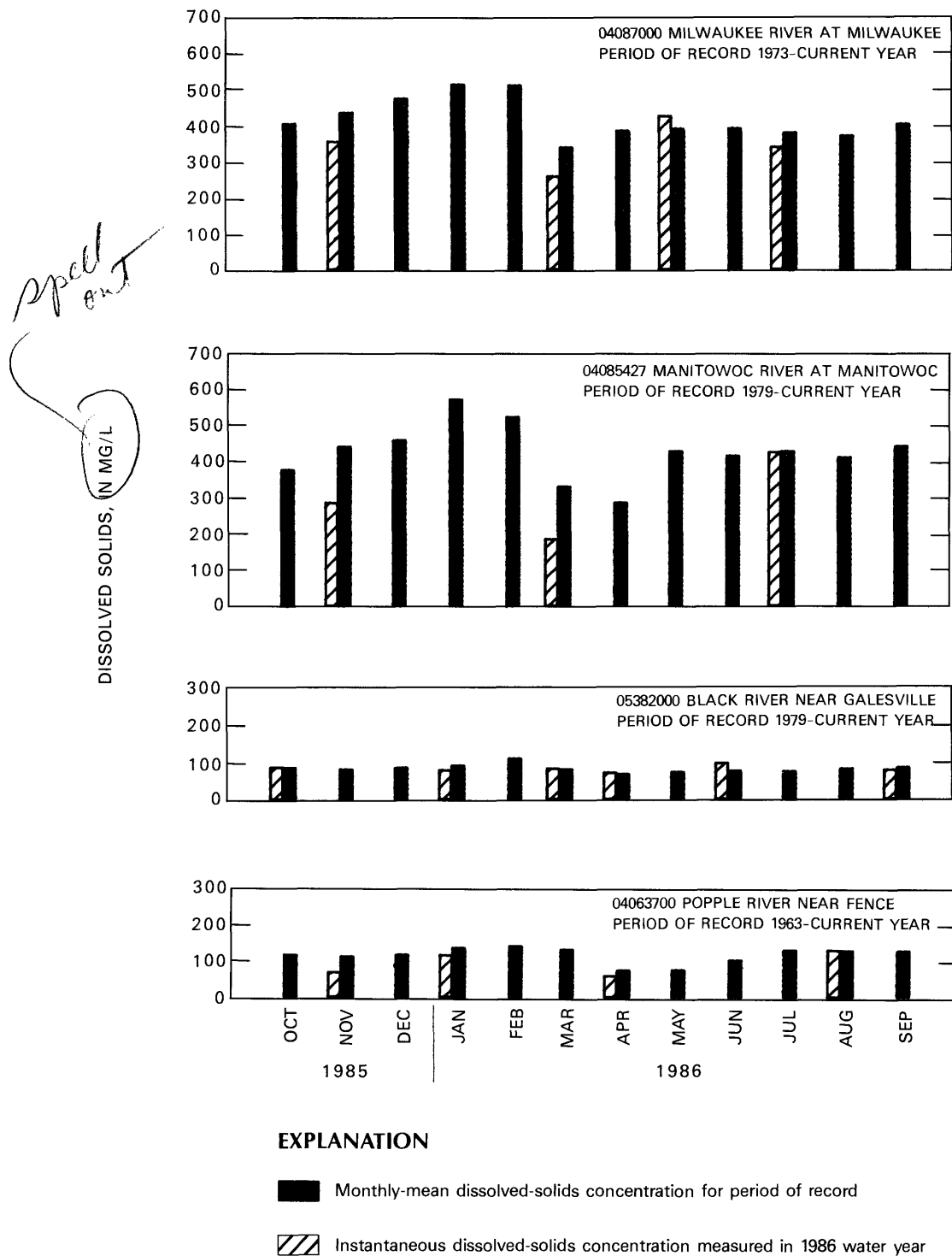


Figure 3. Comparison of dissolved-solids concentrations in streams during 1986 water year with monthly means.

Ground-Water Levels

Maps showing the seasonal ground-water trends for the year (fig. 3) are based on water-level data from 27 shallow-aquifer wells, each having at least 15 years of record. Water-level measurements from each well are grouped so that FALL consists of measurements from September through November 1985; WINTER consists of measurements from December 1985 through February 1986; SPRING consists of measurements from March through May 1986; and SUMMER consists of measurements from June through August 1986. Mean seasonal water levels for 1986 were compared to the long-term mean seasonal water levels. The 1986 water level was considered normal if it was within one-half of the standard deviation of the long-term mean.

Three consecutive years of above normal ground-water levels (1983-85) occurred throughout most of Wisconsin and the trend continued in 1986. The only notable exceptions were areas along some of the major river valleys where ground-water levels were normal.

Ground-water levels in eastern Wisconsin have commonly been normal or below normal during the past several years. This is not a reflection of climatic conditions, but is probably due to municipal pumping in the Green Bay and Milwaukee areas.

Ground-water levels in 14 of the 27 wells were above normal throughout the year, and water levels in nine of these were more than one standard deviation above the long term mean for all four seasons.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Program provides data from 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 into 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.

The U.S. Geological Survey completed a nation-wide review of the NASQAN program during 1986. This review is expected to result in a change in emphasis in the program and a net reduction, nationally, in the number of stations in the network. The original accounting objectives of the program will be retained only for a reduced number of stations that account for the quality of water leaving the continent or entering the Great Lakes. To meet the accounting objectives, preference will be given to stations where statistically significant water-quality changes have been detected or where changes in upstream land uses are anticipated.

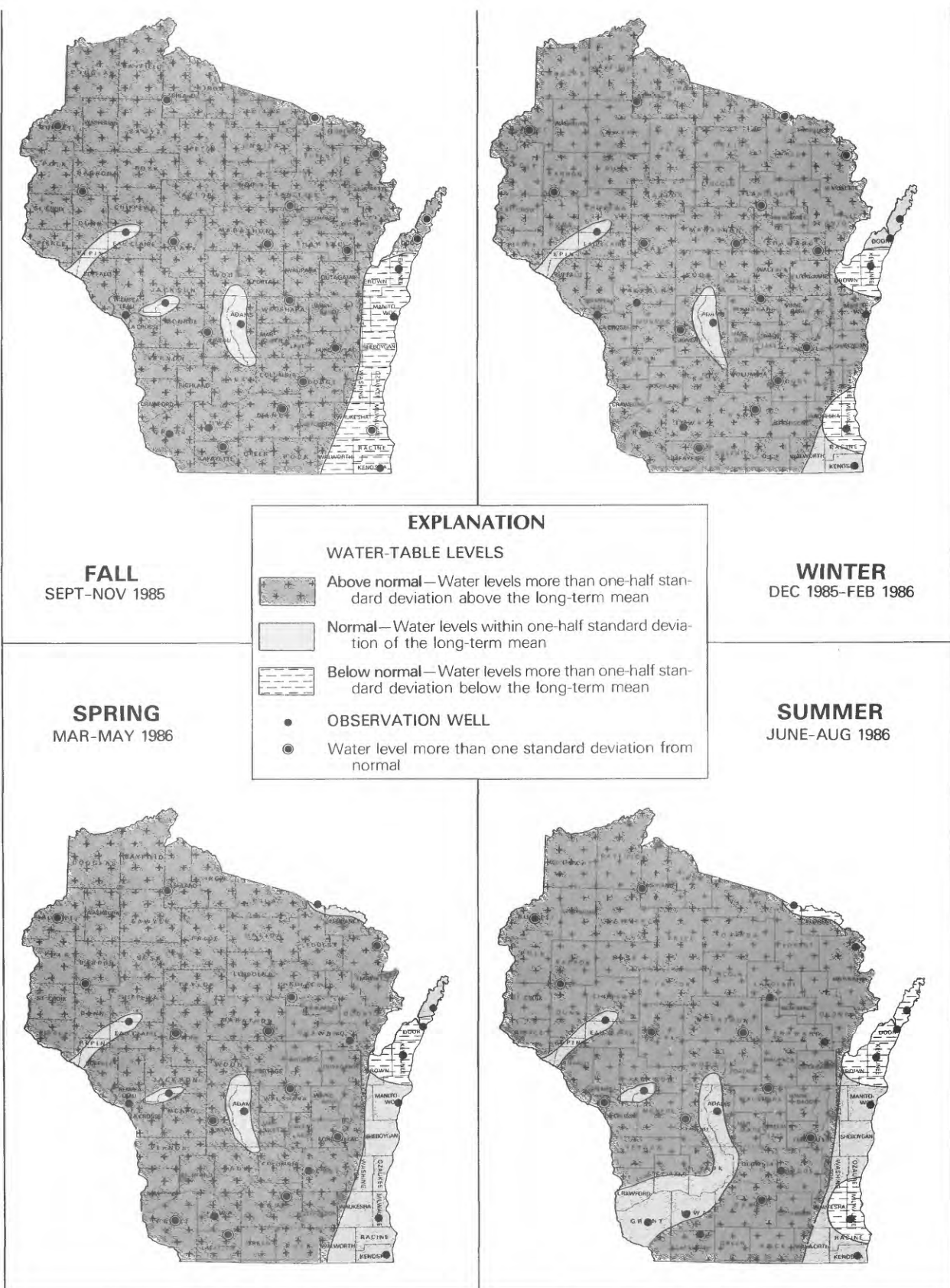


Figure 4. Relation of seasonal water-table levels to long-term means.

Increased emphasis will be placed on trend detection and transport of dissolved and suspended materials at these remaining accounting stations and any other stations retained in the network. Other stations retained in the network will be selected on the basis of hypotheses concerning the causes of existing or potential trends that the station is intended to identify. This new emphasis will require more intensive sampling (event-related and fixed-frequency sampling) and more chemical analyses of suspended materials, thus increasing per station costs. These increased costs are to be met by the reduction in network size rather than by increased funding of the program. Some reduction in network size began in the 1987 water year; major changes in the size and emphasis of the network are expected to be planned and implemented through the 1989 water year.

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

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are from the 1986 water year that began October 1, 1985, and ended September 30, 1986. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for precipitation and surface and ground water, and ground-water-level data. Data collection as part of cooperative studies of acid deposition in Wisconsin, which includes most of the data type just mentioned, are tabulated in a separate section of the report. The explanations of various types of data given in the remainder of this section apply to these records as well. Figure 5 shows major surface-water drainage basins and an index of hydrologic records. The locations of the stations and wells where the data were collected are shown in basin location maps and figures 6, 7, and 8.

The following sections of introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for the station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order number" is used for most surface-water stations or streams and a unique 15-digit number is used for lakes and wells.

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. No station-number distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight- or nine- digit number for each station, such as 04087000 or 054310157, which appears just to the left of the station name, includes the two-digit Part number "04" or "05" plus the six- or seven digit downstream-order number "087000" or "4310157". The Part number designates the major river basin; for example, records in this report are in Part 04 (St. Lawrence River basin) or Part 05 (Upper Mississippi River basin).

In some special cases, stations on streams may be identified with the numbering system used for ground-water and lake-data sites described in the following paragraph. This is generally done only for special purpose short-term stations where station density precludes convenient assignment of downstream order numbers.

Numbering System for Ground-Water and Lake Data Sites

Wells, springs, and sites on lakes where data are collected are identified by a unique 15-digit number that is a concatenation of the site's latitude, longitude, and a two-digit sequence number. The sequence number is used to distinguish between sites located at the same latitude-longitude designation. The site identification number is permanently assigned to the site; actual latitude and longitude of the site are subject to update and are stored separately. Each ground-water site is also 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.

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained from a continuous stage-recording device by which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any

time, or period of time. They may be obtained from a continuous stage-recording device, but need not be. Because daily mean discharges commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained by discrete measurements, without using a continuous stage-recording device. Two types of surface-water partial-record stations are operated: (1) crest-stage partial-record stations, for which maximum discharge is recorded; and (2) miscellaneous stations, for which periodic discharge measurements and/or limited water-quality analyses are made. These types of stations are each presented separately in this report.

Data Collection and Computation

The basic data collected at complete-record gaging stations include stage and discharge measurements of streams, and stage, surface area, and content measurements of lakes and reservoirs. 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 by using methods described in "U.S. Geological Survey Techniques of Water Resources Investigations" listed in "Publications on techniques of water-resources investigations."

Rating tables of stream stage and corresponding discharges 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 from 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.

The slope method is used to compute discharge at stream-gaging stations where backwater from lakes or reservoirs, tributary streams, or other sources affect the stage-discharge relationship. The rate of change of stage is used to compute discharge at stations where the stage-discharge relationship is affected by rapid changes in stage. 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.

Descriptions of the stations and tabulations of data are included in this report. 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.

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information such as station location, period of record, average discharge, historical extremes, record accuracy, and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments that follow clarify information presented under the various headings of the station description. These headings may include all or some of the following:

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages were provided by the U.S. Army Corps of Engineers or other agencies.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of map available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation when the present station was not, and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect and revisions are printed in later reports. All the reports in which revisions have been published for the station and the water years to which the revisions apply are listed under this heading. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see definition of terms), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information about the accuracy of the records, special methods of computation, conditions that affect natural flow at the station and, possibly, other pertinent items.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

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

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

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

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

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

Although it is rare, occasionally the records of a discontinued gaging station may need revision. Because there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations, who obtained the record from previously published data reports, may wish to contact the District office to determine if the published records were ever revised after the station was discontinued. If the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

RATING TABLE.--Skeleton rating tables allow an approximation of daily gage heights from daily discharges. The tables also indicate the range in stage resulting from any given range in discharge.

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

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. The figures shown in the yearly summary below the monthly summary are the appropriate discharges for the calendar and water years.

Data collected at crest-stage partial-record stations are given in a table of annual maximum stages and discharges that follows the information for continuous-record sites. The crest-stage partial-record stations table is followed by a list of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for special reasons are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values are identified by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

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

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true value; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to the nearest whole number between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for

partial-record stations and miscellaneous magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, or changes in contents or reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents.

Other Records Available

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables are on file in the Wisconsin District office. Also, most of the daily mean discharges are in computer-readable form and have been statistically analyzed. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District office.

Records of Surface-Water Quality

Records of stream-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of stream-water quality nearly always requires corresponding discharge data. Water samples from lakes are collected at locations identified by latitude and longitude; the depth at which the sample was collected is given with each analysis. Records of surface-water quality in this report include a variety of types of data and measurement frequencies.

Classification and Arrangement of Records

The water-quality data collected at surface-water sites fall into two general classifications. Continuous-record stations are sites where data are collected on a regularly scheduled basis as part of a monitoring program or interpretive investigation. Water-quality records for these stations accompany stream-discharge or lake-stage records, where available, in the Surface Water Records section of this report. Water-quality partial-record stations are sites where more limited water-quality data are collected. These data include water temperature and specific conductance measurements made at gaging station visits and other reconnaissance data collected for special purposes. Water-quality data for water-quality partial-record stations appear together at the end of the Surface Water Records section.

On-site Measurements and Sample Collection

In obtaining water-quality data, care is taken to assure that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, are made on site when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures

are followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in "U.S. Geological Survey Techniques of Water-Resources Investigations," listed in "Publications on techniques of water-resources investigations."

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections using depth-integrating samplers to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. Water quality in lakes may differ with depth and laterally at a particular depth depending on thermal stratification and other physical and biological factors.

Chemical-quality data published in this report are considered to be representative values for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis.

For chemical-quality stations equipped with recording monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon values recorded. More detailed records (hourly values) may be obtained from the U.S.G.S. Wisconsin District Office.

Sediment

Suspended-sediment concentrations are determined on samples collected with depth integrating samplers from one or more verticals in the cross section, or on a single sample taken manually or with an automatic sampler at a fixed point. For fixed-point samples, a coefficient is applied to correct for differences between fixed-point and flow-integrated samples.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently than during stable periods. The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge. Suspended-sediment discharges less than 0.005 tons/day are reported as 0.

Suspended-sediment samples collected periodically represent conditions only at the time of observations. However, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of suspended-sediment concentration and the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Samples for suspended-sediment concentration and particle-size determination are analyzed by the U.S.G.S. Sediment Laboratory in Iowa City, Iowa. Chemical analyses, other than field measurements, are performed by the U.S.G.S. Central Laboratory System unless specified otherwise. Methods used in analyzing sediment samples and computing sediment records are given in "U.S. Geological Survey Techniques of Water-Resources Investigations" listed in "Publications on techniques of water-resources investigations."

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then following in sequence.

The concentrations of some constituents are given as less than some value; that value is the detection for the analytical method used for the analysis. Occasionally these values differ or an actual concentration is given that is less than a higher detection limit indicated for the constituent in another analysis. These differences are due to differences in analytical methods.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor, temperature recorder, pumping sediment sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximum and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates or check with the District Office to determine if updates were made.

The surface-water-quality records for water-quality partial-record stations are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

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

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)

Water-level data for 64 wells are given in this report. The location of these wells is shown on figure 6. These wells are part of a national network of observation wells, and the water-level data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers.

Data in this report represent natural 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.

Although records of water levels for 64 wells are presented in this report, water-level data are currently being collected for a total of 227 wells in Wisconsin through a cooperative program with the Wisconsin Geological and Natural History Survey (WG&NHS). Many federal, state, county and local agencies, as well as interested area residents, assist in this program by measuring and reporting water levels. All water-level data are placed in computer storage. Reports containing hydrographs, showing water-level changes in all of these wells, are periodically published by the WG&NHS.

The amplitude of water-level changes is typified by 10 well hydrographs in this report that show annual maximum and minimum water levels for the period of record.

Data Collection and Computation

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

Tables of water-level data are presented by county arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the heading. It is followed by the secondary identification number (the local number), an alphanumeric number, derived from the county, township-range location of the well, and a sequential number for the county.

Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. The altitude of the lsd above the National Geodetic Vertical Datum of 1929 and the height of the measuring point (MP) above or below the lsd is given in each well description. Water levels are normally 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.

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. The description of the well precedes the tabular data. The comments below clarify information presented under the various headings.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); the hydrologic-unit number; and the land owner's name.

AQUIFER.--This entry designates by name the primary aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, and use.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of casing, top of breather pipe, hole in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) National Geodetic Vertical Datum of 1929 (NGVD of 1929); it is reported with a precision dependent on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed. For wells equipped with recorders, only abbreviated tables are published; daily lows are listed for every fifth day and at the end of the month (eom). For these wells the highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all values are not published for these wells, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level.

Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others.

Most methods of collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed in "Publications on techniques of water-resources investigations." The values reported in this report represent water-quality conditions at the time of sampling. Care is taken to assure that the water collected represents the geologic unit supplying water to the well. This is done by pumping the well for what is believed to be a sufficient length of time to flush out water that might have been contaminated by exposure to the material that comprise the well casing or distribution system.

Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by County. No descriptive statements are given for ground-water-quality records; however, station number, local identifying number, geologic unit, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The discussion of detection limits and the list of remarks codes for surface-water-quality records also apply to ground-water-quality records.

ACCESS OF WATSTORE DATA

The National Water Data Storage and Retrieval System (WATSTORE) was established to process and store water data collected through the activities of the U.S. Geological Survey and to provide 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

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 $44.5^{\circ}\text{C} \pm 0.2^{\circ}$ 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 $35^{\circ} \pm 1.0^{\circ}$ 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 (ft³/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 um 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. See also Lake stage.

Gaging station is a particular site on a stream or lake where systematic hydrologic data are collected.

Geologic unit is a geologic formation or group of formations; in this report, the term is used in the same sense as "aquifer" and refers to the geologic formation(s) open to the uncased or screened portion of a well.

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 (CaCO₃). 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.

Lake stage is the elevation of the lake's water surface referred to some arbitrary gage datum.

Micrograms per gram (µg/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.

Secchi disk is a black and white plate, 20-25 cm in diameter, which is lowered into a lake on a calibrated line until it is no longer visible. The depth, in meters, at which the disk just disappears is reported as a measure of transparency.

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 discharge-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 microsiemens 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 μ m 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 μ m membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of dissolved and total recoverable concentrations of the constituent.

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 report (WRD was used an abbreviation for "Water-Resources Data" in reports published prior to 1982.

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

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

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

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel and dispersion in streams by dye tracing*, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programmed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

- 3-C1. *Fluvial sediment concepts* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*. by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*. by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves* by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations*. by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*. by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*. by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells* by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments* by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*. by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for analysis of organic substances in water*. by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples* edited by P. E. Greeson, T. A. Ehle, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*. by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*. by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*. by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels* by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. *Methods of measuring water levels in deep wells* by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers* by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

ST. LAWRENCE RIVER BASIN RECORDS

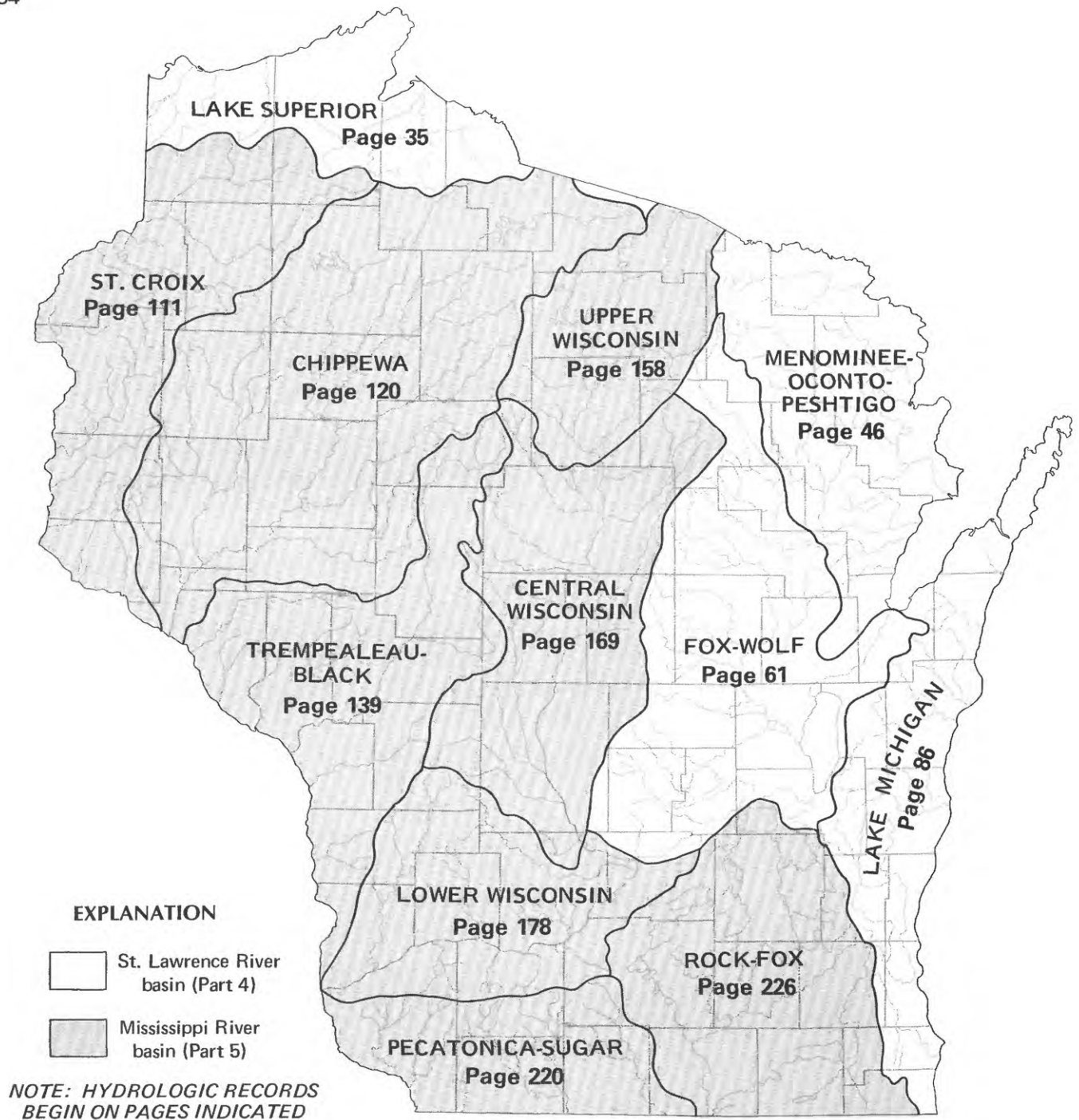


Figure 5. Major surface-water drainage basins and index of hydrologic records.

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: None, except for ice period listed in rating tables below. Records good except for ice-affected period, which is fair.

AVERAGE DISCHARGE.--12 years, 434 ft³/s, 14.03 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft³/s May 10, 1979, gage height, 22.83 ft; maximum gage height, 23.82 ft, Sept. 3, 1985; 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 greater than base discharge of 3,500 ft³/s, revised, and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Apr. 1	1700	ice jam	*22.64	June 11	2000	5,300	20.53
Apr. 2	----	6,400	ice jam	July 19	2300	3,930	18.28
Apr. 29	0800	*8,840	22.29	Aug. 10	1500	4,300	18.79
May 12	0500	4,330	19.42	Sept. 18	0100	4,280	18.76
May 14	0500	4,550	19.91	Sept. 22	2200	4,820	19.42

Minimum daily discharge, 88 ft³/s Mar. 8, result of freezeup.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 1-7, May 2-10, May 13 to June 12; stage-discharge relation affected by ice Nov. 10 to Apr. 4.)

Oct. 1 to May 7(1300)				May 7(1400) to June 12				June 13 to Sept. 30			
4.0	84	14.0	2,260	4.9	151	15.0	2,170	5.0	190	17.0	3,200
5.0	198	18.0	3,820	6.0	272	17.0	2,960	7.0	473	18.0	3,730
6.0	342	20.0	5,200	8.0	543	19.0	4,050	11.0	1,280	19.0	4,460
9.0	920	22.0	7,950	11.0	1,090	20.0	4,750	15.0	2,400		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2060	299	190	110	96	92	4700	2690	177	276	281	1540
2	1420	331	190	110	100	92	6400	1870	163	255	252	1690
3	1010	330	190	110	100	92	5400	1390	155	239	234	973
4	819	301	190	110	100	92	3800	1080	277	225	213	1780
5	686	280	190	110	100	92	3000	881	591	279	197	1130
6	582	270	190	100	100	92	2740	712	430	311	263	730
7	513	285	190	100	100	90	2580	581	393	343	864	556
8	879	281	180	92	100	88	2550	594	813	262	2120	466
9	1120	248	180	94	100	90	1940	2090	573	226	1030	407
10	783	240	170	96	100	96	1550	1880	672	208	3700	520
11	635	240	160	98	100	100	1320	3120	4480	224	2220	691
12	885	230	160	100	100	100	1130	4010	4240	1670	958	727
13	1380	220	150	100	100	110	957	3620	1950	2110	676	609
14	952	200	150	100	100	110	868	4240	1220	1310	1380	510
15	743	190	140	98	100	110	1620	2460	919	1120	2140	445
16	614	200	130	98	100	110	1570	1510	749	2610	1160	458
17	525	220	130	98	100	120	1120	1170	613	1360	744	2230
18	464	240	120	100	100	120	922	897	494	821	559	3430
19	420	700	120	100	100	130	1260	696	421	2150	458	1630
20	377	520	110	100	100	140	1290	564	398	2720	889	2520
21	348	370	110	100	98	140	1010	477	1250	1050	1680	2060
22	326	320	110	100	96	150	820	409	2260	715	1090	4020
23	318	270	110	100	94	160	698	356	1290	548	2350	3660
24	357	250	110	100	94	200	705	321	827	450	1330	1860
25	352	230	110	100	92	250	1600	323	627	405	833	1890
26	322	220	110	98	92	260	1420	330	508	352	646	2140
27	306	210	110	96	92	270	2970	293	831	409	531	2210
28	287	200	110	96	92	290	4720	267	607	694	447	1640
29	271	200	110	96	---	450	7450	238	406	473	390	1110
30	275	200	110	96	---	1000	4670	216	320	365	350	915
31	308	---	110	96	---	2500	---	195	---	314	319	---
TOTAL	20337	8295	4440	3102	2746	7736	72780	39480	28654	24494	30304	44547
MEAN	656	277	143	100	98.1	250	2426	1274	955	790	978	1485
MAX	2060	700	190	110	100	2500	7450	4240	4480	2720	3700	4020
MIN	271	190	110	92	92	88	698	195	155	208	197	407
CFSM	1.56	.66	.34	.24	.23	.60	5.78	3.03	2.27	1.88	2.33	3.54
IN.	1.80	.73	.39	.27	.24	.69	6.45	3.50	2.54	2.17	2.68	3.95

CAL YR 1985 TOTAL 170764 MEAN 468 MAX 6810 MIN 42 CFSM 1.11 IN 15.12
WTR YR 1986 TOTAL 286915 MEAN 786 MAX 7450 MIN 88 CFSM 1.87 IN 25.41

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 September 1986 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	
OCT , 1985											
08...	1645	1200	--	172	7.90	8.0	65	10.9	751	93	
JAN , 1986											
08...	0950	--	92	278	7.70	.0	8.7	12.8	765	87	
MAR											
04...	1145	--	92	248	7.80	.5	9.1	12.8	758	89	
APR											
07...	1150	2590	--	110	7.90	2.0	32	13.4	753	98	
JUN											
26...	1115	510	--	144	7.80	21.0	55	8.7	751	99	
AUG											
20...	1315	673	--	160	7.90	18.5	450	7.9	760	85	
DATE		COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOC- FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
OCT , 1985											
08...	740	K10000	83	11	22	6.7	2.7	7	.1	1.3	
JAN , 1986											
08...	K16	43	120	0	31	10	4.9	8	.2	1.2	
MAR											
04...	K4	K1500	110	12	29	10	5.4	9	.2	1.0	
APR											
07...	--	--	47	6	13	3.5	1.6	7	.1	1.1	
JUN											
26...	K100	140	70	8	19	5.4	2.1	6	.1	.60	
AUG											
20...	K2700	K5600	84	13	23	6.4	2.5	6	.1	1.3	
DATE		BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR- BONATE IT-FLD (MG/L AS CO3) (99445)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L - CACO3) (99430)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	
OCT , 1985											
08...	88	--	71	1.8	9.7	3.1	<.10	9.3	126		
JAN , 1986											
08...	149	--	120	4.7	14	4.4	<.10	15	139		
MAR											
04...	124	--	100	3.1	13	4.0	.10	16	142		
APR											
07...	50	--	40	1.0	10	1.6	<.10	8.3	83		
JUN											
26...	75	--	60	1.9	10	2.3	<.10	6.9	110		
AUG											
20...	87	--	70	1.7	11	2.4	<.10	9.7	129		
DATE		SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	
OCT , 1985											
08...	99	.17	408	<.10	.020	1.3	.060	.030	.040		
JAN , 1986											
08...	150	.19	35	.23	.080	.60	.030	.020	.010		
MAR											
04...	140	.19	35	.31	.050	.30	.020	.010	<.010		
APR											
07...	64	.11	580	.10	.050	.80	.200	.010	<.010		
JUN											
26...	83	.15	151	<.10	.020	.90	.090	.020	<.010		
AUG											
20...	100	.18	234	<.10	.040	1.0	.140	.030	.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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	ALUM- INUM, DIS- SOLVED (UG/L) AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L) AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L) AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L) AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L) AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L) AS CR) (01030)	COBALT, DIS- SOLVED (UG/L) AS CO) (01035)	COPPER, DIS- SOLVED (UG/L) AS CU) (01040)
OCT , 1985											
08...	1645	1200	--	100	<1	32	<.5	<1	6	<3	5
MAR , 1986											
04...	1145	--	92	20	1	47	<.5	<1	<1	<3	4
AUG											
20...	1315	673	--	190	1	36	<.5	<1	2	<3	9

DATE	IRON, DIS- SOLVED (UG/L) AS FE) (01046)	LEAD, DIS- SOLVED (UG/L) AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L) AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)	MERCURY DIS- SOLVED (UG/L) AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L) AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L) AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L) AS SE) (01145)	STRON- TIUM, DIS- SOLVED (UG/L) AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L) AS V) (01085)	ZINC, DIS- SOLVED (UG/L) AS ZN) (01090)
OCT , 1985											
08...	350	1	<4	19	<.1	<10	12	<1	48	<6	<3
MAR , 1986											
04...	470	8	5	22	<.1	<10	6	<1	78	<6	8
AUG											
20...	580	<5	<4	11	.1	<10	5	<1	52	<6	11

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT , 1985								
08...	1645	1200	--	172	8.0	330	1070	92
DEC								
05...	1545	190	--	240	.0	--	--	--
JAN , 1986								
08...	0950	--	92	278	.0	11	2.8	95
MAR								
04...	1145	--	92	248	.5	10	2.5	92
APR								
04...	1345	3750	--	140	4.0	--	--	--
07...	1150	2590	--	110	2.0	428	2990	81
MAY								
07...	1200	575	--	148	11.5	--	--	--
07...	1235	581	--	129	13.0	--	--	--
JUN								
02...	1420	163	--	210	17.5	--	--	--
26...	1115	510	--	144	21.0	139	191	92
JUL								
29...	1615	445	--	230	19.0	--	--	--
AUG								
20...	1315	673	--	160	18.5	1450	2630	96

04024500 AMNICON LAKE NEAR SOUTH RANGE, WI

LOCATION.--Lat 46°28'59", long 92°04'01", in SW 1/4 NW 1/4 sec.12, T.46 N., R.14 W., Douglas County, Hydrologic Unit 04010301, 9.5 mi southwest of South Range.

DRAINAGE AREA.--4.8 mi², approximately.

PERIOD OF RECORD.--August 1936 to September 1964 (fragmentary), October 1984 to current year.

GAGE.--Staff gage read by Dennis Corbin. Elevation of gage is 1195 ft, from topographic map. Prior to 1964, staff gage 0.3 mi west at different datum.

REMARKS.--Lake ice-covered Nov. 11 to Apr. 14.

EXTREMES FOR PERIOD OF RECORD (OCTOBER 1984 TO CURRENT YEAR).--Maximum gage height observed, 18.34 ft, Apr. 20, 1986; minimum observed, 17.18 ft, Aug. 21, 22, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 18.34 ft, Apr. 20; minimum observed, 17.46 ft, Nov. 10.

GAGE HEIGHT (FEET ABOVE DATUM) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.76	17.54					---	18.18				
2	17.80	---					---	18.20				
3	17.80	17.54					---	18.18				
4	17.82	17.53					---	18.18				
5	17.84	17.52					---	---				
6	17.84	17.52					---	---				
7	17.83	17.50					---	---				
8	17.82	17.48					---	---				
9	17.81	---					---	---				
10	17.80	17.46					---	---				
11	17.80	---					---	---				
12	17.82	---					---	---				
13	17.84	---					---	---				
14	17.82	---					---	---				
15	17.80	---					---	---				
16	17.78	---					---	---				
17	17.76	---					---	---				
18	17.74	---					---	---				
19	17.72	---					---	---				
20	17.70	---					18.34	---				
21	17.68	---					18.32	---				
22	17.66	---					18.28	---				
23	17.68	---					18.22	---				
24	17.68	---					18.24	---				
25	17.66	---					18.22	---				
26	17.64	---					18.22	---				
27	17.62	---					18.20	---				
28	17.60	---					18.20	---				
29	17.58	---					18.22	---				
30	17.56	---					18.20	---				
31	17.54	---					---	---				
MEAN	17.74	---					---	---				
MAX	17.84	---					---	---				
MIN	17.54	---					---	---				

STREAMS TRIBUTARY TO LAKE SUPERIOR

04025500 BOIS BRULE RIVER NEAR BRULE, WI

LOCATION.--Lat 46°32'16", long 91°35'43", in NW 1/4 SW 1/4 sec.23, T.47 N., R.10 W., Douglas County, Hydrologic Unit 04010301, on right bank, 1.4 mi southwest of Brule Post Office, 1.4 mi downstream from Nebagamon Creek, and 1.7 mi upstream from Little Bois Brule River.

DRAINAGE AREA.--120 mi².

PERIOD OF RECORD.--October 1942 to September 1981, January 1984 to current year. Prior to January 1943, monthly discharge only, published in WSP 1307.

REVISED RECORDS.--WRD WI-71-1: Drainage area. WSP 1337: 1943(M), 1944, 1945-50(M).

GAGE.--Water-stage recorder. Datum of gage is 948.49 ft above National Geodetic Vertical Datum of 1929. Prior to October 1964, nonrecording gage at same site and datum, supplemented by water-stage recorder part of 1959-62.

REMARKS.--Estimated daily discharges: None, except for ice period listed in rating table below. Records good except those for ice-affected period, which is fair.

AVERAGE DISCHARGE.--41 years (water years 1943-81, 1985-86), 173 ft³/s, 19.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,520 ft³/s June 5, 1944, gage height, 5.2 ft, from graph based on gage readings and from rating curve extended above 750 ft³/s; minimum observed, 67 ft³/s Mar. 13, 1943.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 1	1600	402	2.85	Aug. 14	1800	750	4.02
Apr. 1	2200	761	4.05	Aug. 22	2200	335	2.59
Apr. 28	1600	388	2.80	Sept. 4	0100	340	2.61
May 13	1700	*976	*4.57	Sept. 22	0600	404	2.86
Aug. 10	0500	327	2.56				

Minimum daily discharge, 130 ft³/s, Feb. 5-19.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 22 to Feb. 24.)

1.6	129	3.0	443
2.0	200	4.0	742

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	388	198	160	140	140	144	504	314	183	168	164	195
2	370	199	160	140	140	143	598	289	177	165	161	189
3	330	195	160	140	140	144	517	269	173	161	158	220
4	301	189	160	140	140	144	468	257	199	165	156	302
5	280	185	160	140	130	145	496	245	194	170	154	246
6	260	188	160	140	130	147	477	238	186	172	152	232
7	245	187	160	140	130	149	457	230	210	161	179	224
8	267	181	160	140	130	153	440	227	222	156	200	215
9	253	175	160	140	130	146	411	230	208	156	201	213
10	245	172	160	140	130	148	383	234	214	154	308	244
11	238	168	160	140	130	147	360	284	292	157	259	231
12	283	167	160	140	130	146	337	305	282	181	226	223
13	285	167	160	140	130	147	317	720	253	218	206	216
14	271	165	160	140	130	149	307	699	226	224	457	208
15	258	162	160	140	130	149	321	533	204	217	534	207
16	245	170	150	150	130	149	308	508	199	215	372	199
17	233	172	150	150	130	152	293	446	188	196	321	238
18	224	171	150	150	130	158	285	395	179	181	292	242
19	217	212	150	140	130	165	291	357	174	260	264	246
20	210	207	150	140	140	150	279	325	173	243	278	312
21	206	216	150	140	140	156	267	299	193	215	282	292
22	202	190	150	140	140	157	254	278	243	201	283	386
23	205	180	150	140	140	161	242	262	232	187	318	342
24	205	170	150	140	140	156	252	251	222	186	286	317
25	197	170	150	140	143	159	265	247	201	180	269	351
26	194	170	150	140	143	166	262	235	193	174	254	338
27	189	160	140	140	143	165	343	225	202	198	235	336
28	186	160	140	140	144	172	384	215	190	196	220	317
29	187	160	140	140	---	192	372	206	180	188	210	312
30	190	160	140	140	---	228	342	198	172	178	201	300
31	186	---	140	140	---	321	---	190	---	170	198	---
TOTAL	7550	5366	4750	4370	3783	5008	10832	9711	6164	5793	7798	7893
MEAN	244	179	153	141	135	162	361	313	205	187	252	263
MAX	388	216	160	150	144	321	598	720	292	260	534	386
MIN	186	160	140	140	130	143	242	190	172	154	152	189
CFSM	2.03	1.49	1.28	1.18	1.13	1.35	3.01	2.61	1.71	1.56	2.10	2.19
IN.	2.34	1.66	1.47	1.35	1.17	1.55	3.36	3.01	1.91	1.80	2.42	2.45

CAL YR 1985	TOTAL	72681	MEAN 199	MAX 677	MIN 132	CFSM 1.66	IN 22.53
WTR YR 1986	TOTAL	79018	MEAN 216	MAX 720	MIN 130	CFSM 1.80	IN 24.50

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 above 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.--Estimated daily discharges: None, except for ice periods listed in rating table below. Records good except those for ice-affected periods, which are fair.

AVERAGE DISCHARGE.--46 years (1915-22, 1949-86), 631 ft³/s, 14.35 in/yr.

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 greater than base discharge of 3,000 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 4	2400	9,290	13.03	Sept. 22	1900	3,080	7.21
Apr. 1	1400	*11,500	*14.66				

Minimum daily discharge, 173 ft³/s June 3, Sept. 3.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used May 29 to June 8; stage-discharge relation affected by ice Nov. 11-12, Nov. 20 to Mar. 30.)

2.5	162	10.0	5,800
3.0	323	12.0	8,180
4.0	780	14.0	10,600
6.0	2,100	15.0	12,000
8.0	3,810		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4320	998	420	340	270	210	10900	1420	190	422	407	184
2	2830	2120	420	330	270	210	9450	1090	181	347	368	177
3	2670	1770	420	330	260	220	7240	875	173	293	353	173
4	8240	1450	420	330	260	230	5500	740	197	259	315	291
5	8070	1160	420	330	260	230	4670	661	236	255	305	392
6	5230	1000	410	330	260	230	4550	587	236	256	390	333
7	3480	978	410	320	260	230	3960	522	253	243	420	277
8	2590	872	410	320	260	220	3290	465	329	224	542	237
9	1990	769	410	320	260	220	2620	456	319	208	535	212
10	1840	683	400	320	250	220	2080	436	303	193	578	227
11	1540	660	400	310	190	230	1660	473	336	184	624	256
12	1330	600	390	310	280	240	1390	781	401	264	483	280
13	1360	562	390	310	250	250	1190	1130	413	561	384	293
14	1240	528	380	310	240	270	1040	2350	372	723	330	303
15	1090	474	370	310	240	290	1200	1910	327	615	375	312
16	955	513	370	300	240	310	1500	1430	323	803	393	429
17	852	501	360	300	240	340	1300	1100	291	661	346	434
18	792	501	360	300	230	370	1100	838	279	531	293	578
19	751	635	350	290	230	410	999	671	462	515	255	545
20	689	560	350	290	230	470	970	557	994	815	230	802
21	634	540	350	290	230	500	944	472	742	678	221	785
22	601	520	350	280	220	520	928	411	788	526	221	2330
23	581	500	350	280	220	580	846	365	780	403	283	2110
24	607	480	340	280	220	620	770	332	618	336	367	1390
25	575	460	340	280	220	720	808	324	497	324	334	1040
26	541	440	340	270	210	900	773	323	518	272	291	1030
27	509	430	340	270	210	1100	950	306	1100	541	256	894
28	476	430	340	270	210	1400	1180	281	1090	1400	229	748
29	450	420	340	270	---	3500	1840	252	776	987	211	654
30	439	420	340	270	---	6000	1830	234	564	686	197	599
31	431	---	340	270	---	7560	---	208	---	513	191	---
TOTAL	57703	21974	11630	9330	6720	28800	77478	22000	14088	15038	10727	18315
MEAN	1861	732	375	301	240	929	2583	710	470	485	346	611
MAX	8240	2120	420	340	280	7560	10900	2350	1100	1400	624	2330
MIN	431	420	340	270	190	210	770	208	173	184	191	173
CFSM	3.12	1.23	.63	.50	.40	1.56	4.33	1.19	.79	.81	.58	1.02
IN.	3.60	1.37	.72	.58	.42	1.79	4.83	1.37	.88	.94	.67	1.14
CAL YR 1985	TOTAL	314056	MEAN 860	MAX 8240	MIN 136	CFSM 1.44	IN 19.57					
WTR YR 1986	TOTAL	293803	MEAN 805	MAX 10900	MIN 173	CFSM 1.35	IN 18.31					

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 and crest-stage gage. Datum of gage is 660.15 ft above 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.--Estimated daily discharges: None, except for ice period listed in rating table below. Records are good except for ice-affected period, which is fair. Diurnal fluctuation caused by hydroelectric plant at gage.

AVERAGE DISCHARGE.--38 years, 285 ft³/s, 12.86 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, 4,960 ft³/s Mar. 31, gage height, 6.11 ft; minimum daily, 147 ft³/s July 4.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 11 to Feb. 26.)

1.1	138	2.5	769
1.5	263	3.0	1,120
2.0	485	4.0	2,050
		5.0	3,260

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	546	357	243	200	210	219	2600	446	222	178	348	216
2	516	382	197	210	210	217	2120	406	231	176	323	238
3	497	388	226	220	220	232	1870	349	224	174	270	228
4	606	387	223	200	210	233	1540	302	226	147	228	372
5	608	359	228	180	210	259	1260	292	240	177	256	331
6	491	329	250	170	220	251	1140	225	231	180	260	319
7	471	287	255	160	210	216	816	242	236	183	247	318
8	456	276	259	170	220	206	708	235	244	154	270	315
9	429	297	276	180	200	254	532	213	263	182	285	278
10	384	258	275	210	190	221	519	221	248	156	342	276
11	350	233	260	240	190	240	427	286	240	186	347	275
12	377	251	230	250	200	228	359	304	237	200	345	277
13	359	245	220	240	200	251	310	607	239	261	330	277
14	332	243	210	250	200	250	294	678	251	299	319	275
15	333	240	200	250	200	241	440	640	222	286	316	273
16	309	235	210	230	190	246	401	617	188	332	281	280
17	286	248	220	220	190	266	424	550	196	369	278	256
18	274	230	240	230	210	276	395	483	192	378	273	256
19	255	356	260	210	220	262	357	404	185	368	268	290
20	263	350	270	220	210	257	330	359	161	327	244	538
21	158	255	300	220	200	226	311	284	196	306	250	356
22	173	250	280	210	190	296	290	245	200	305	268	1170
23	236	275	250	200	190	309	241	242	197	258	278	569
24	249	234	220	190	200	307	267	267	230	241	283	649
25	251	219	230	180	210	311	299	273	221	278	284	761
26	254	215	250	200	220	467	290	254	188	276	261	619
27	252	159	270	220	256	614	329	244	208	292	263	567
28	240	239	260	170	235	698	358	257	212	373	259	479
29	228	234	250	190	---	1080	486	262	192	475	220	461
30	226	249	230	210	---	1740	457	239	183	455	219	411
31	250	---	210	230	---	2360	---	233	---	396	217	---
TOTAL	10659	8280	7502	6460	5811	13233	20170	10659	6503	8368	8632	11930
MEAN	344	276	242	208	208	427	672	344	217	270	278	398
MAX	608	388	300	250	256	2360	2600	678	263	475	348	1170
MIN	158	159	197	160	190	206	241	213	161	147	217	216
CFSM	1.14	.92	.80	.69	.69	1.42	2.23	1.14	.72	.90	.92	1.32
IN.	1.32	1.02	.93	.80	.72	1.64	2.49	1.32	.80	1.03	1.07	1.47
CAL YR 1985	TOTAL	111717	MEAN 306	MAX 1830	MIN 76	CFSM 1.02	IN 13.81					
WTR YR 1986	TOTAL	118207	MEAN 324	MAX 2600	MIN 147	CFSM 1.08	IN 14.61					

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 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.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

		DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	
OCT , 1985										
09...	1345	3050	72	7.20	8.0	30	9.8	763	83	
JAN , 1986										
08...	1415	480	165	7.40	.0	4.7	11.3	760	77	
MAR										
05...	1250	463	155	7.60	.5	65	11.8	754	83	
APR										
08...	1150	4780	67	7.40	5.5	55	11.8	758	94	
JUN										
25...	1125	848	124	7.90	19.5	7.0	8.1	758	89	
AUG										
21...	1100	474	152	7.80	19.0	14	8.0	769	85	
DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
OCT , 1985										
09...	78	370	34	6	9.5	2.6	1.5	8	.1	1.0
JAN , 1986										
08...	K14	21	75	0	20	6.0	3.1	8	.2	.90
MAR										
05...	K18	K14	78	5	21	6.2	3.3	8	.2	.80
APR										
08...	K11	66	27	5	7.4	2.0	1.4	10	.1	.90
JUN										
25...	83	75	58	3	16	4.5	2.4	8	.1	.70
AUG										
21...	70	150	81	9	22	6.2	3.0	7	.2	.80
DATE	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR- BONATE IT-FLD (MG/L AS CO3) (99445)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CAC03) (99430)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	
OCT , 1985										
09...	34	--	27	3.5	10	2.2	<.10	7.9	68	
JAN , 1986										
08...	104	--	84	6.6	9.1	2.4	<.10	14	86	
MAR										
05...	89	--	71	3.6	7.7	2.1	.10	15	100	
APR										
08...	26	--	21	1.6	11	1.4	<.10	7.6	56	
JUN										
25...	68	--	54	1.4	11	1.8	<.10	8.7	90	
AUG										
21...	87	--	70	2.2	8.9	1.9	.10	12	108	
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	
OCT , 1985										
09...	53	.09	560	<.10	.010	.20	.060	.040	.010	
JAN , 1986										
08...	110	.12	111	.17	.030	.40	.020	.010	.010	
MAR										
05...	100	.14	125	.19	.030	.20	.020	.010	<.010	
APR										
08...	45	.08	723	.11	.030	.60	.080	.020	.010	
JUN										
25...	79	.12	206	<.10	.040	.70	.040	.020	<.010	
AUG										
21...	98	.15	138	<.10	.030	.60	.110	.020	.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 1985 TO SEPTEMBER 1986

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHROMIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
		IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRONTIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT , 1985										
09...	1345	3050	20	<1	20	<.5	2	5	<3	5
MAR , 1986										
05...	1250	463	20	<1	32	<.5	<1	<1	<3	1
AUG										
21...	1100	474	20	1	35	<.5	<1	4	<3	4
DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)			
OCT , 1985										
09...	1345	3050	72	8.0	126	1040	94			
JAN , 1986										
08...	1415	480	165	.0	8	10	60			
MAR										
05...	1250	463	155	.5	7	8.8	96			
APR										
08...	1150	4780	67	5.5	214	2760	89			
JUN										
25...	1125	848	124	19.5	14	32	94			
AUG										
21...	1100	474	152	19.0	20	26	94			

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

REMARKS.--No estimated daily discharges. Records good except those below 1.5 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.--42 years, 47.7 ft³/s, 12.78 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, 211 ft³/s Oct. 8, gage height, 5.68 ft; minimum daily, 0.57 ft³/s June 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155	39	82	39	35	35	114	129	1.1	1.3	1.6	1.8
2	179	93	85	38	35	35	140	126	1.2	1.3	1.6	29
3	174	138	84	38	35	34	143	51	1.1	1.2	1.4	54
4	180	135	82	38	35	34	146	3.9	.59	1.2	1.4	75
5	203	136	82	39	35	35	151	3.4	.62	1.3	2.1	93
6	207	132	81	39	35	35	155	2.8	.57	1.0	2.1	65
7	205	128	80	38	35	35	156	2.3	.63	.99	2.4	46
8	206	124	79	39	35	35	144	1.9	.60	.96	27	27
9	199	95	61	38	35	34	135	1.7	.78	.92	55	1.7
10	196	35	35	37	35	36	132	1.6	.80	1.0	54	1.6
11	192	36	35	37	35	36	131	1.5	.85	1.3	53	1.6
12	193	36	36	38	35	36	130	1.5	26	17	52	1.7
13	187	36	36	39	35	36	124	1.5	53	33	52	1.8
14	183	36	36	39	35	37	52	1.6	51	123	24	1.9
15	175	36	37	39	35	36	4.1	1.6	51	177	1.4	28
16	130	37	37	39	34	36	3.6	1.5	22	145	1.4	52
17	86	39	37	48	34	36	2.9	1.3	.90	100	1.6	52
18	113	59	37	61	33	38	2.0	1.2	.90	43	1.6	50
19	138	84	37	60	33	43	1.9	1.2	1.1	2.9	1.6	50
20	135	87	37	59	35	43	2.0	1.2	1.3	2.6	1.6	50
21	132	87	37	58	35	87	1.9	1.2	1.3	2.6	1.6	50
22	130	86	38	59	35	125	2.7	1.2	1.9	2.4	1.9	51
23	128	86	38	58	35	122	30	1.3	29	2.4	1.8	50
24	120	85	38	58	35	119	50	1.3	53	2.2	2.0	50
25	118	83	39	58	35	90	56	1.4	54	14	2.0	52
26	114	82	39	58	35	56	91	1.4	89	54	1.9	52
27	109	81	39	58	35	56	107	1.3	122	75	1.8	52
28	107	80	39	57	35	56	120	1.3	53	71	1.7	51
29	103	80	39	46	---	57	136	1.3	1.6	50	1.8	50
30	100	80	39	34	---	59	137	1.3	1.6	25	1.8	50
31	79	---	39	34	---	75	---	1.3	---	13	1.9	---
TOTAL	4676	2371	1540	1420	974	1627	2601.1	352.0	622.44	967.57	359.0	1191.1
MEAN	151	79.0	49.7	45.8	34.8	52.5	86.7	11.4	20.7	31.2	11.6	39.7
MAX	207	138	85	61	35	125	156	129	122	177	55	93
MIN	79	35	35	34	33	34	1.9	1.2	.57	.92	1.4	1.6
CAL YR 1985	TOTAL	22496.21	MEAN	61.6	MAX	207	MIN	.37				
WTR YR 1986	TOTAL	18701.21	MEAN	51.2	MAX	207	MIN	.57				

MENOMINEE-CONTO-PESHTIGO RIVER BASIN

STREAMS TRIBUTARY TO LAKE MICHIGAN

47

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.--Estimated daily discharges: Nov. 21 to Mar. 29. Records excellent except for estimated daily discharges, which are fair. Discharge includes some mine pumpage prior to August 1977. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--43 years (water years 1915, 1945-86), 365 ft³/s, 12.74 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,700 ft³/s July 2, 1953, gage height, 6.57 ft; maximum gage height, 8.60 ft Dec. 20, 1983, 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, 2,260 ft³/s Apr. 2, gage height, 4.59 ft; maximum gage height, 6.94 ft Nov. 22, backwater from ice; minimum discharge, 233 ft³/s July 10, 11, gage height, 2.04 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	982	463	430	390	350	305	1770	479	282	253	244	243
2	908	1150	400	385	350	310	2170	451	274	254	252	245
3	726	1400	430	385	350	310	2200	432	264	251	257	245
4	726	1280	460	380	350	310	1950	414	264	253	250	278
5	1090	976	490	375	350	315	1690	405	267	273	287	299
6	1310	784	510	365	345	320	1760	389	265	269	291	278
7	1260	675	510	360	340	315	1760	369	268	253	280	268
8	1010	595	470	360	330	300	1580	374	287	244	288	253
9	875	541	490	370	325	310	1320	380	277	244	302	248
10	767	497	500	370	320	330	1080	358	264	236	290	291
11	657	465	480	375	315	350	919	337	291	237	286	354
12	601	447	440	375	310	355	813	347	366	273	270	365
13	635	434	400	380	305	360	732	346	346	454	259	340
14	592	426	390	375	305	370	671	336	302	502	252	320
15	529	414	400	370	300	370	727	332	284	395	262	355
16	482	418	390	370	305	360	742	337	272	343	266	380
17	452	422	390	370	305	340	669	326	263	317	380	339
18	435	432	380	370	310	355	603	316	256	293	367	318
19	420	521	400	370	315	340	579	312	254	297	300	301
20	399	577	410	370	315	340	566	304	252	301	269	297
21	384	475	410	370	310	325	545	299	252	277	266	291
22	384	480	400	365	300	330	523	297	259	262	258	363
23	381	470	400	355	300	350	493	318	260	251	331	401
24	418	430	390	365	300	360	473	310	259	254	340	354
25	397	400	380	375	305	370	463	305	258	325	302	332
26	383	400	390	365	310	470	537	302	282	307	280	352
27	378	400	400	365	300	460	607	292	338	284	270	389
28	357	400	400	360	290	550	576	285	330	273	263	433
29	347	400	410	360	---	630	533	283	299	262	252	475
30	343	400	390	355	---	819	502	285	271	250	245	486
31	340	---	390	350	---	1160	---	289	---	252	244	---
TOTAL	18968	17172	13130	11450	8910	12489	29553	10609	8406	8939	8703	9893
MEAN	612	572	424	369	318	403	985	342	280	288	281	330
MAX	1310	1400	510	390	350	1160	2200	479	366	502	380	486
MIN	340	400	380	350	290	300	463	283	252	236	244	243
CFSM	1.57	1.47	1.09	.95	.82	1.04	2.53	.88	.72	.74	.72	.85
IN.	1.81	1.64	1.26	1.09	.85	1.19	2.83	1.01	.80	.85	.83	.95
CAL YR 1985	TOTAL	152031	MEAN 417	MAX 1400	MIN 216	CFSM 1.07	IN 14.54					
WTR YR 1986	TOTAL	158222	MEAN 433	MAX 2200	MIN 236	CFSM 1.11	IN 15.13					

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 above 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.--Estimated daily discharges: Oct. 6-10 and Nov. 2-5. Records excellent except for estimated daily discharges, which are fair. Prior to July 1950, discharge determined from powerplant records computed on basis of load-discharge rating of hydroelectric units and rating for tail-water 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 upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--72 years, 1,829 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, 10,200 ft³/s Apr. 7, 8, gage height, 9.79 ft; minimum, 273 ft³/s, July 22, gage height, 2.06 ft; minimum daily, 450 ft³/s July 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3530	2680	2600	1990	2080	2700	5220	3850	919	889	1510	1800
2	3890	5000	2330	1970	2080	2620	7030	3720	969	971	1480	1760
3	3750	7900	2510	1970	2090	2510	8220	3600	1050	891	1620	1880
4	3910	7500	2990	2120	1980	2480	8560	3510	1200	904	1530	1930
5	4370	6900	3050	2120	1910	2110	8220	3500	1090	694	1580	1780
6	6200	5260	3040	2040	2060	1810	8820	3170	1330	741	1680	1650
7	6500	4350	3040	2040	1840	1790	9170	2880	1010	778	1600	1490
8	7200	3960	3100	2140	1820	1450	9930	2300	952	784	1360	1460
9	6800	3420	2930	2130	1950	1380	8690	2030	1170	993	1260	1190
10	4500	3310	2800	2050	2030	1410	6800	1690	1250	940	1410	1190
11	4030	2970	2810	2010	2380	1370	5050	1720	1260	450	1450	1220
12	4250	2910	3000	1850	2580	1450	3510	1850	1160	723	1460	1280
13	4540	3080	2730	2080	2610	1570	3240	1570	1000	734	1510	1330
14	4530	3060	2710	2040	2680	1940	3160	1610	1130	955	1510	1320
15	4090	3050	2640	2040	2740	1740	2480	1610	1150	822	1510	1390
16	3010	3140	2650	2070	2730	1610	2660	1630	1110	936	1670	1420
17	3000	3030	2510	2080	2740	1440	2850	1200	981	1040	1520	1440
18	2930	3220	2150	2050	2740	1620	3140	1130	1100	982	1510	1470
19	2910	3180	2240	1970	2630	1590	3130	1300	1110	973	1400	1500
20	2920	3080	2160	2070	2620	1580	2910	1550	1150	768	1480	1360
21	2320	2670	2340	2080	2570	1550	3090	1360	916	840	1530	1130
22	1830	2170	2030	1960	2670	1530	3100	1500	775	866	1450	1070
23	1720	2030	2080	2070	2530	1660	2970	1260	939	884	1340	1110
24	1770	2400	1780	2060	2710	1730	2450	979	1050	980	1430	1060
25	2090	2260	1830	2000	2560	1650	2550	899	868	1380	1350	1050
26	2170	2450	2100	2090	2650	2180	3090	601	980	1270	1320	903
27	2150	2070	1990	2160	2580	2140	3200	1190	1030	1270	1300	1150
28	2040	2210	1970	2040	2560	2330	3330	1340	872	1390	1570	1270
29	2260	2410	2070	2170	---	2610	3730	1200	618	1440	1780	1480
30	2220	2290	2050	2000	---	3320	3940	1050	954	1310	1720	1550
31	2220	---	2240	2100	---	3620	---	815	---	1260	1880	---
TOTAL	109650	103960	76470	63560	67120	60490	144240	57614	31093	29858	46720	41633
MEAN	3537	3465	2467	2050	2397	1951	4808	1859	1036	963	1507	1388
MAX	7200	7900	3100	2170	2740	3620	9930	3850	1330	1440	1880	1930
MIN	1720	2030	1780	1850	1820	1370	2450	601	618	450	1260	903
CAL YR 1985	TOTAL	891903	MEAN	2444	MAX	11700	MIN	890				
WTR YR 1986	TOTAL	832408	MEAN	2281	MAX	9930	MIN	450				

STREAMS TRIBUTARY TO LAKE MICHIGAN

49

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 above National Geodetic Vertical Datum of 1929.
Prior to June 18, 1964, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: None, except for ice periods listed in rating table below. Records good except those for ice-affected periods, which are fair.

AVERAGE DISCHARGE.--23 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 greater than base discharge of 300 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 7	0500	518	2.84	Apr. 7	2000	*1,100	*3.95
Nov. 4	1300	491	2.78	July 20	1000	370	2.49

Minimum discharge, 34 ft³/s part of each day Sept. 2, 3, gage height, 1.20 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 19-25, Dec. 3 to Jan. 18,
Jan. 23 to Mar. 3, Mar. 8-14, 20-24, 26-30.)

1.2	34	2.4	334
1.4	53	2.8	500
1.6	88	3.3	735
2.0	188	4.0	1,130

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	370	124	93	78	72	62	535	172	42	68	75	40
2	399	330	85	78	72	64	602	166	39	57	72	37
3	386	420	90	78	72	66	704	156	37	49	70	35
4	405	483	94	80	74	67	763	142	38	48	65	63
5	470	482	98	80	74	67	829	129	39	56	59	55
6	500	455	100	80	74	66	1010	118	36	58	54	52
7	511	417	100	76	72	65	1070	103	37	53	52	46
8	485	385	98	74	72	64	1080	89	38	48	50	40
9	431	355	94	76	72	64	996	81	38	43	48	37
10	405	299	90	78	72	64	881	81	37	40	48	52
11	380	233	86	76	72	64	760	78	41	38	50	112
12	351	207	84	74	70	68	643	73	49	41	50	165
13	324	184	82	72	70	70	549	71	49	69	45	164
14	280	154	80	72	68	70	475	73	44	111	44	142
15	247	132	80	72	64	70	457	71	41	129	46	157
16	218	116	78	74	64	69	430	73	40	132	46	179
17	189	125	78	78	64	71	392	81	37	124	46	184
18	165	129	78	80	66	70	355	72	36	125	45	174
19	147	160	76	76	66	70	324	70	39	300	43	165
20	130	160	74	75	66	72	299	63	42	365	41	154
21	116	150	74	74	64	72	276	57	42	309	40	138
22	105	150	74	70	62	74	244	53	42	184	40	167
23	102	140	78	68	60	80	210	52	43	128	46	190
24	110	140	78	68	60	86	184	52	47	103	52	191
25	112	130	74	70	60	95	168	52	47	119	52	180
26	111	119	74	70	60	140	174	50	77	109	49	173
27	101	114	76	68	60	160	195	49	145	96	45	181
28	98	108	76	70	60	170	197	45	161	112	44	188
29	89	103	78	72	---	230	185	44	121	111	41	185
30	85	99	78	72	---	360	171	42	88	102	39	167
31	81	---	80	72	---	448	---	47	---	87	38	---
TOTAL	7903	6603	2578	2301	1882	3258	15158	2505	1612	3414	1535	3813
MEAN	255	220	83.2	74.2	67.2	105	505	80.8	53.7	110	49.5	127
MAX	511	483	100	80	74	448	1080	172	161	365	75	191
MIN	81	99	74	68	60	62	168	42	36	38	38	35
CFSM	1.84	1.58	.60	.53	.48	.76	3.63	.58	.39	.79	.36	.91
IN.	2.12	1.77	.69	.62	.50	.87	4.06	.67	.43	.91	.41	1.02
CAL YR 1985	TOTAL	50845	MEAN 139	MAX 690	MIN 31	CFSM 1.00	IN 13.61					
WTR YR 1986	TOTAL	52562	MEAN 144	MAX 1080	MIN 35	CFSM 1.04	IN 14.07					

STREAMS TRIBUTARY TO LAKE MICHIGAN

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

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
NOV , 1985										
13...	1250	182	--	91	7.40	.5	1.5	12.7	734	91
JAN , 1986										
29...	1400	--	72	225	7.50	0.0	1.9	--	732	--
APR										
22...	1400	240	--	82	7.60	8.5	.50	11.0	733	98
AUG										
07...	1345	52	--	194	8.20	21.0	2.0	8.9	729	105
DATE		COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS NONCAR- BONATE (MG/L AS CAC03) (00900)	HARD- NESS, CONCAR- BONATE (MG/L CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)

NOV , 1985										
13...	K10	K14	45	11	9.4	5.2	1.1	5	.0	.40
JAN , 1986										
29...	20	K8	100	13	22	12	1.7	3	.0	.80
APR										
22...	--	--	42	8	9.0	4.7	1.0	5	.0	.50
AUG										
07...	32	K15	98	12	21	11	1.5	3	.0	.80

DATE		BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR- BONATE IT-FLD (MG/L AS CO3) (99445)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L CAC03) (99430)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
NOV , 1985										
13...	41	--	33	2.6	7.9	3.0	<.10	7.9	69	
JAN , 1986										
29...	112	--	90	5.6	10	1.5	<.10	15	117	
APR										
22...	41	--	33	1.6	14	1.2	<.10	4.7	60	
AUG										
07...	105	--	84	1.1	11	1.3	.20	10	132	
DATE		SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
NOV , 1985										
13...	56	.09	34	<.10	.030	.60	.010	.010	.010	
JAN , 1986										
29...	120	.16	22	.23	.100	.50	.020	.010	.020	
APR										
22...	55	.08	39	<.10	.040	.50	.020	.010	<.010	
AUG										
07...	110	.18	19	<.10	.020	.80	.020	.020	<.010	

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

04063700 POPPLE RIVER NEAR FENCE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	ALUM- INUM, DIS- SOLVED (UG/L) AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L) AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L) AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L) AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L) AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L) AS CR) (01030)	COBALT, DIS- SOLVED (UG/L) AS CO) (01035)	COPPER, DIS- SOLVED (UG/L) AS CU) (01040)
NOV , 1985											
13...	1250	182	--	70	<1	10	1.5	2	<1	<3	1
JAN , 1986											
29...	1400	--	72	10	<1	11	<.5	<1	<1	<3	<1

DATE	TIME	IRON, DIS- SOLVED (UG/L) AS FE) (01046)	LEAD, DIS- SOLVED (UG/L) AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L) AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)	MERCURY DIS- SOLVED (UG/L) AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L) AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L) AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L) AS SE) (01145)	STRON- TIUM, DIS- SOLVED (UG/L) AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L) AS V) (01085)	ZINC, DIS- SOLVED (UG/L) AS ZN) (01090)
NOV , 1985												
13...	360	13	<4	20	.1	<10	1	<1	14	<6	9	
JAN , 1986												
29...	390	1	5	53	<.1	<10	<1	<1	24	<6	13	

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	GROSS ALPHA, DIS- SOLVED (UG/L) U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L) U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L) CS-137) (03515)	GROSS BETA, DIS- SOLVED (PCI/L) AS SR/ (80050)	GROSS BETA, SUSP. TOTAL (PCI/L) YT-90) (80060)	RADIUM 226, DIS- SOLVED, METHOD (PCI/L) (09511)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L) (80020)
APR , 1986										
22...	1400	240	--	<.4	.7	.9	.8	<.7	.02	<.14

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT , 1985								
02...	1300	410	--	98	7.5	--	--	--
NOV								
13...	1250	182	--	91	.5	2	1	77
DEC								
17...	1300	79	--	175	.0	--	--	--
JAN , 1986								
29...	1400	--	72	225	.0	--	--	--
MAR								
11...	1425	65	--	257	.0	--	--	--
APR								
03...	1155	714	--	65	2.0	--	--	--
22...	1400	240	--	82	8.5	2	1	76
JUN								
23...	1645	40	--	225	22.0	--	--	--
AUG								
07...	1345	52	--	194	21.0	--	--	--
07...	1415	51	--	--	21.0	--	--	--

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.

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. Elevation 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.--Estimated daily discharges: None, except those for ice period listed in rating table below. Records good except those for ice-affected period, which is 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.--37 years, 3,038 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, 18,400 ft³/s Apr. 7, gage height, 14.72 ft; maximum gage height, 18.94 ft Dec. 17, backwater from ice; minimum daily, 1,180 ft³/s July 13.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 24 to Mar. 31.)

7.0	1,140	11.0	7,740
8.0	2,370	13.0	12,900
9.0	3,840	15.0	19,300

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6830	3550	4100	3100	3000	3900	10700	5680	1780	1630	1940	2270
2	6840	7030	4100	3100	3000	3900	14200	5100	1750	1900	2080	2190
3	6220	12100	4000	3200	3000	3800	15000	5200	2140	1620	2000	2370
4	6690	13300	4500	3100	3000	4000	15200	4730	1910	1330	2270	2510
5	8340	12000	5000	2900	3000	4000	15600	4490	1930	1360	2100	2590
6	9330	10100	5400	2900	3000	3500	16200	4640	1820	1350	2030	2340
7	10500	7860	5400	3100	3000	3000	18200	4290	1600	1310	2260	2150
8	10700	6960	5200	3100	2800	2500	17900	3650	1560	1370	2190	2010
9	10300	6310	5000	3000	2800	2400	16800	3180	1980	1390	1830	1740
10	8700	5160	4900	3100	2900	2300	13800	2800	1740	1420	2090	1780
11	6380	4820	4800	3100	3000	2300	11200	2740	1770	1360	2040	2030
12	6360	4610	4800	3100	3500	2300	8360	2650	2010	1210	1950	2350
13	6880	4670	4700	3100	3700	2400	7420	2750	2080	1180	1980	2650
14	6920	4550	4500	3100	3700	2500	6220	2700	1940	1310	1970	2490
15	6090	4320	4200	3100	3700	3000	5800	2630	2010	1970	1980	2410
16	4980	4250	4000	3100	3600	3000	5770	2740	1860	1890	1910	2780
17	4720	4400	3700	3100	3600	2700	5840	2380	1750	1770	2260	2660
18	4190	4460	3500	3000	3600	2500	5720	2200	1710	1760	2250	2710
19	4180	5030	3400	3000	3700	2800	5640	2140	1720	1830	1980	2630
20	4260	5690	3300	3000	3800	2500	5660	2390	1670	1810	1880	2580
21	4260	5570	3300	3000	3800	2800	5310	2240	1470	1790	1980	2210
22	3320	4670	3300	3000	3900	3100	5180	2510	1240	1900	1980	2290
23	2790	4160	3300	3000	3900	2900	4480	2310	1490	1740	1880	2440
24	2880	4000	3200	3000	3700	2900	4630	2100	1640	1680	1730	2430
25	3320	3800	2900	3000	3700	3200	4100	1820	1620	1660	1780	2420
26	3250	3700	2800	3000	3900	3500	4470	1830	1640	1800	1940	2310
27	3310	3900	2800	2800	3900	3700	4770	1750	1970	2030	1930	2550
28	3290	4100	3000	2800	3900	4000	5290	2070	2040	2240	2010	2340
29	3280	4000	3000	3000	---	4700	5310	2090	1950	2050	2110	3000
30	3210	3900	3000	3100	---	5600	5590	2170	1680	1980	2140	2820
31	3130	---	3000	3100	---	8000	---	1990	---	2080	2270	---
TOTAL	175450	172970	122100	94100	96100	103700	270360	91960	53470	51720	62740	72050
MEAN	5660	5766	3939	3035	3432	3345	9012	2966	1782	1668	2024	2402
MAX	10700	13300	5400	3200	3900	8000	18200	5680	2140	2240	2270	3000
MIN	2790	3550	2800	2800	2800	2300	4100	1750	1240	1180	1730	1740
CAL YR 1985	TOTAL	1382920	MEAN	3789	MAX	16100	MIN	1200				
WTR YR 1986	TOTAL	1366720	MEAN	3744	MAX	18200	MIN	1180				

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 September 1986 (discontinued as a continuous-record station; converted to a crest-stage partial-record station).

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 622.20 ft above 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.--Estimated daily discharges: None, except for ice period listed in rating table below. Records good except those for ice-affected period, which is 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.--23 years (water years 1946-61, 1980-86), 3,577 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, 22,300 ft³/s Apr. 8, gage height, 17.95 ft; minimum daily, 1,260 ft³/s July 14.

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

8.5	1,190	12.0	6,400
9.0	1,740	14.0	10,500
9.5	2,360	16.0	15,900
10.0	3,040	18.0	22,500
11.0	4,600		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5930	4210	4300	4300	3600	4300	12000	6060	1770	1930	2300	2250
2	8170	7230	4200	4000	3600	4200	14000	6730	1850	1880	2260	2580
3	8210	11500	4300	4200	3400	4100	18000	6010	1950	1880	2220	2320
4	7660	15200	4500	3900	3500	4100	19100	5660	1810	2040	2330	2630
5	8540	16500	5000	3700	3400	4200	18600	5460	2030	1550	2490	2770
6	10400	15200	5600	3800	3500	4100	19200	5200	1920	1540	2420	2820
7	11600	12400	5800	3900	3500	3500	20600	5090	1850	1680	2260	2440
8	12000	9970	6000	3700	3500	3000	22000	4950	1650	1720	2580	2390
9	12400	8560	6000	3500	3400	2700	21800	4100	1720	1550	2500	2140
10	11500	7750	6000	3600	3500	2600	20200	3700	1980	1370	2280	2150
11	9900	6520	5800	3700	3500	2600	16900	3170	2050	1550	2300	2140
12	7690	5930	5400	3700	3600	2500	13200	3060	2300	1630	2540	2440
13	7630	5890	5200	3600	4000	2600	10100	3370	2360	1270	2240	2810
14	8040	5950	4800	3700	4100	2800	9360	3180	2350	1260	2250	3040
15	7540	5540	4600	3600	4100	2900	7210	3260	2410	1760	2380	2910
16	7000	5740	4400	3600	4000	3100	7880	3110	2220	2590	2150	3010
17	5720	5660	4400	3600	3900	3000	7570	3190	2110	2100	2250	3230
18	5330	5800	4000	3800	4200	3100	7400	2940	2210	2130	2540	3160
19	4930	6050	4200	3600	4300	3200	7250	2740	1920	2060	2480	3160
20	4750	6970	4200	3700	4100	3500	7110	2820	1860	2130	2220	2960
21	4930	7440	4200	3700	4200	3300	6710	2910	1640	2120	2150	2960
22	4910	7390	4100	3600	4100	3500	6680	2330	1760	2150	2240	2780
23	3600	6170	4100	3600	4000	3600	6410	2780	1590	2090	2200	2970
24	3530	5960	4000	3800	3800	3600	5160	2740	1570	1940	2040	3250
25	3870	4930	3900	3500	4000	3600	5170	2170	1830	1990	1890	3080
26	3970	3100	3500	3500	4100	4000	5640	1940	1850	2040	1890	3120
27	4180	3700	3600	3500	4200	5000	5550	1960	2350	2090	2300	3230
28	3940	4000	3600	3300	4300	5400	5700	2050	2780	2550	2000	3890
29	3960	4300	3800	3400	---	7000	5940	2250	2630	2370	2160	4070
30	3750	4400	3900	3400	---	9000	6930	2230	2440	2520	2310	4970
31	3810	---	4000	3400	---	10000	---	2130	---	2390	2350	---
TOTAL	209390	219960	141400	113900	107400	124100	339370	109290	60760	59870	70520	87670
MEAN	6755	7332	4561	3674	3836	4003	11310	3525	2025	1931	2275	2922
MAX	12400	16500	6000	4300	4300	10000	22000	6730	2780	2590	2580	4970
MIN	3530	3100	3500	3300	3400	2500	5160	1940	1570	1260	1890	2140
CAL YR 1985	TOTAL	1654640	MEAN	4533	MAX	17300	MIN	1810				
WTR YR 1986	TOTAL	1643630	MEAN	4503	MAX	22000	MIN	1260				

STREAMS TRIBUTARY TO LAKE MICHIGAN

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1977 to September 1986 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
NOV , 1985										
14...	1210	5950	--	181	7.90	2.0	1.5	13.6	756	99
DEC										
18...	1030	--	4000	249	7.70	.0	3.5	13.8	756	95
MAR , 1986										
12...	1120	--	2500	286	7.80	.0	1.5	12.7	755	88
APR										
23...	1215	6420	--	165	8.00	9.0	1.7	11.3	754	99
JUN										
24...	1340	1590	--	268	8.30	21.0	2.0	8.5	755	96
AUG										
06...	1310	2760	--	257	8.20	23.5	1.5	7.6	751	91
DATE		COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOC- CI KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
NOV , 1985										
14...	39	K14	87	12	20	9.1	2.2	5	.1	.80
DEC										
18...	K70	32	96	9	22	10	4.1	8	.2	1.0
MAR , 1986										
12...	K19	K19	120	18	27	13	6.3	10	.3	1.4
APR										
23...	--	--	80	14	18	8.4	3.2	8	.2	1.0
JUN										
24...	K8	--	120	9	27	12	8.1	13	.3	1.3
AUG										
06...	K9	23	120	25	27	12	7.7	12	.3	1.5
DATE		BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR- BONATE IT-FLD (MG/L AS CO3) (99445)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L CAC03) (99430)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
NOV , 1985										
14...	92	--	74	1.8	8.8	10	<.10	7.7	121	
DEC										
18...	106	--	85	3.4	14	5.3	<.10	10	128	
MAR , 1986										
12...	126	--	101	3.2	14	6.2	.10	11	138	
APR										
23...	80	--	64	1.3	12	3.7	.20	6.5	112	
JUN										
24...	127	2.0	104	1.0	17	8.2	.10	5.2	157	
AUG										
06...	112	--	90	1.1	18	7.9	<.10	7.4	148	
DATE		SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
NOV , 1985										
14...	100	.16	1940	.12	.050	.40	.020	.010	.010	
DEC										
18...	120	.17	1380	.17	.070	.40	.010	<.010	.010	
MAR , 1986										
12...	140	.19	931	.23	.040	.30	.020	.010	<.010	
APR										
23...	92	.15	1940	.12	.020	.40	.010	.010	<.010	
JUN										
24...	150	.21	674	<.10	.010	.40	.030	.010	<.010	
AUG										
06...	140	.20	1100	<.10	.040	.50	.030	<.010	<.010	

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

1

60610

04067500 MENOMINEE RIVER NEAR MC ALLISTER, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	ALUM- INUM, DIS- SOLVED (UG/L) AS AL (01106)	ARSENIC DIS- SOLVED (UG/L) AS AS (01000)	BARIUM, DIS- SOLVED (UG/L) AS BA (01005)	BERYL- LIUM, DIS- SOLVED (UG/L) AS BE (01010)	CADMIUM DIS- SOLVED (UG/L) AS CD (01025)	CHRO- MIUM, DIS- SOLVED (UG/L) AS CR (01030)	COBALT, DIS- SOLVED (UG/L) AS CO (01035)	COPPER, DIS- SOLVED (UG/L) AS CU (01040)
NOV , 1985											
14...	1210	5950	--	30	<1	10	<.5	3	2	<3	1
MAR , 1986											
12...	1120	--	2500	20	<1	15	<1.0	<1	<1	<3	2
AUG											
06...	1310	2760	--	10	1	16	<.5	4	<1	<3	2

DATE	IRON, DIS- SOLVED (UG/L) AS FE (01046)	LEAD, DIS- SOLVED (UG/L) AS PB (01049)	LITHIUM DIS- SOLVED (UG/L) AS LI (01130)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN (01056)	MERCURY DIS- SOLVED (UG/L) AS HG (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L) AS MO (01060)	NICKEL, DIS- SOLVED (UG/L) AS NI (01065)	SELE- NIUM, DIS- SOLVED (UG/L) AS SE (01145)	STRON- TIUM, DIS- SOLVED (UG/L) AS SR (01080)	VANA- DIUM, DIS- SOLVED (UG/L) AS V (01085)	ZINC, DIS- SOLVED (UG/L) AS ZN (01090)
NOV , 1985											
14...	200	4	5	13	<.1	<10	<1	<1	30	<6	<3
MAR , 1986											
12...	190	12	<4	32	<.1	<10	<1	<1	44	<6	7
AUG											
06...	26	36	5	10	<.1	<10	<1	<1	48	<6	6

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, DIS- SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- SUS- PENDE (MG/L) (80155)	SED. SUSP. SIEVE DIAM. THAN .062 MM (70331)
OCT , 1985								
03...	1230	8330	--	188	11.0	--	--	--
NOV								
14...	1210	5950	--	181	2.0	3	48	78
DEC								
18...	1030	--	4000	249	.0	7	76	39
MAR , 1986								
12...	1120	--	2500	286	.0	3	20	76
APR								
23...	1215	6420	--	165	9.0	6	104	69
JUN								
24...	1340	1590	--	268	21.0	4	17	77
AUG								
06...	1310	2760	--	257	23.5	7.50	--	783
SEP								
17...	1555	3040	--	258	14.0	--	--	Ind detect

data case 6/24/88

STREAMS TRIBUTARY TO LAKE MICHIGAN
452241088224800 McCASLIN LAKE NEAR LAKEWOOD, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 45°22'41", long 88°22'48", in SW 1/4 sec.33, T.34 N., R.17 E., Marinette County, Hydrologic Unit 04030105, 8.8 mi northeast of Lakewood.

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Staff gage read by Norman Kratz. Elevation of gage is 1190 ft, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 11.74, Sept. 28, 1985; minimum observed, 10.77, Aug. 3, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 11.73 ft, Apr. 28; minimum observed, 10.87 ft, Sept. 7.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
OCT. 5	11.68	OCT. 26	11.54	MAY 12	11.49	JUNE 11	11.39	JULY 20	11.19	AUG. 17	10.97
OCT. 12	11.64	APR. 28	11.73	MAY 28	11.47	JUNE 17	11.39	JULY 27	11.09	AUG. 30	10.91
OCT. 18	11.57	MAY 4	11.61	JUNE 3	11.43	JULY 6	11.27	AUG. 2	11.01	SEPT. 7	10.87
										SEPT. 27	11.28

WATER-QUALITY RECORDS

LOCATION.--Lat 45°22'51", long 88°22'40", in SW 1/4 sec.33, T.34 N., R.17 E., Marinette County, Hydrologic Unit 04030105, near center of lake, and 9.0 mi northeast of Lakewood.

PERIOD OF RECORD.--May 1985 to current year.

REMARKS.--Secchi disc readings made by Norman Kratz.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
OCT. 6	1.2	OCT. 26	1.9	MAY 12	2.3	JUNE 11	1.7	JULY 20	1.5	AUG. 17	1.2
OCT. 12	1.5	APR. 28	2.6	MAY 28	2.3	JUNE 17	1.5	JULY 27	1.2	AUG. 30	1.4
OCT. 18	1.7	MAY 4	2.3	JUNE 3	1.8	JULY 6	1.4	AUG. 2	1.2	SEPT. 7	1.4
										SEPT. 27	1.7

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. WDR WI-84-1: 1983 average discharge.

GAGE.--Water-stage recorder. Datum of gage is 584.64 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: None, except for periods of ice listed in rating table below. Records good except those for ice-affected periods, which are fair. Diurnal fluctuation caused by two powerplants upstream.

AVERAGE DISCHARGE.--33 years, 950 ft³/s, 11.95 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, 5,030 ft³/s Apr. 8, gage height, 8.83 ft; maximum gage height, 9.07 ft Mar. 29 (backwater from ice); minimum daily, 331 ft³/s July 7.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 27 and Nov. 29 to Mar. 29.)

1.7	320	5.0	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 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1880	1440	1100	800	700	980	4320	1320	414	743	1080	464
2	1950	3150	1200	740	680	980	4700	1260	352	597	995	454
3	2000	4240	1100	780	680	960	4270	1080	419	569	915	485
4	2210	4500	1000	820	680	900	3800	1050	407	384	744	511
5	2670	4750	1000	820	680	840	3950	1000	470	477	621	532
6	3230	4050	1000	800	680	840	4340	993	420	524	630	449
7	3320	3370	1000	760	760	820	4780	945	417	331	610	463
8	3280	2890	1100	780	720	820	4930	879	341	500	698	473
9	3130	2600	1000	800	700	800	4800	769	377	425	734	486
10	2630	2340	960	740	700	860	4570	657	437	422	646	565
11	2150	1950	940	700	680	880	3860	641	445	371	776	687
12	1780	1770	920	700	720	860	3290	693	546	525	791	1030
13	1730	1730	900	740	660	880	2850	743	587	512	682	1010
14	1760	1700	980	760	660	880	2540	827	591	534	579	980
15	1550	1640	920	800	680	880	2360	728	525	538	587	902
16	1370	1590	940	820	660	840	2020	743	469	614	606	1220
17	1290	1770	1000	800	640	920	2320	836	399	748	597	1080
18	1310	1850	960	720	660	1000	2280	1040	411	656	699	1110
19	1210	2050	1000	700	720	1200	2170	875	430	1010	604	1060
20	1050	2270	940	760	720	1400	1940	885	600	1020	572	1110
21	940	2220	940	740	700	1300	1710	773	514	799	537	1090
22	924	2220	900	760	680	1300	1640	703	424	999	522	1070
23	875	1970	860	720	680	1400	1410	598	421	829	503	1280
24	1060	1330	880	700	720	1600	1340	588	467	641	509	1400
25	1290	1190	920	700	700	1500	1360	557	478	678	509	1470
26	1200	1060	860	700	720	2200	1380	504	526	549	496	1630
27	1270	1100	880	720	780	2900	1380	482	847	464	530	1750
28	1210	1080	900	740	900	3400	1360	607	1100	534	513	1950
29	1160	1100	880	700	---	4700	1260	556	956	579	480	2030
30	1150	1000	860	700	---	4420	1200	457	897	883	434	2100
31	986	---	880	680	---	4200	---	537	---	961	475	---
TOTAL	53565	65920	29720	23200	19660	47460	84130	24326	15687	19416	19674	30841
MEAN	1728	2197	959	748	702	1531	2804	785	523	626	635	1028
MAX	3320	4750	1200	820	900	4700	4930	1320	1100	1020	1080	2100
MIN	875	1000	860	680	640	800	1200	457	341	331	434	449
CFSM	1.60	2.03	.89	.69	.65	1.42	2.60	.73	.48	.58	.59	.95
IN.	1.85	2.27	1.02	.80	.68	1.63	2.90	.84	.54	.67	.68	1.06
CAL YR 1985	TOTAL	445853	MEAN	1222	MAX	4750	MIN	245	CFSM	1.13	IN	15.36
WTR YR 1986	TOTAL	433599	MEAN	1188	MAX	4930	MIN	331	CFSM	1.10	IN	14.94

STREAMS TRIBUTARY TO LAKE MICHIGAN
04070000 WHEELER LAKE NEAR LAKEWOOD, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 45°19'07", long 88°28'58", in NW 1/4 sec.27, T.33 N., R.16 E., Oconto County, Hydrologic Unit 04030104, on south shore of lake, 2.5 mi northeast of Lakewood.

DRAINAGE AREA.--2.27 mi², approximately. Area of Wheeler Lake, 380 acres.

PERIOD OF RECORD.--August 1936 to September 1981. April to September 1986.

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

GAGE.--Nonrecording gage. Datum of gage is 90.00 ft above datum assumed by Wisconsin Department of Natural Resources; gage readings have been reduced to elevations above this datum. Staff gage read by Warren Thomas on south side of lake. Prior to Apr. 19, 1936, nonrecording gage was located on east shore of lake. Apr. 20, 1939, to Apr. 13, 1960, nonrecording gage was located on southwest shore of lake.

REMARKS.--Add 90 ft to obtain elevation above datum assumed for this lake by Wisconsin Department of Natural Resources. Lake has no surface outlet.

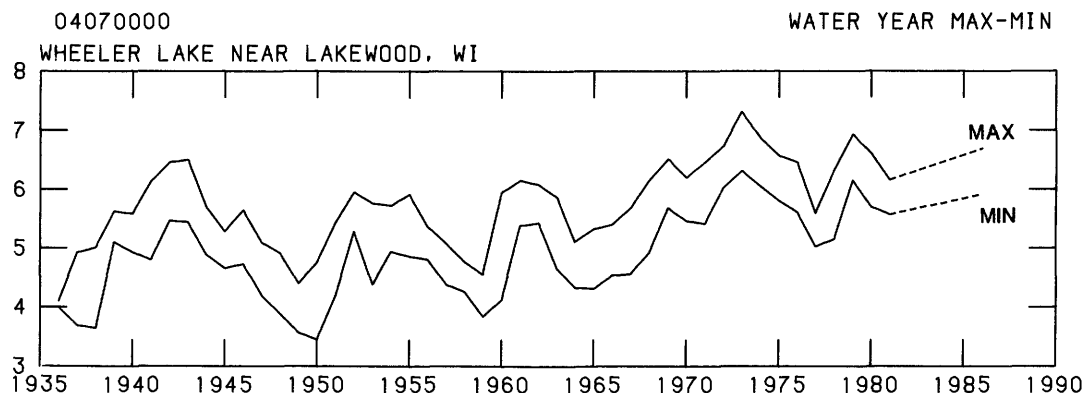
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 7.31 ft June 6, 1973; minimum observed, 3.45 ft Feb. 5, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 6.69 ft, Apr. 16; minimum observed, 5.91 ft, Sept. 6.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
APR. 16	6.69	MAY 17	6.51	JUNE 13	6.25	JULY 9	6.15	JULY 31	6.21	AUG. 30	5.94
APR. 27	6.67	MAY 21	6.39	JUNE 17	6.23	JULY 14	6.15	AUG. 6	6.17	SEPT. 6	5.91
MAY 4	6.57	MAY 24	6.45	JUNE 26	6.19	JULY 20	6.35	AUG. 16	6.11	SEPT. 13	5.97
MAY 10	6.58	MAY 31	6.33	JULY 4	6.17	JULY 25	6.25	AUG. 23	6.07	SEPT. 20	6.01
										SEPT. 24	6.09

STAGE, IN FEET ABOVE ARBITRARY DATUM



WATER-QUALITY RECORDS

LOCATION.--Lat 45°19'07", long 88°28'32", in NE 1/4 sec.27, T.33 N., R.16 E., Oconto County, Hydrologic Unit 04030104, near center of lake, and 2.6 mi northeast of Lakewood.

PERIOD OF RECORD.--July 1985 to current year.

REMARKS.--Secchi disc readings made by Roy A. Green.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
MAY 3	5.2	MAY 20	5.8	JUNE 1	7.3	JUNE 26	5.0	JULY 25	4.4	AUG. 30	3.8
MAY 9	5.0	MAY 23	6.1	JUNE 4	6.4	JULY 4	5.0	JULY 31	4.3	SEPT. 6	3.7
MAY 12	5.2	MAY 25	6.7	JUNE 8	5.8	JULY 9	5.0	AUG. 6	4.0	SEPT. 13	4.3
MAY 14	5.2	MAY 29	7.6	JUNE 13	5.3	JULY 14	5.0	AUG. 16	4.0	SEPT. 20	4.1
MAY 17	5.2	MAY 31	7.3	JUNE 17	5.3	JULY 20	4.7	AUG. 23	4.0	SEPT. 24	4.1

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 above 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.--Estimated daily discharges: July 13-17 and ice period listed in rating table below. Records good except those for ice-affected period, which is fair. Gage-height telemeter at station.

AVERAGE DISCHARGE.--75 years (water years 1907-08, 1914-86), 587 ft³/s, 11.31 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 greater than base discharge of 1,500 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 8	0400	1,870	3.67	Mar. 28	1700	ice jam	*9.23
Nov. 4	2200	2,850	4.96	Mar. 29	----	A *3,000	ice jam

A Estimated, daily mean discharge.

Minimum discharge, 312 ft³/s Sept. 3, 9, gage height, 0.94 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 22 to Mar. 29.)

0.9	300	3.0	1,400
1.4	480	4.0	2,100
2.0	780	5.0	2,880

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	905	1040	760	660	540	520	2700	837	412	473	454	321
2	998	1630	680	660	540	520	2720	804	403	426	460	316
3	1100	2180	600	660	540	520	2710	787	394	385	448	313
4	1250	2750	720	660	540	520	2640	751	392	354	445	339
5	1440	2770	760	660	560	520	2580	720	398	364	415	348
6	1560	2440	820	660	560	520	2600	696	390	381	473	345
7	1800	2070	860	640	560	520	2630	668	381	370	408	343
8	1860	1790	880	640	560	520	2580	633	374	355	401	326
9	1770	1600	920	640	560	520	2440	577	368	344	394	315
10	1590	1460	940	640	560	520	2220	555	361	335	398	366
11	1420	1330	940	620	540	520	1970	544	373	338	418	544
12	1300	1240	900	600	540	520	1730	541	408	361	436	593
13	1210	1180	840	600	540	540	1540	547	456	390	409	629
14	1140	1130	800	620	540	540	1430	561	465	420	386	533
15	1090	1080	740	620	520	560	1450	561	439	490	405	543
16	1040	1120	740	620	520	560	1460	567	414	580	466	583
17	987	1130	740	620	520	560	1500	593	390	632	453	598
18	925	1150	740	620	520	800	1480	654	368	609	425	573
19	873	1190	760	600	520	960	1390	660	376	613	410	553
20	817	1240	760	600	520	1000	1280	639	411	673	392	563
21	770	1330	740	620	520	1000	1190	594	430	718	379	583
22	741	1300	720	620	540	1100	1120	551	407	677	366	624
23	726	1200	700	620	540	1200	1050	524	389	614	358	629
24	775	1000	700	600	540	1300	976	510	377	568	357	653
25	833	900	700	600	540	1400	920	496	370	537	353	734
26	872	840	700	600	540	2000	888	492	375	511	349	821
27	879	820	700	580	520	2200	853	494	428	503	348	929
28	827	820	680	560	520	2700	862	483	496	472	345	1000
29	768	800	680	560	---	3000	863	468	569	451	338	1090
30	724	780	680	540	---	2580	869	455	546	426	330	1140
31	696	---	660	540	---	2650	---	422	---	423	326	---
TOTAL	33686	41310	23560	19080	15060	32890	50641	18384	12360	14793	12345	17247
MEAN	1087	1377	760	615	538	1061	1688	593	412	477	398	575
MAX	1860	2770	940	660	560	3000	2720	837	569	718	473	1140
MIN	696	780	600	540	520	520	853	422	361	335	326	313
CFSM	1.54	1.95	1.08	.87	.76	1.51	2.39	.84	.58	.68	.57	.82
IN.	1.78	2.18	1.24	1.01	.79	1.74	2.67	.97	.65	.78	.65	.91
CAL YR 1985	TOTAL	282683	MEAN 774	MAX 2770	MIN 296	CFSM 1.10	IN 14.92					
WTR YR 1986	TOTAL	291356	MEAN 798	MAX 3000	MIN 313	CFSM 1.13	IN 15.37					

STREAMS TRIBUTARY TO LAKE MICHIGAN

04071858 PENSBAUKEE RIVER NEAR PENSBAUKEE, WI

LOCATION.--Lat 44°49'08", long 87°57'12", in NW 1/4 NE 1/4 sec.16, T.27 N., R.21 E., Oconto County, Hydrologic Unit 04030103, on right bank 300 ft 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 above National Geodetic Vertical Datum of 1929 (Wisconsin Department of Transportation bench mark).

REMARKS.--Estimated daily discharge: July 15-30, and the ice period listed in rating table below. Records good except for ice-affected period, which is fair; July 15-30 (estimated daily discharge) and Sept. 5-10, (period of beaver activity), which are poor.

AVERAGE DISCHARGE.--14 years, 100 ft³/s, 10.13 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 greater than base discharge of 800 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 2	0600	1,350	8.25	July 17	unknown	2,220	10.23
Mar. 26	1300	*3,470	*12.36				

Minimum discharge, 6.2 ft³/s July 10, 11, gage height, 2.25 ft, but may have been less during period of beaver activity, Sept. 6-9.

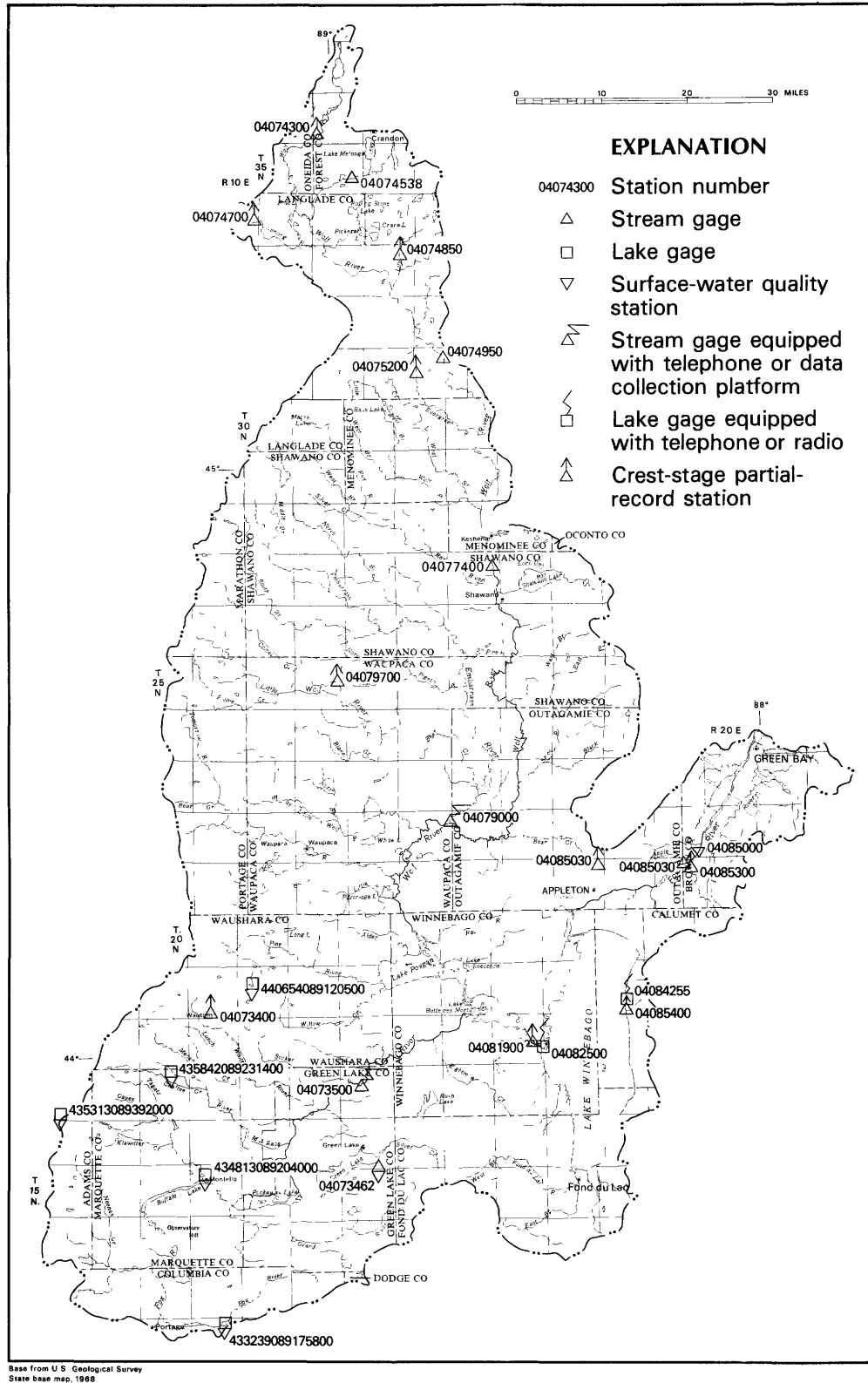
RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Sept. 15; stage-discharge relation affected by ice Nov. 22 to Mar. 24.)

2.2	3.5	5.0	390
2.3	9.0	6.0	610
2.5	29	7.0	910
3.0	84	9.0	1,650
4.0	210	12.0	3,250

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191	297	84	54	43	41	443	59	13	20	21	21
2	146	1200	82	54	44	41	341	53	13	19	21	20
3	115	1010	80	54	45	41	262	47	11	17	20	17
4	186	891	78	54	45	41	248	42	12	16	21	16
5	520	559	76	52	46	42	304	44	11	16	18	14
6	542	381	74	50	46	42	504	38	10	14	14	12
7	348	308	74	48	46	43	427	34	11	17	12	12
8	235	255	74	48	46	44	288	29	13	15	13	12
9	173	208	74	49	45	45	212	27	9.1	12	13	16
10	138	193	72	50	45	52	169	27	8.5	7.1	14	41
11	116	166	72	50	44	62	141	27	10	6.7	14	87
12	115	166	70	50	44	70	120	27	35	9.2	15	134
13	141	202	66	49	44	74	105	27	47	76	12	116
14	139	222	64	49	44	80	101	25	34	103	10	77
15	110	205	62	48	43	88	292	26	25	76	12	74
16	87	272	62	47	44	100	509	38	21	350	11	125
17	72	552	60	47	44	110	400	49	22	1800	10	114
18	62	525	58	47	45	160	249	97	19	1500	11	93
19	60	490	58	48	45	340	179	100	25	1300	9.0	80
20	56	434	58	49	45	500	142	70	51	350	10	91
21	54	258	58	49	45	700	121	50	38	200	8.5	109
22	53	180	58	49	44	1100	99	39	26	160	11	221
23	50	140	60	48	43	1400	84	33	21	120	12	310
24	64	120	60	47	42	1800	72	32	17	600	18	254
25	91	110	58	46	42	2380	65	29	15	700	28	232
26	86	100	58	45	41	3170	78	28	13	300	29	467
27	69	98	56	45	41	2500	79	24	28	120	38	675
28	60	94	56	44	41	1520	70	21	45	80	31	448
29	53	90	56	44	---	1100	61	21	28	54	27	274
30	52	86	56	43	---	863	57	20	19	37	24	210
31	49	---	54	43	---	601	---	16	---	26	22	---
TOTAL	4233	9812	2028	1500	1232	19150	6222	1199	650.6	8121.0	529.5	4372
MEAN	137	327	65.4	48.4	44.0	618	207	38.7	21.7	262	17.1	146
MAX	542	1200	84	54	46	3170	509	100	51	1800	38	675
MIN	49	86	54	43	41	41	57	16	8.5	6.7	8.5	12
CFSM	1.02	2.44	.49	.36	.33	4.61	1.55	.29	.16	1.96	.13	1.09
IN.	1.18	2.72	.56	.42	.34	5.32	1.73	.33	.18	2.25	.15	1.21

CAL YR 1985 TOTAL 39052.8 MEAN 107 MAX 1200 MIN 4.5 CFSM .80 IN 10.84
WTR YR 1986 TOTAL 59049.1 MEAN 162 MAX 3170 MIN 6.7 CFSM 1.21 IN 16.39



FOX-WOLF RIVER BASIN

FOX-WOLF RIVER BASIN

433239089175800 PARK LAKE AT PARDEEVILLE, WI

LOCATION.--Lat 43°32'39", long 89°17'58", in NE 1/4 NE 1/4 sec.35, T.13 N., R.10 E., Columbia County, Hydrologic Unit 04030201, at Pardeeville.

DRAINAGE AREA.--48.4 mi².

LAKE-STAGE RECORDS

PERIOD OF RECORD.--February 27 to September 30, 1986.

GAGE.--Staff gage at outlet read by Gene Buzzell. Datum of gage, 807.00 ft above National Geodetic Vertical Datum of 1929.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 8.44 ft, Sept. 25; minimum observed, 6.94 ft, Mar. 6.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	---	7.82	---	---	7.92	---	---
2					---	---	---	---	---	---	7.82	7.86
3					---	---	---	7.66	---	7.90	7.78	---
4					---	---	7.74	7.70	7.63	---	---	7.92
5					---	---	---	---	---	7.92	7.68	---
6					---	6.94	7.78	7.72	---	---	---	7.88
7					---	---	---	---	---	7.48	7.64	---
8					---	6.96	7.80	7.72	---	---	7.58	7.82
9					---	7.00	---	---	---	7.28	---	---
10					---	---	7.82	---	---	---	7.80	7.76
11					---	7.12	---	---	---	7.18	---	---
12					---	---	7.82	---	7.57	---	---	7.80
13					---	7.20	7.84	---	---	7.92	7.72	---
14					---	---	---	7.70	---	---	---	7.86
15					---	7.48	7.86	---	---	8.10	---	---
16					---	7.52	---	7.72	---	---	7.56	7.92
17					---	---	---	---	7.91	8.02	---	---
18					---	7.76	7.90	7.76	7.81	---	7.76	8.06
19					---	---	---	7.82	---	7.80	---	---
20					---	7.98	7.90	---	---	7.78	---	8.02
21					---	---	---	7.80	---	---	7.72	8.12
22					---	7.96	7.88	---	---	7.64	7.62	8.22
23					---	7.96	7.70	7.82	---	---	7.76	8.26
24					---	---	7.84	---	---	7.72	---	8.32
25					---	7.92	---	7.82	7.76	---	7.90	8.44
26					---	---	7.82	---	---	7.78	7.82	8.22
27					7.00	7.90	---	7.76	---	7.84	---	7.96
28					---	---	7.76	---	---	---	7.62	8.02
29					---	7.86	---	7.76	---	7.94	---	---
30					---	7.82	7.72	---	---	---	7.76	8.04
31					---	---	---	7.72	---	7.86	---	---

433239089175800 PARK LAKE AT PARDEEVILLE, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 27 to August 22, 1986.

REMARKS.--Lake sampled near center at a depth of 13 ft.

WATER-QUALITY DATA, FEBRUARY 27 TO AUGUST 22, 1986
(Milligrams per liter unless otherwise indicated)

	Feb. 27		Apr. 23		June 17		July 23		Aug. 22	
Depth of sample (ft)	3.0	12.0	3.0	12.5	2.0	24.0	3.0	12.5	3.0	13.5
Specific conductance (uS)	535	573	480	480	480	570	399	523	416	532
pH	7.9	7.6	9.1	9.1	8.7	7.6	9.0	7.6	9.0	7.7
Water temperature (°C)	0.5	3.5	11.5	11.5	22.5	12.5	27.0	21.5	24.5	21.0
Color (Pt-Co. scale)	--	--	30	30	--	--	--	--	--	--
Turbidity (NTU)	--	--	6.0	2.5	--	--	--	--	--	--
Secchi-disc (meters)	--	--	--	1.0	--	0.7	--	0.5	--	0.4
Dissolved oxygen	12.0	0.4	13.7	13.9	10.8	0.0	14.1	0.0	14.9	0.2
Hardness, as CaCO ₃	--	--	250	260	--	--	--	--	--	--
Calcium, dissolved (Ca)	--	--	52	52	--	--	--	--	--	--
Magnesium, dissolved (Mg)	--	--	30	32	--	--	--	--	--	--
Sodium, dissolved (Na)	--	--	4.0	4.2	--	--	--	--	--	--
Potassium, dissolved (K)	--	--	2.2	2.2	--	--	--	--	--	--
Alkalinity as CaCO ₃	--	--	223	225	--	--	--	--	--	--
Sulfate, dissolved (SO ₄)	--	--	20	19	--	--	--	--	--	--
Chloride, dissolved (Cl)	--	--	12	12	--	--	--	--	--	--
Silica, dissolved (SiO ₂)	--	--	1.1	1.2	--	--	--	--	--	--
Solids, dissolved, at 180°C	--	--	258	285	--	--	--	--	--	--
Nitrogen, nitrate, total (as N)	--	--	.88	.88	--	--	--	--	--	--
Nitrogen, nitrite, total (as N)	--	--	.02	.02	--	--	--	--	--	--
Nitrogen, ammonia, total (as N)	--	--	.02	.02	--	--	--	--	--	--
Nitrogen, organic, total (as N)	--	--	.98	.88	--	--	--	--	--	--
Nitrogen, total (as N)	--	--	1.9	1.8	--	--	--	--	--	--
Total phosphorus (as P)	--	--	.044	.038	.046	.071	.040	.045	.087	.062
Phosphorus, ortho, diss (as P)	--	--	.004	.004	--	.049	--	.009	--	--
Iron, dissolved (Fe) ug/L	--	--	13	10	--	--	--	--	--	--
Manganese, dissolved (Mn) ug/L	--	--	1	2	--	--	--	--	--	--
Chlorophyll <i>a</i> , phyto. (ug/L)	--	--	26 ^{1/}	--	--	--	--	--	--	--

^{1/} Adjusted from 17 ug/L by Wisconsin State Laboratory of Hygiene.

2-27-86

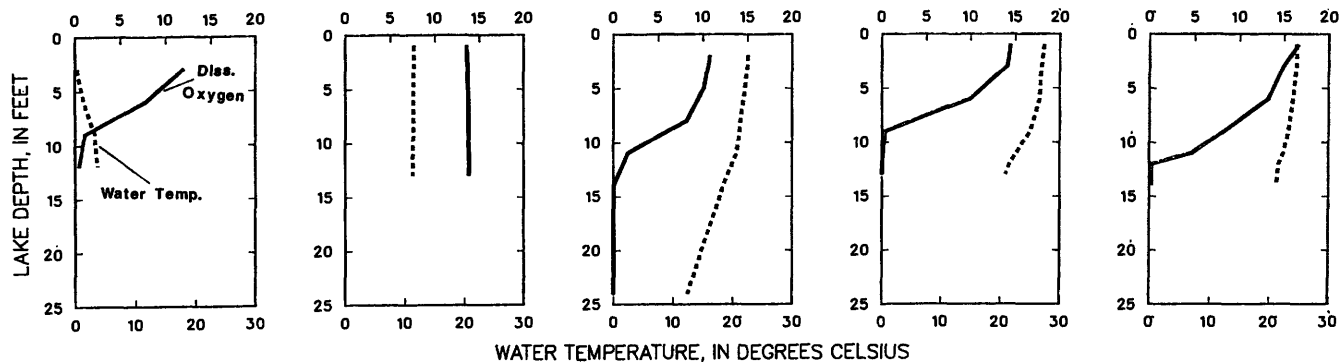
4-23-86

6-17-86

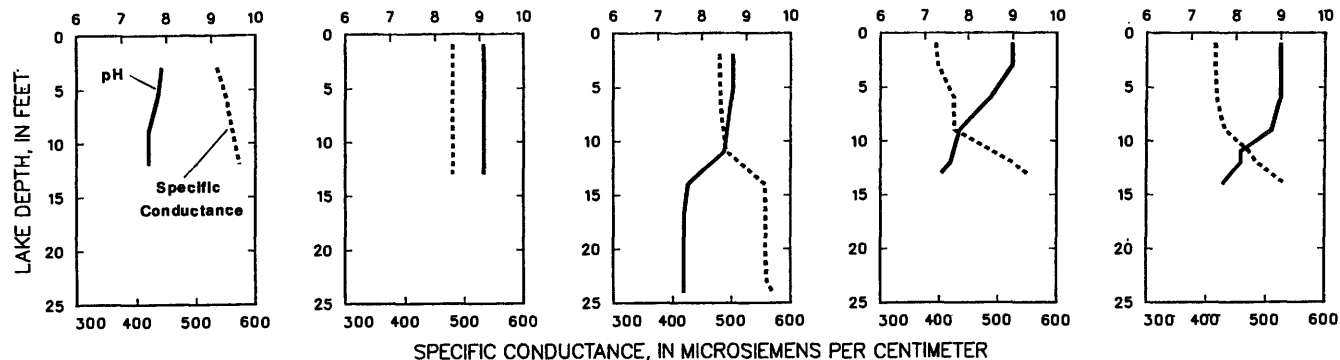
7-23-86

8-22-86

DISSOLVED OXYGEN, IN MILLIGRAMS PER LITER



PH, IN STANDARD UNITS



STREAMS TRIBUTARY TO LAKE MICHIGAN

435313089392000 PATRICK LAKE NEAR GRAND MARSH, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 43°53'13", long 89°39'20", in NW 1/4 sec.10, T.16 N., R.7 E., Adams County, Hydrologic Unit 04030201, 2.5 mi east of Grand Marsh.

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Staff gage read by Orval Vierck. Elevation of gage is 973 ft, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 13.90 ft, Sept. 20, 1986; minimum observed, 11.47 ft, Oct. 4, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 13.90 ft, Sept. 20; minimum observed, 12.29 ft, Oct. 29.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
OCT. 3	12.34	NOV. 4	12.48	JAN. 15	12.65	APR. 15	12.95	JUNE 18	12.75	JULY 30	13.08
OCT. 9	12.34	NOV. 8	12.45	JAN. 24	12.65	MAY 10	12.67	JUNE 25	12.74	AUG. 6	12.96
OCT. 13	12.34	NOV. 13	12.50	MAR. 4	12.75	MAY 23	12.75	JULY 2	12.96	AUG. 15	12.91
OCT. 16	12.33	NOV. 18	12.57	MAR. 14	12.80	MAY 30	12.73	JULY 9	12.89	AUG. 20	12.87
OCT. 24	12.34	NOV. 25	12.54	MAR. 22	12.97	JUNE 4	12.63	JULY 16	12.99	AUG. 28	12.84
OCT. 29	12.29	NOV. 30	12.54	MAR. 30	12.95	JUNE 11	12.79	JULY 23	12.93	SEPT. 10	13.07
										SEPT. 20	13.90

WATER-QUALITY RECORDS

LOCATION.--Lat 43°53'09", long 89°39'33", in NE 1/4 sec.9, T.16 N., R.7 E., Adams County, Hydrologic Unit 04030201, near center of lake, and 2.3 mi east of Grand Marsh.

PERIOD OF RECORD.--July 1985 to current year.

REMARKS.--Secchi disc readings made by Orval Vierck.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
MAY 30	2.8	JUNE 18	4.7	JULY 9	4.3	JULY 30	2.9	AUG. 20	3.8	SEPT. 10	3.7
JUNE 4	5.0	JUNE 25	4.8	JULY 16	3.4	AUG. 6	2.5	AUG. 28	3.2	SEPT. 20	3.0
JUNE 11	4.6	JULY 2	2.6	JULY 23	3.0	AUG. 15	3.5				

[illegible]

STREAMS TRIBUTARY TO LAKE MICHIGAN

435842089231400 SHARON LAKE NEAR DAKOTA, WI

LAKE-STAGE RECORD

LOCATION.--Lat 43°58'42", long 89°23'14", in NE 1/4 sec.2, T.17 N., R.9 E., Marquette County, Hydrologic Unit 04030201, 1.7 mi southwest of Dakota.

PERIOD OF RECORD.--November 1984 to current year.

GAGE.--Staff gage read by Mike Jacobi. Elevation of gage is 845 ft, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 9.11 ft, Sept. 29, 30, 1986; minimum observed, 7.84 ft, Sept. 3, 4, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 9.11 ft, Sept. 29, 30; minimum observed, 7.90 ft, Oct. 1-31.

GAGE HEIGHT (FEET ABOVE DATUM) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.90	8.04							---	8.59	8.55	8.17
2	7.90	8.10							---	8.57	8.55	8.15
3	7.90	8.10							---	8.55	8.53	8.13
4	7.90	8.10							---	8.55	8.51	8.13
5	7.90	8.10							---	8.53	8.49	8.11
6	7.90	8.10							8.43	8.53	8.47	8.09
7	7.90	8.10							8.43	8.51	8.47	8.07
8	7.90	8.10							8.43	8.49	8.49	8.05
9	7.90	8.14							8.43	8.45	8.47	8.03
10	7.90	8.18							8.41	8.43	8.04	8.11
11	7.90	8.18							8.51	8.43	8.43	8.39
12	7.90	8.18							8.59	8.61	8.41	8.37
13	7.90	8.18							8.57	8.59	8.39	8.35
14	7.90	8.18							---	8.57	8.39	8.33
15	7.90	8.18							---	8.59	8.41	8.37
16	7.90	8.18							8.54	8.59	8.41	8.37
17	7.90	8.24							8.53	8.57	8.39	8.35
18	7.90	8.24							8.51	8.57	8.37	8.37
19	7.90	8.30							8.49	8.55	8.35	8.37
20	7.90	8.30							8.49	8.53	8.33	8.43
21	7.90	8.30							8.49	8.51	8.31	8.53
22	7.90	---							8.49	8.49	8.29	8.83
23	7.90	---							8.47	8.49	8.25	8.85
24	7.90	---							8.45	8.47	8.23	8.97
25	7.90	---							7.43	8.61	8.21	8.99
26	7.90	---							8.41	8.59	8.24	9.09
27	7.90	---							8.61	8.61	8.25	9.09
28	7.90	---							---	8.59	8.52	9.09
29	7.90	---							---	8.57	8.56	9.11
30	7.90	---							---	8.55	8.52	9.11
31	7.90	---							---	8.53	8.19	---
MEAN	7.90	---							---	8.54	8.39	8.48
MAX	7.90	---							---	8.61	8.56	9.11
MIN	7.90	---							---	8.43	8.04	8.03

WATER-QUALITY RECORDS

LOCATION.--Lat 93°58'36", long 89°23'01", in NE 1/4 sec.1, T.17 N., R.9 E., Marquette County, Hydrologic Unit 04030201, near center of lake, and 1.6 mi southwest of Dakota.

PERIOD OF RECORD.--June 8 to June 28, 1986.

REMARKS.--Secchi disc readings made by Mike Jacobi.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
JUNE 8	5.8	JUNE 15	3.7	JUNE 19	4.6	JUNE 28	3.1

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. Elevation of gage is 800 ft, from topographic map.

REMARKS.--Estimated daily discharge: None, except for ice periods listed in rating table below. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 781 ft³/s Sept. 10, 1986, gage height, 10.14 ft; minimum daily, 0.52 ft³/s Oct. 4, 30, 31, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 781 ft³/s Sept. 10, gage height, 10.14 ft; minimum daily, 1.3 ft³/s Mar. 3-9.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 8-19; stage-discharge relation affected by ice Dec. 26, Jan. 26, 27, Feb. 10, 11, 13, 28, and Mar. 5-8.)

4.0	0.65	4.5	9.7
4.1	1.3	4.6	13
4.2	2.6	4.8	22
4.3	4.2	5.0	56
4.4	6.6	5.3	96

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	7.8	12	4.2	2.4	1.5	20	7.5	2.9	5.6	5.6	2.8
2	3.2	9.4	12	4.1	2.3	1.4	19	7.4	2.8	5.2	6.8	2.8
3	3.2	10	12	4.0	2.2	1.3	22	7.0	2.8	4.6	5.5	2.7
4	3.4	11	11	4.0	2.4	1.3	19	6.7	2.8	4.2	5.3	2.6
5	3.9	11	11	3.9	2.5	1.3	18	6.6	2.8	4.1	4.6	2.6
6	3.9	11	10	3.8	2.3	1.3	16	6.5	2.8	3.8	4.1	2.6
7	3.9	11	10	3.6	2.3	1.3	16	6.1	2.7	3.7	3.9	2.6
8	3.7	10	9.8	3.6	2.2	1.3	15	5.9	2.6	3.5	3.9	2.8
9	3.9	10	9.3	3.6	2.2	1.3	15	5.9	2.3	3.3	3.7	2.9
10	3.9	10	8.9	3.6	2.1	2.2	14	5.9	2.4	3.2	3.6	61
11	4.0	9.8	8.6	3.6	2.0	3.4	13	5.7	5.3	3.7	3.5	55
12	4.7	10	8.2	3.4	1.9	3.7	13	5.6	4.9	4.9	3.3	16
13	4.0	11	7.5	3.2	1.9	3.6	13	5.2	3.7	3.5	3.3	16
14	4.0	11	7.2	3.2	1.9	4.0	13	5.1	3.3	3.2	3.2	16
15	4.2	11	7.2	3.1	1.9	5.7	13	5.2	2.9	3.5	3.1	16
16	4.4	15	7.0	2.9	1.8	8.0	12	5.1	2.7	3.2	3.0	14
17	4.7	16	6.5	2.9	1.8	10	12	5.4	2.5	3.0	23	13
18	4.9	18	6.4	2.9	1.8	18	12	4.9	2.4	2.9	4.1	13
19	4.7	18	6.1	2.9	1.7	38	11	4.6	3.8	3.0	3.7	13
20	4.8	16	5.9	2.9	1.7	29	11	4.4	2.8	2.8	3.6	12
21	4.9	16	5.6	2.8	1.7	23	10	4.2	2.4	2.8	3.6	21
22	4.9	16	5.6	2.8	1.7	22	10	4.1	2.3	2.7	3.6	89
23	5.1	16	5.6	2.8	1.7	38	9.6	3.9	2.3	2.5	3.5	25
24	5.4	16	5.3	2.8	1.6	43	9.3	3.9	2.2	2.6	3.4	24
25	5.2	15	5.2	2.8	1.6	71	9.1	3.7	2.0	15	3.1	26
26	5.2	14	5.0	2.7	1.6	41	9.1	3.7	7.6	5.8	3.3	22
27	4.8	14	4.8	2.6	1.5	29	8.5	3.7	27	5.8	3.1	21
28	3.6	13	4.7	2.5	1.5	26	8.3	3.5	8.8	6.6	3.0	20
29	3.6	13	4.6	2.5	---	23	7.9	3.4	7.6	5.2	2.9	20
30	3.7	12	4.4	2.5	---	25	7.8	3.3	6.7	4.8	2.9	19
31	3.8	---	4.2	2.4	---	21	---	3.0	---	5.2	2.8	---
TOTAL	130.8	382.0	231.6	98.6	54.2	499.6	386.6	157.1	130.1	133.9	136.0	556.4
MEAN	4.22	12.7	7.47	3.18	1.94	16.1	12.9	5.07	4.34	4.32	4.39	18.5
MAX	5.4	18	12	4.2	2.5	71	22	7.5	27	15	23	89
MIN	3.2	7.8	4.2	2.4	1.5	1.3	7.8	3.0	2.0	2.5	2.8	2.6
CFSM	1.38	4.16	2.45	1.04	.64	5.28	4.23	1.66	1.42	1.42	1.44	6.07
IN.	1.59	4.66	2.82	1.20	.66	6.09	4.71	1.92	1.59	1.63	1.66	6.78
CAL YR 1985	TOTAL	1987.45	MEAN	5.45	MAX	37	MIN	.86	CFSM	1.79	IN	24.23
WTR YR 1986	TOTAL	2896.90	MEAN	7.94	MAX	89	MIN	1.3	CFSM	2.60	IN	35.32

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 for Sept. 10-11, and 22 which are poor due to sampler malfunction. Daily loads estimated.

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, 0.05 lb July 22-23, 1985.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 1,130 lb Sept. 10, 1986; minimum daily, 0.06 lb July 23, 1985.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,350 tons Sept. 10; minimum daily, 0.01 ton Sept. 1-8.

TOTAL AMMONIA-NITROGEN DISCHARGE: Maximum daily, 325 lb Sept. 10; minimum daily, 0.14 lb Mar. 5-8.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 1,130 lb Sept. 10; minimum daily, 0.14 lb Mar. 5-8.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

		STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)			SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)		TEMPER- ATURE (DEG C) (00010)				
		DATE	TIME								
OCT , 1985											
		15...	1320	4.2		730		10.0			
NOV											
		13...	1220	10		780		8.5			
JAN , 1986											
		09...	1500	3.6		710		4.5			
FEB											
		13...	1335	1.8		580		.5			
MAR											
		21...	1400	23		630		7.5			
		26...	1405	39		480		9.5			
JUN											
		06...	1440	2.8		630		12.5			
AUG											
		05...	1025	4.9		620		11.5			
SEP											
		10...	1250	11		320		15.5			
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N (00610)	PHOS- PHORUS, TOTAL (MG/L) AS P (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N (00610)	PHOS- PHORUS, TOTAL (MG/L) AS P (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
OCT , 1985						NOV , 1985					
04...	1015	3.4	--	--	15	01...	1525	7.8	--	--	71
12...	0410	4.7	--	--	91	01...	1535	8.2	.040	.210	--
12...	0430	5.4	--	--	77	01...	1545	8.8	--	--	72
12...	0450	6.4	--	--	87	01...	1725	9.7	--	--	179
12...	0520	8.2	--	--	164	01...	2055	9.7	.090	.300	--
12...	0610	7.5	--	--	174	01...	2125	9.7	--	--	107
12...	0710	5.4	--	--	141	02...	0325	9.1	--	--	93
12...	0840	4.7	--	--	180	02...	0355	8.8	.060	.180	--
15...	0335	4.2	--	--	8	02...	1305	9.4	.050	.130	--
15...	1335	4.4	<.010	.050	--	02...	1405	9.4	--	--	91
21...	1445	4.9	--	--	15	02...	1605	9.7	--	--	121
29...	1110	3.6	--	--	15	02...	1905	10	.060	.160	--
NOV						02...	2005	10	--	--	147
01...	0245	7.5	--	--	149	03...	0105	10	--	--	147
01...	0255	7.8	.080	.340	--	03...	0205	10	.060	.140	--
01...	0305	8.2	--	--	135	04...	1135	11	--	--	58
01...	0315	8.2	.090	.340	--	04...	1305	11	.040	.080	--
01...	0325	8.5	--	--	151	04...	1605	11	--	--	61
01...	0335	8.5	.110	.380	--	04...	2305	11	--	--	78
01...	0415	9.1	--	--	182	05...	0705	11	--	--	69
01...	0425	9.1	.120	.420	--	05...	0905	11	.030	.060	--
01...	0455	8.5	--	--	166	12...	1100	10	--	--	13
01...	0545	7.5	.120	.380	--	12...	1115	10	.020	.070	--
01...	0555	6.9	--	--	133	15...	1435	11	.030	.040	20
01...	0930	6.1	--	--	21	16...	0210	14	--	--	233
						16...	0240	16	.030	.520	--

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDEED (MG/L) (80154)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDEED (MG/L) (80154)
NOV , 1985						MAR , 1986					
16...	0310	17	--	--	586	21...	1025	24	.010	.070	--
16...	0340	20	.040	.670	--	21...	1225	24	--	--	88
16...	0410	21	--	--	749	21...	1400	23	.050	.090	101
16...	0440	21	.130	.690	--	21...	1745	20	.030	.080	--
16...	0510	19	--	--	459	21...	1946	20	--	--	113
16...	0640	16	.090	.330	--	22...	0945	19	.020	.060	--
16...	0710	15	--	--	169	22...	1145	19	--	--	71
16...	1010	15	--	--	82	22...	1345	21	--	--	94
16...	1040	15	.040	.130	--	22...	1545	23	--	--	128
16...	1210	16	--	--	89	22...	1745	27	.050	.090	--
16...	1510	15	--	--	73	22...	1945	26	--	--	148
16...	1540	15	.050	.150	--	23...	0745	21	--	--	79
18...	0950	17	.030	.120	--	23...	0945	21	.060	.080	--
18...	1040	19	--	--	241	23...	1145	27	--	--	136
18...	1115	20	--	--	452	23...	1345	61	.150	.150	--
18...	1145	19	.040	.370	--	23...	1545	67	--	--	1550
18...	1245	20	--	--	228	23...	1945	53	--	--	466
18...	1745	19	--	--	136	23...	2145	44	.140	.150	--
18...	2345	18	--	--	143	24...	1010	36	.060	.100	101
19...	0045	18	.080	.150	--	24...	1210	37	--	--	230
19...	1315	18	--	--	106	24...	1410	47	.080	.100	--
19...	1515	18	.010	.100	--	24...	2010	58	--	--	260
19...	2315	17	--	--	87	24...	2210	49	.120	.160	--
20...	1315	16	--	--	57	25...	0410	60	--	--	224
20...	1855	16	--	--	64	25...	0610	63	.110	.160	--
21...	0655	16	.040	.140	--	25...	0810	65	--	--	363
21...	1055	16	--	--	46	25...	1010	89	.150	.260	--
22...	0655	16	--	--	51	25...	1015	89	.240	.760	1900
22...	1055	16	.030	.130	--	25...	1050	94	--	--	2310
26...	1045	15	--	--	62	25...	1120	98	.200	.270	--
DEC						25...	1150	131	--	--	4410
06...	1310	10	--	--	18	25...	1220	114	.240	.450	--
19...	1335	6.1	--	--	8	25...	1250	135	--	--	2870
JAN , 1986						25...	1350	115	--	--	2670
03...	1500	4.0	--	--	9	25...	1400	99	.290	.470	1660
09...	1500	3.6	.040	.030	28	25...	1415	97	.350	.620	1500
15...	1400	3.1	--	--	31	25...	1420	100	.350	.300	--
30...	1500	2.5	--	--	34	25...	1445	89	.350	.680	1180
FEB						25...	1600	80	.310	.590	--
04...	1515	2.5	--	--	16	25...	1601	80	.280	.340	789
13...	1335	1.8	.030	.030	18	25...	1645	69	.260	.420	--
28...	1300	1.5	--	--	48	25...	1648	76	--	--	651
MAR						25...	1730	74	.270	.230	--
05...	1350	1.5	--	--	7	25...	1830	63	--	--	365
10...	1500	3.4	--	--	32	26...	0030	53	--	--	193
14...	1330	4.0	--	--	36	26...	0130	49	.190	.190	--
15...	1615	6.1	.090	.140	--	26...	0630	41	--	--	166
15...	1635	6.1	--	--	52	26...	1130	39	.140	.150	--
15...	1955	6.6	--	--	76	26...	1230	37	--	--	186
15...	2015	6.6	.050	.100	--	26...	1300	46	--	--	131
16...	0035	7.2	--	--	82	26...	1320	42	--	--	165
16...	0055	7.2	.040	.090	--	26...	1720	39	--	--	139
17...	1425	11	.030	.090	68	26...	2220	36	.120	.120	--
18...	0420	13	.050	.170	--	26...	2320	32	--	--	83
18...	0440	13	--	--	237	27...	0520	27	--	--	107
18...	0820	15	.050	.220	263	27...	1120	31	--	--	87
18...	1240	17	--	--	441	27...	1220	32	.120	.140	--
18...	1300	17	.100	.220	--	27...	2225	27	.060	.090	--
18...	1440	19	--	--	536	28...	0025	27	--	--	96
18...	1550	19	--	--	521	28...	1225	26	--	--	63
18...	1650	19	.070	.350	--	28...	1425	26	.060	.100	--
18...	1750	20	--	--	465	29...	0425	23	--	--	93
18...	2050	22	.110	.290	--	29...	0625	22	.070	.090	--
18...	2150	27	--	--	697	29...	2225	24	.100	.110	121
18...	2350	49	--	--	1000	31...	1015	21	.030	.070	40
19...	0050	54	.150	.330	--	31...	2015	20	--	--	93
19...	0150	53	.150	.330	642	APR					
19...	0350	44	--	--	520	01...	0015	20	.030	.060	--
19...	0450	37	.130	.320	--	01...	0815	23	--	--	149
19...	0840	36	--	--	456	01...	1615	19	.030	.070	--
19...	0850	36	.120	.290	--	01...	2015	19	--	--	45
19...	1055	34	--	--	400	02...	0815	19	.030	.050	--
19...	1450	41	.120	.270	407	02...	1215	19	--	--	36
19...	1655	36	--	--	459	02...	2220	19	--	--	117
19...	1855	32	.140	.150	--	03...	0620	19	.030	.060	--
19...	2055	32	--	--	271	03...	1020	19	--	--	62
20...	0455	26	--	--	145	03...	1420	29	.030	.160	--
20...	0655	27	.060	.110	--	03...	1530	37	--	--	265
20...	1420	36	--	--	127	03...	1600	41	.080	.180	--
20...	1625	31	--	--	172	03...	1630	39	--	--	224
20...	1825	29	.040	.110	--	03...	1830	26	--	--	126

STREAMS TRIBUTARY TO LAKE MICHIGAN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
APR , 1986						JUL , 1986					
03...	1900	24	.050	.130	--	25...	0145	12	--	--	1500
03...	2130	21	--	--	83	25...	0205	8.8	.140	2.30	--
04...	0130	20	--	--	81	25...	0330	17	--	--	1430
04...	0200	19	.030	.070	--	25...	0350	65	.480	1.50	--
04...	1410	18	--	--	26	25...	0410	46	--	--	5860
04...	1745	17	.020	.060	31	25...	0510	14	--	--	2050
05...	0345	18	--	--	40	25...	0610	9.7	--	--	1900
05...	0445	18	.030	.060	--	25...	0630	9.1	.140	.690	--
05...	1745	17	--	--	24	25...	0800	27	--	--	885
05...	1845	17	.020	.060	--	25...	0820	94	.480	.910	--
05...	2120	17	--	--	35	25...	0840	87	--	--	5430
14...	1440	15	--	--	141	25...	0920	51	--	--	2220
14...	1520	16	.020	.120	--	25...	0940	29	.170	.720	--
14...	1540	16	--	--	117	25...	1001	36	--	--	1840
18...	1120	12	.040	.040	31	25...	1235	12	.150	.780	--
22...	1440	10	--	--	26	25...	1305	11	--	--	1340
MAY						25...	1330	10	--	--	1280
05...	0950	6.6	--	--	10	26...	1330	10	.120	.650	--
16...	1025	5.2	--	--	16	27...	2220	11	--	--	604
19...	1230	4.7	--	--	11	27...	2240	20	.270	.380	--
JUN						27...	2300	15	--	--	3890
06...	1440	2.8	.040	.050	31	27...	2400	12	.130	.760	--
11...	0840	2.3	--	--	19	28...	0020	12	--	--	1260
11...	1635	9.7	--	--	612	28...	0140	10	--	--	780
11...	1655	11	.480	.800	--	28...	0200	9.1	.070	.800	--
11...	1715	12	--	--	744	30...	1130	4.9	--	--	11
11...	1735	12	.100	.530	--	31...	1305	13	--	--	634
11...	1755	14	--	--	1230	31...	1325	14	.580	.400	--
11...	1815	14	.470	3.00	--	31...	1405	10	--	--	1740
11...	1835	13	--	--	4920	AUG					
11...	1915	16	--	--	4520	01...	2045	15	--	--	760
11...	1935	16	.780	1.30	--	01...	2105	1.0	.250	.550	--
11...	2015	13	--	--	3680	01...	2145	10	.250	.490	2440
11...	2055	12	.750	1.30	--	01...	2205	12	--	--	1870
11...	2115	11	--	--	2660	01...	2245	18	--	--	2590
11...	2215	8.8	.630	.730	--	01...	2305	17	.740	1.40	--
11...	2235	8.2	--	--	1920	02...	0005	13	--	--	1340
18...	1520	2.5	--	--	35	02...	0105	10	.600	.640	--
19...	2105	9.4	--	--	1220	02...	0125	9.4	--	--	780
19...	2125	37	.500	3.10	6800	05...	0925	4.9	--	--	5
19...	2145	20	--	--	10400	05...	1025	4.9	.110	.040	--
19...	2205	15	1.10	2.80	8800	12...	1500	3.2	--	--	2
19...	2225	12	--	--	5500	17...	0740	14	--	--	1020
19...	2325	9.1	.480	.800	--	17...	0800	85	.310	1.00	6680
26...	2035	13	--	--	1700	17...	0820	98	--	--	4380
26...	2055	92	1.60	3.40	22000	17...	0840	119	.280	.900	--
26...	2230	39	--	--	12200	17...	0900	155	--	--	3790
26...	2250	49	1.00	.780	--	17...	0920	179	.190	1.20	2820
26...	2310	41	--	--	7220	17...	0940	171	--	--	2620
26...	2350	21	--	--	5080	17...	1020	106	--	--	1590
27...	0050	16	.970	.680	--	17...	1040	84	.140	.830	--
27...	0110	16	--	--	5840	17...	1100	61	--	--	1250
27...	0150	97	--	--	5930	17...	1200	22	.130	.850	--
27...	0210	107	.640	7.50	--	17...	1220	19	--	--	797
27...	0310	115	--	--	5830	17...	1400	11	.090	.920	--
27...	0330	115	.510	1.40	--	17...	1420	10	--	--	393
27...	0350	109	--	--	5570	17...	1900	4.9	--	--	42
27...	0450	79	.310	1.20	--	SEP					
27...	0510	69	--	--	4260	05...	1005	2.6	--	--	1
27...	0630	27	--	--	3520	10...	0240	9.7	--	--	372
27...	0650	23	.280	.180	--	10...	0300	10	.160	.350	--
27...	1035	13	--	--	1230	10...	0320	13	--	--	830
27...	1155	12	--	--	1040	10...	0420	8.5	.160	.450	--
27...	1215	12	.080	.660	--	10...	0440	6.6	--	--	196
27...	1515	11	--	--	587	10...	1130	6.1	.120	.260	--
27...	1615	11	.060	.230	--	10...	1151	11	--	--	515
27...	1835	10	--	--	419	10...	1210	14	.120	.410	--
27...	2145	9.7	.080	.330	--	10...	1230	14	--	--	518
27...	2315	9.4	--	--	281	10...	1248	12	.160	.560	--
28...	0900	9.1	--	--	122	10...	1250	11	.160	.640	--
JUL						10...	1341	8.5	--	--	300
09...	0900	3.4	--	--	24	10...	1400	7.2	.140	.420	--
11...	1605	13	--	--	1260	11...	0905	21	.030	.230	290
12...	1625	16	.100	.540	953	11...	0935	20	.050	.320	--
12...	1655	12	--	--	2210	11...	1005	20	--	--	306
12...	1725	10	.200	.480	--	11...	1205	19	--	--	170
12...	1935	13	--	--	1140	11...	1535	17	.030	.120	--
12...	2005	12	.150	.690	--	11...	1605	17	--	--	132
12...	2035	10	--	--	787	11...	1905	17	--	--	107
12...	2355	5.2	.100	.300	--	11...	2205	16	--	--	125
12...	2400	5.2	--	--	255	11...	2235	16	.040	.170	--
23...	1020	2.6	--	--	10	15...	1625	15	.020	.070	32

WATER QUALITY DATA. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

NITROGEN, AMMONIA, TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	3.3	2.00	.86	.43	.19	3.30	1.60	.62	1.20	7.10	.92
2	.52	2.9	2.00	.84	.41	.18	3.10	1.60	.60	1.10	9.50	.91
3	.52	3.0	2.00	.83	.39	.16	4.90	1.50	.60	.93	4.00	.85
4	.55	2.4	1.90	.84	.42	.15	2.50	1.50	.60	.83	3.50	.80
5	.63	1.8	1.90	.82	.43	.14	2.30	1.40	.61	.79	2.70	.78
6	.42	1.7	1.80	.81	.39	.14	1.70	1.40	.59	.71	2.30	.76
7	.42	1.6	1.80	.77	.39	.14	1.50	1.30	.56	.67	2.00	.75
8	.40	1.4	1.80	.77	.37	.14	1.30	1.30	.49	.62	1.90	.78
9	.42	1.3	1.70	.78	.37	.15	1.20	1.30	.42	.57	1.70	.83
10	.42	1.2	1.60	.77	.34	.51	1.00	1.30	.42	.53	1.50	325
11	.22	1.1	1.60	.77	.32	1.00	.89	1.20	12.00	.63	1.40	98.00
12	.25	1.1	1.50	.71	.31	1.20	.82	1.20	3.60	2.60	1.20	3.10
13	.22	1.3	1.40	.67	.31	1.40	.74	1.10	1.80	1.90	1.10	2.60
14	.22	1.6	1.30	.66	.30	1.70	1.20	1.10	1.50	1.60	1.00	2.20
15	.23	1.6	1.30	.64	.29	2.40	1.60	1.10	1.20	1.60	.93	1.70
16	.25	4.8	1.30	.60	.28	1.60	1.80	1.10	1.00	1.40	.84	1.30
17	.28	3.3	1.20	.59	.27	1.90	2.20	1.20	.85	1.20	22.00	1.20
18	.30	4.4	1.20	.58	.27	8.20	2.50	1.10	.75	1.10	2.00	.97
19	.30	2.6	1.20	.58	.25	26.00	2.40	.98	6.90	1.10	1.70	.87
20	.32	1.9	1.10	.57	.25	8.30	2.40	.94	2.10	.99	1.60	.72
21	.34	3.1	1.10	.55	.25	2.90	2.20	.91	1.10	.92	1.60	14.00
22	.36	2.7	1.10	.54	.24	4.10	2.20	.88	.84	.84	1.60	196
23	.39	2.6	1.10	.54	.23	23.00	2.10	.84	.70	.74	1.50	5.40
24	.43	2.6	1.10	.54	.22	21.00	2.00	.84	.55	.75	1.40	5.30
25	.43	2.5	1.00	.53	.21	82.00	2.00	.80	.42	21.00	1.20	5.70
26	.45	2.4	1.10	.44	.21	33.00	2.00	.80	28.00	3.60	1.30	4.50
27	.43	2.3	.95	.42	.19	16.00	1.90	.80	57.00	3.90	1.20	4.00
28	.34	2.2	.94	.47	.16	8.60	1.80	.76	3.30	2.60	1.10	3.70
29	.35	2.1	.92	.46	---	10.00	1.70	.73	2.30	1.70	1.00	3.50
30	.38	2.1	.89	.45	---	8.90	1.70	.72	1.60	1.50	1.00	3.10
31	.46	---	.87	.43	---	3.60	---	.66	---	3.50	.97	---
TOTAL	11.77	68.9	42.67	19.83	8.50	268.70	58.95	33.96	133.02	63.12	83.84	690.24
MEAN	.38	2.3	1.40	.64	.30	8.70	2.00	1.10	4.40	2.00	2.70	23.00
WTR YR 1986	TOTAL	1483.50	MEAN	4.10								

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 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.21	12.00	6.37	.87	.39	.19	7.01	1.72	.76	5.73	14.00	.96
2	1.04	8.07	6.06	.82	.37	.18	5.52	1.70	.74	4.65	8.46	.95
3	1.04	6.71	5.78	.78	.36	.16	12.00	1.61	.75	3.59	2.15	.89
4	1.10	4.88	5.39	.76	.39	.15	6.51	1.57	.75	2.88	1.52	.83
5	1.26	3.67	5.19	.72	.40	.14	5.73	1.55	.76	2.47	1.02	.80
6	1.26	3.65	4.69	.68	.37	.14	5.02	1.54	.74	2.02	.83	.77
7	1.26	3.70	4.44	.62	.37	.14	4.43	1.44	.74	1.70	.75	.76
8	1.20	3.52	4.23	.60	.36	.14	3.91	1.40	.69	1.42	.70	.79
9	1.26	3.65	3.90	.59	.35	.15	3.52	1.40	.62	1.18	.63	.90
10	1.26	3.62	3.62	.58	.34	.53	3.07	1.41	.65	1.00	.58	1130
11	1.08	3.62	3.40	.58	.32	1.08	2.66	1.36	25.00	2.78	.53	459
12	1.27	3.68	3.12	.55	.31	1.42	2.45	1.34	5.94	8.34	.47	13.00
13	1.08	3.30	2.79	.52	.31	1.69	2.21	1.26	2.36	5.31	.44	10.00
14	1.08	2.92	2.59	.51	.30	2.27	4.46	1.24	1.39	4.18	.41	8.03
15	1.13	2.46	2.51	.50	.29	3.76	3.25	1.27	.83	5.70	.37	6.20
16	1.16	20.00	2.35	.47	.28	3.90	2.93	1.24	.74	4.90	.33	4.90
17	1.20	9.90	2.14	.47	.27	5.06	2.75	1.32	.69	2.46	112	4.53
18	1.21	19.00	2.03	.47	.27	25.00	2.57	1.21	.66	2.02	3.33	4.03
19	1.12	11.00	1.88	.47	.25	52.00	2.39	1.13	21.00	1.80	1.96	3.89
20	1.11	10.00	1.76	.47	.25	17.00	2.40	1.09	1.95	1.48	1.83	3.40
21	1.10	12.00	1.63	.45	.25	9.76	2.27	1.05	1.01	1.26	1.77	31.00
22	1.06	11.00	1.57	.45	.24	8.60	2.20	1.03	.80	1.04	1.72	758
23	1.08	11.00	1.53	.45	.23	35.00	2.13	.99	.78	.84	1.62	19.00
24	1.10	10.00	1.42	.45	.22	31.00	2.06	.99	.60	.80	1.50	17.00
25	1.03	9.62	1.34	.45	.21	110	2.02	.95	.54	68.00	1.35	22.00
26	1.00	8.99	1.32	.44	.21	34.00	2.04	.95	43.00	16.00	1.39	14.00
27	.90	8.32	1.15	.42	.19	19.00	1.92	.95	251	14.00	1.27	12.00
28	.65	7.53	1.10	.41	.20	13.00	1.89	.91	14.00	22.00	1.21	12.00
29	.63	7.15	1.04	.40	---	12.00	1.79	.89	9.66	11.00	1.11	11.00
30	.62	6.70	.97	.40	---	13.00	1.77	.87	7.62	7.47	1.08	10.00
31	.80	---	.91	.38	---	7.68	---	.80	---	6.98	1.02	---
TOTAL MEAN	33.30	231.66	88.22	16.73	8.30	408.14	104.88	38.18	396.77	215.00	167.35	2560.63
	1.07	7.72	2.85	.54	.30	13.20	3.50	1.23	13.20	6.94	5.40	85.30
WTR YR 1986	TOTAL	4269.16		MEAN	11.70							

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	2.1	1.1	.10	.17	.14	4.5	.27	.18	.44	11	.01
2	.10	2.6	.94	.10	.14	.09	2.9	.24	.19	.39	5.7	.01
3	.11	3.1	.82	.10	.11	.05	7.4	.21	.20	.34	.66	.01
4	.14	2.0	.70	.11	.11	.04	2.2	.19	.21	.31	.20	.01
5	.15	1.8	.61	.13	.11	.02	1.6	.18	.23	.29	.06	.01
6	.15	1.1	.51	.16	.10	.02	1.5	.18	.23	.27	.04	.01
7	.14	.91	.46	.18	.10	.02	1.4	.18	.21	.25	.04	.01
8	.12	.71	.43	.22	.10	.02	1.4	.18	.18	.23	.03	.01
9	.13	.60	.38	.27	.10	.02	1.3	.19	.14	.21	.03	.02
10	.12	.49	.35	.28	.10	.13	1.2	.19	.13	.19	.02	2350
11	.11	.40	.31	.28	.10	.31	1.1	.20	26	1.1	.02	818
12	.13	.36	.28	.27	.09	.34	1.1	.20	3.4	6.0	.02	4.4
13	.10	.42	.24	.26	.09	.35	1.0	.20	.54	.53	.02	3.1
14	.09	.51	.22	.26	.10	.40	3.0	.21	.42	.23	.02	2.1
15	.09	.58	.21	.26	.10	.86	3.0	.22	.34	.41	.02	1.5
16	.10	7.2	.19	.24	.11	1.7	2.0	.22	.30	.26	.02	1.1
17	.12	2.8	.16	.24	.11	2.4	1.4	.20	.26	.20	144	.90
18	.14	7.0	.16	.24	.12	23	1.0	.16	.23	.16	.21	.74
19	.15	5.3	.13	.25	.12	47	.87	.14	27	.15	.16	.66
20	.17	2.9	.13	.25	.13	12	.84	.13	.47	.12	.13	.54
21	.19	2.1	.12	.24	.14	6.5	.76	.14	.23	.10	.11	34
22	.20	2.2	.12	.24	.15	6.2	.70	.14	.20	.08	.09	565
23	.21	2.3	.12	.24	.16	59	.63	.14	.18	.07	.08	3.8
24	.22	2.4	.12	.25	.16	21	.56	.15	.15	.09	.06	3.1
25	.21	2.4	.12	.25	.17	223	.51	.15	.12	.94	.05	2.8
26	.21	2.4	.13	.25	.18	17	.48	.16	174	1.3	.04	1.8
27	.20	2.0	.12	.23	.18	7.4	.41	.17	291	6.9	.04	1.6
28	.15	1.7	.11	.22	.19	5.3	.37	.17	2.8	5.7	.03	1.6
29	.15	1.5	.11	.23	---	6.5	.33	.18	.65	.54	.02	1.5
30	.15	1.2	.11	.23	---	5.6	.30	.19	.52	.16	.02	1.4
31	.22	---	.10	.19	---	3.3	---	.18	---	5.0	.02	---
TOTAL MEAN	4.56	63.08	9.61	6.77	3.54	449.71	45.76	5.66	530.71	126.02	162.96	3799.74
	.15	2.1	.31	.22	.13	15	1.5	.18	18	4.1	5.3	127
WTR YR 1986	TOTAL	5208.12		MEAN	14							

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 U.S. Army Corps of Engineers). Prior to Oct. 27, 1954, nonrecording gage at site 0.3 mi upstream at same datum.

REMARKS.--Estimated daily discharges: June 21-26, June 28 to July 2, July 4-10, 12-17, and ice period listed in rating table below. Records good, except those for estimated periods and period of ice effect, which are fair. Usually less than about 20 ft³/s was diverted into the basin from the Wisconsin River at Portage Canal throughout the year. Data-collection platform and gage-height telemeter at station.

AVERAGE DISCHARGE.--88 years, 1,122 ft³/s, 11.37 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, 4,960 ft³/s Mar. 26, gage height, 14.96 ft; minimum daily discharge, 710 ft³/s Sept. 8.

RATING TABLE (gage height, in feet, and discharge in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 25 to Mar. 24.)

8.5	690	12.0	2,560
9.0	910	13.0	3,280
10.0	1,370	14.0	4,100
11.0	1,950	15.0	5,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1450	1530	2700	1300	1200	1300	4340	2070	1070	1400	1260	834
2	1450	1760	2800	1300	1200	1300	4200	1990	1010	1400	1300	820
3	1450	1900	2800	1300	1200	1300	4110	1920	977	1490	1270	798
4	1470	2030	2700	1300	1200	1300	4090	1890	959	1500	1240	788
5	1490	2150	2600	1300	1200	1300	4070	1840	929	1500	1220	775
6	1470	2250	2500	1300	1200	1300	4030	1800	937	1500	1190	757
7	1460	2320	2400	1300	1200	1300	3960	1720	960	1500	1170	714
8	1450	2360	2300	1200	1200	1300	3860	1640	973	1400	1140	710
9	1450	2400	2200	1200	1200	1400	3750	1550	946	1400	1050	714
10	1420	2420	2100	1200	1200	1400	3650	1470	914	1400	1020	852
11	1400	2400	2000	1200	1200	1400	3530	1390	942	1400	982	1350
12	1420	2390	1900	1200	1200	1500	3410	1320	1070	1400	964	1640
13	1430	2400	1800	1200	1300	1500	3310	1220	1100	1300	955	1900
14	1440	2420	1800	1200	1300	1600	3220	1100	1110	1300	946	2110
15	1440	2440	1700	1200	1300	1600	3210	1040	1110	1200	932	2260
16	1450	2530	1700	1200	1300	1700	3140	1140	1100	1200	906	2350
17	1470	2610	1600	1200	1300	1800	3070	1180	1070	1200	901	2420
18	1490	2700	1600	1200	1300	1900	2990	1220	1040	1140	919	2460
19	1500	2800	1600	1200	1300	2200	2940	1240	1020	1110	928	2500
20	1500	2850	1500	1200	1300	2700	2870	1230	1050	1110	910	2540
21	1480	2860	1500	1200	1300	3400	2810	1240	1100	1080	888	2580
22	1480	2860	1500	1200	1300	3900	2730	1240	1100	1050	847	2880
23	1470	2840	1500	1200	1300	4300	2650	1240	1100	1050	852	3160
24	1490	2780	1400	1200	1300	4500	2580	1220	1100	1020	820	3460
25	1480	2700	1400	1200	1300	4870	2480	1210	1100	1100	820	3790
26	1470	2700	1400	1200	1300	4940	2410	1190	1100	1200	829	4080
27	1470	2700	1400	1200	1300	4820	2350	1160	1150	1250	824	4310
28	1450	2600	1400	1200	1300	4750	2280	1130	1200	1280	820	4470
29	1430	2600	1400	1200	---	4650	2190	1120	1200	1280	802	4620
30	1410	2600	1400	1200	---	4560	2130	1100	1300	1280	802	4690
31	1390	---	1400	1200	---	4450	---	1090	---	1270	829	---
TOTAL	45120	73900	58000	37900	35200	80240	96360	42910	31737	39710	30336	67332
MEAN	1455	2463	1871	1223	1257	2588	3212	1384	1058	1281	979	2244
MAX	1500	2860	2800	1300	1300	4940	4340	2070	1300	1500	1300	4690
MIN	1390	1530	1400	1200	1200	1300	2130	1040	914	1020	802	710
CFSM	1.09	1.84	1.40	.91	.94	1.93	2.40	1.03	.79	.96	.73	1.68
IN.	1.25	2.05	1.61	1.05	.98	2.23	2.68	1.19	.88	1.10	.84	1.87
CAL YR 1985	TOTAL	594691	MEAN	1629	MAX	3780	MIN	519	CFSM	1.22	IN	16.51
WTR YR 1986	TOTAL	638745	MEAN	1750	MAX	4940	MIN	710	CFSM	1.31	IN	17.73

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 September 1983, October 1984 to December 1986 (discontinued).

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

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

REMARKS.--Estimated daily discharges: None, except for ice periods listed in rating table below. Records good except those for ice-affected periods, which are fair.

AVERAGE DISCHARGE.--8 years (water years 1978-83, 1985-86), 33.0 ft³/s, 9.68 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 PERIOD.--Water year 1986: Maximum discharge, 204 ft³/s Apr. 1, gage height, 3.56 ft; minimum, 13 ft³/s Sept. 9, gage height, 2.09 ft.

October to December 1986: Maximum discharge during period, 202 ft³/s Oct. 13, gage height, 3.55 ft; minimum, 19 ft³/s Nov. 14, gage height, 2.22 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 23 to Jan. 8, Feb. 10 to Mar. 2, and Mar. 7-25.)

2.0	11	2.7	50
2.1	15	3.0	90
2.3	23	3.3	145
2.5	34	3.6	214

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	51	37	33	31	26	196	48	21	21	32	19
2	65	136	39	33	31	27	173	44	20	21	34	40
3	47	150	48	33	31	28	112	40	17	20	33	24
4	48	109	53	33	31	28	86	38	16	22	30	21
5	103	75	50	33	31	28	86	37	18	28	29	21
6	128	57	48	33	31	28	150	36	16	24	42	19
7	89	52	46	33	30	27	151	34	16	21	43	21
8	67	46	45	33	30	26	108	34	18	19	38	18
9	59	42	43	33	29	26	83	33	17	25	34	14
10	55	40	42	32	28	26	72	32	20	24	33	24
11	53	36	42	32	27	26	65	31	34	22	36	43
12	49	37	40	32	26	27	61	31	36	23	31	42
13	47	36	39	30	26	27	55	31	29	26	27	32
14	45	36	38	30	26	28	59	31	23	26	26	28
15	41	34	38	31	26	29	78	31	20	25	27	35
16	37	35	38	30	26	30	75	35	18	49	26	40
17	35	38	38	31	26	30	64	35	17	44	27	33
18	34	40	37	31	26	30	56	34	17	33	27	28
19	34	64	36	30	27	30	54	31	20	42	26	25
20	31	68	36	30	28	31	52	29	24	39	24	27
21	29	51	36	29	28	31	50	28	21	33	23	27
22	29	48	36	29	28	32	46	27	22	27	21	51
23	31	44	35	30	28	33	44	29	25	24	24	63
24	40	39	35	30	28	35	41	25	32	23	25	45
25	41	30	35	30	28	37	41	26	28	31	23	42
26	40	34	35	31	28	51	50	28	23	29	23	49
27	34	39	34	31	27	55	55	27	33	26	24	66
28	31	40	34	31	26	59	47	25	34	29	23	76
29	29	40	34	31	---	79	45	24	28	30	20	60
30	29	39	34	31	---	101	46	22	24	29	18	46
31	28	---	34	31	---	130	---	21	---	32	16	---
TOTAL	1516	1586	1215	970	788	1201	2301	977	687	867	865	1079
MEAN	48.9	52.9	39.2	31.3	28.1	38.7	76.7	31.5	22.9	28.0	27.9	36.0
MAX	128	150	53	33	31	130	196	48	36	49	43	76
MIN	28	30	34	29	26	26	41	21	16	19	16	14
CFSM	1.06	1.14	.85	.68	.61	.84	1.66	.68	.50	.61	.60	.78
IN.	1.22	1.27	.98	.78	.63	.96	1.85	.78	.55	.70	.69	.87
CAL YR 1985	TOTAL	14467	MEAN	39.6	MAX	150	MIN	15	CFSM	.86	IN	11.62
WTR YR 1986	TOTAL	14052	MEAN	38.5	MAX	196	MIN	14	CFSM	.83	IN	11.29

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

[illegible]

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. Elevation of gage is 1,240 ft, from topographic map. Prior to Oct. 1, 1976, nonrecording gage 50 ft downstream at same elevation.

REMARKS.--Estimated daily discharges: Nov. 21 to Mar. 29. Records good except those for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--19 years (water years 1967-79, 1981-86), 464 ft³/s, 13.61 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, 10.06 ft Dec. 20, 21, 24, 1984, backwater from ice; minimum discharge, 119 ft³/s Nov. 8, 1976, gage height, 7.24 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,960 ft³/s Apr. 6, gage height, 9.97 ft; minimum discharge, 266 ft³/s, June 18, gage height, 7.67 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 22 to Mar. 29.)

7.6	241	9.0	1,000
8.0	390	9.5	1,460
8.5	640	10.0	2,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	987	666	600	520	370	390	1480	657	297	318	348	291
2	904	1160	540	520	370	400	1660	679	291	308	374	288
3	870	1130	480	520	370	400	1650	670	286	290	373	288
4	1040	992	580	500	370	400	1630	653	282	292	371	305
5	1350	946	640	500	370	400	1700	592	289	307	381	310
6	1350	978	640	500	370	390	1910	531	295	296	430	306
7	1230	1020	640	500	380	380	1930	492	289	296	476	304
8	1180	1000	640	480	380	380	1800	474	287	285	513	298
9	1140	952	700	470	380	380	1670	461	277	284	481	294
10	1100	893	720	460	380	370	1550	446	272	276	463	363
11	1050	840	680	440	380	360	1440	404	297	276	457	449
12	999	786	640	440	380	350	1330	398	345	304	434	462
13	988	746	640	440	380	360	1230	398	349	362	406	450
14	919	711	600	440	370	370	1160	394	333	357	402	455
15	863	672	560	440	370	390	1210	394	322	347	410	516
16	806	609	560	420	370	400	1180	420	314	396	398	549
17	757	555	560	420	370	400	1090	400	312	418	397	523
18	726	567	560	410	370	410	1010	395	275	407	384	511
19	639	703	560	410	380	400	965	380	288	538	350	507
20	557	703	540	410	390	390	918	365	297	658	330	505
21	500	800	540	420	400	400	870	349	293	639	322	501
22	490	840	540	420	400	410	814	340	299	617	318	571
23	494	800	540	410	390	420	766	337	298	579	326	589
24	544	740	540	410	390	430	722	335	294	532	324	555
25	545	680	540	400	380	440	599	341	292	538	316	595
26	536	660	540	390	380	540	517	341	296	444	314	676
27	542	640	520	380	380	620	534	335	427	378	316	871
28	545	640	520	370	380	700	535	328	418	355	313	941
29	540	620	520	360	---	840	546	321	361	342	306	952
30	530	600	520	350	---	1040	589	310	336	337	303	928
31	493	---	520	360	---	1190	---	302	---	347	296	---
TOTAL	25214	23649	17920	13510	10600	14750	35005	13242	9311	12123	11632	15153
MEAN	813	788	578	436	379	476	1167	427	310	391	375	505
MAX	1350	1160	720	520	400	1190	1930	679	427	658	513	952
MIN	490	555	480	350	370	350	517	302	272	276	296	288
CFSM	1.76	1.70	1.25	.94	.82	1.03	2.52	.92	.67	.84	.81	1.09
IN.	2.03	1.90	1.44	1.09	.85	1.19	2.81	1.06	.75	.97	.93	1.22
CAL YR 1985	TOTAL	194005	MEAN 532	MAX 1440	MIN 257	CFSM 1.15	IN 15.59					
WTR YR 1986	TOTAL	202109	MEAN 554	MAX 1930	MIN 272	CFSM 1.20	IN 16.24					

STREAMS TRIBUTARY TO LAKE MICHIGAN

77

04077400 WOLF RIVER NEAR SHAWANO, WI
(Formerly published as Wolf River at Keshena Falls near Keshena)

LOCATION.--Lat 44°50'09", long 88°37'30", in SE 1/4 NW 1/4 sec.12, T.27 N., R.15 E., Shawano County, Hydrologic Unit 04030202, on left bank 350 ft downstream from dam, 3.7 mi north of Shawano, 1.5 mi upstream from Red River, and at mile 130.6.

DRAINAGE AREA.--816 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. Published as "at Keshena Falls near Keshena" October 1981 to September 1985.

REVISED RECORDS.--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. Elevation of gage is 810 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Mar. 23, 1928, nonrecording gage at bridge in Keshena 4.1 mi upstream at different datum, and from Mar. 23, 1928 to Sept. 30, 1985, water-stage recorder at site 5.8 mi upstream at different datum.

REMARKS.--Estimated daily discharges: None, except for ice period listed in table below. Records good except for ice-affected period, which is fair.

AVERAGE DISCHARGE.--77 years (1907-8, 1910-86), 766 ft³/s, 12.75 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge 5,200 ft³/s Mar. 15, 1973; maximum gage height, 15.59 ft Dec. 2, 1983, from high-water mark in well, at site and datum then in use (backwater from ice); minimum discharge, 91 ft³/s Dec. 22, 1939, gage height, 4.67 ft, site and datum then in use, result of ice storage.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,440 ft³/s, Apr. 1, gage height 12.91 ft; minimum daily, 483 ft³/s June 7.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 24 to Mar. 30.)

7.8	480	10.0	2,030
8.0	590	12.0	3,630
9.0	1,260		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2130	1300	1100	1100	820	880	2720	1060	516	640	831	596
2	1940	2520	1000	1100	840	880	2830	1070	557	595	712	555
3	1480	2970	900	1100	840	900	2790	1020	517	567	772	607
4	1360	2500	1000	1100	860	940	2420	976	529	577	770	619
5	2270	1910	1100	1000	880	960	2290	950	541	642	706	601
6	2450	1680	1200	1100	900	1000	2920	916	534	611	762	615
7	2280	1590	1200	1100	880	960	3090	854	483	595	818	575
8	1980	1520	1200	1000	880	940	2850	787	572	607	890	601
9	1790	1480	1100	1000	880	940	2490	723	496	609	888	601
10	1630	1430	1200	1000	860	980	2180	739	591	569	838	790
11	1440	1330	1200	1000	860	1000	2010	709	568	562	814	820
12	1530	1260	1100	980	840	1000	1910	682	751	626	792	1040
13	1430	1250	1000	960	840	1000	1750	716	764	799	714	908
14	1440	1230	960	960	840	1100	1640	748	701	764	700	817
15	1320	1200	1000	940	840	1100	1900	794	608	829	835	921
16	1200	1210	1100	900	820	1100	1880	824	578	945	879	1070
17	1200	1220	1200	900	840	1100	1790	884	574	917	846	1040
18	1170	1140	1100	900	840	1200	1580	937	554	854	774	953
19	1110	1300	1100	860	860	1300	1580	841	608	1080	711	933
20	946	1570	1100	880	860	1300	1430	727	690	1230	660	962
21	902	1110	1100	880	860	1400	1190	672	683	1280	651	963
22	835	1120	1200	860	860	1500	1300	685	636	1120	621	1180
23	812	1080	1200	840	860	1500	1330	666	599	1020	685	1130
24	986	1100	1200	840	860	1400	1170	607	619	940	576	1170
25	1040	1200	1100	860	860	1300	1200	625	570	995	712	1050
26	1020	1100	1100	860	880	1300	1020	630	517	1020	668	1300
27	943	1100	1200	840	900	1300	898	620	748	850	633	1680
28	902	1100	1200	800	900	1400	942	622	919	717	666	1940
29	898	1000	1200	800	---	1700	942	566	891	657	648	1840
30	827	1000	1100	800	---	2100	971	594	671	733	619	1650
31	781	---	1100	800	---	2450	---	609	---	802	625	---
TOTAL	42042	42520	34560	29060	24060	37930	55013	23853	18585	24752	22816	29527
MEAN	1356	1417	1115	937	859	1224	1834	769	620	798	736	984
MAX	2450	2970	1200	1100	900	2450	3090	1070	919	1280	890	1940
MIN	781	1000	900	800	820	880	898	566	483	562	576	555
CFSM	1.66	1.74	1.37	1.15	1.05	1.50	2.25	.94	.76	.98	.90	1.21
IN.	1.92	1.94	1.58	1.32	1.10	1.73	2.51	1.09	.85	1.13	1.04	1.35
CAL YR 1985	TOTAL	351961	MEAN	964	MAX	2970	MIN	440	CFSM	1.18	IN	16.05
WTR YR 1986	TOTAL	384718	MEAN	1054	MAX	3090	MIN	483	CFSM	1.29	IN	17.54

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 above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 4, 1951, nonrecording gage.

REMARKS.--Estimated daily discharges: None, except for ice period listed in table below. Records good except those for ice-affected period, which is fair. Gage-height telemeter and data-collection platform at station.

AVERAGE DISCHARGE.--90 years, 1,769 ft³/s, 10.63 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 U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,200 ft³/s Mar. 29, gage height, 10.13 ft; minimum discharge, 886 ft³/s Sept. 9, gage height, 1.72 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 21 to Mar. 28.)

Oct. 1 to Mar. 29				Mar. 30 to Sept. 30			
2.0	1,060	6.0	3,050	1.7	880	6.0	2,800
3.0	1,460	7.0	3,750	2.0	980	7.0	3,440
4.0	1,890	8.0	5,000	3.0	1,380	8.0	4,900
5.0	2,440	9.0	7,200	4.0	1,780	9.0	7,200
		11.0	13,100	5.0	2,280	11.0	13,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2660	2810	3100	1900	1400	1400	9590	3050	1370	1960	2470	981
2	2770	3250	2900	1900	1400	1400	9320	2940	1290	1940	2230	958
3	2800	3610	2800	1900	1400	1500	9060	2850	1250	1810	2020	952
4	2890	4000	2600	1900	1400	1500	8860	2760	1230	1630	1880	952
5	3020	4550	2500	1800	1400	1500	8670	2670	1200	1470	1750	936
6	3120	5560	2500	1800	1400	1500	8400	2580	1200	1330	1600	917
7	3310	6420	2400	1800	1400	1500	8090	2490	1190	1250	1510	895
8	3460	6910	2400	1800	1400	1500	7750	2370	1190	1200	1460	893
9	3590	6990	2400	1700	1400	1500	7480	2250	1160	1150	1420	893
10	3720	6800	2300	1700	1400	1500	7310	2170	1120	1070	1420	1030
11	3850	6400	2300	1700	1400	1500	7170	2070	1130	1040	1480	1380
12	3980	5990	2300	1700	1400	1500	6950	1990	1280	1130	1520	1850
13	4100	5600	2200	1700	1400	1500	6600	1900	1370	1210	1510	2180
14	4130	5280	2200	1600	1400	1500	6270	1840	1450	1270	1490	2350
15	4110	4980	2200	1600	1400	1600	6040	1770	1480	1400	1470	2490
16	4010	4860	2100	1600	1400	1700	5730	1830	1440	1430	1420	2580
17	3910	4770	2100	1600	1400	1800	5490	1910	1370	1530	1380	2620
18	3790	4760	2100	1600	1400	1900	5310	2160	1290	1770	1400	2680
19	3690	4800	2000	1600	1400	2300	5140	2320	1290	2000	1440	2700
20	3600	4810	2000	1600	1400	2700	5040	2410	1420	2150	1420	2720
21	3490	4700	2000	1500	1400	2900	4920	2430	1620	2230	1380	2750
22	3380	4500	2000	1500	1400	3200	4780	2430	1710	2310	1320	2920
23	3280	4400	2000	1500	1400	3600	4530	2360	1740	2340	1250	3070
24	3200	4200	2000	1500	1400	4500	4250	2230	1760	2380	1150	3170
25	3140	4000	1900	1500	1400	5800	3970	2090	1750	2630	1120	3310
26	3100	3800	1900	1500	1400	7200	3740	1930	1680	2790	1120	3490
27	3040	3500	1900	1500	1400	9000	3540	1780	1690	2910	1080	3670
28	2980	3400	1900	1400	1400	9800	3370	1670	1770	2960	1060	3800
29	2910	3300	1900	1400	---	10200	3230	1570	1810	2900	1040	3990
30	2830	3200	1900	1400	---	10100	3150	1520	1890	2820	1030	4140
31	2740	---	1900	1400	---	9880	---	1460	---	2670	1010	---
TOTAL	104600	142150	68700	50600	39200	108980	183750	67800	43140	58680	44850	67267
MEAN	3374	4738	2216	1632	1400	3515	6125	2187	1438	1893	1447	2242
MAX	4130	6990	3100	1900	1400	10200	9590	3050	1890	2960	2470	4140
MIN	2660	2810	1900	1400	1400	1400	3150	1460	1120	1040	1010	893
CFSM	1.49	2.10	.98	.72	.62	1.56	2.71	.97	.64	.84	.64	.99
IN.	1.72	2.34	1.13	.83	.65	1.79	3.02	1.12	.71	.97	.74	1.11
CAL YR 1985	TOTAL	962154	MEAN	2636	MAX	6990	MIN	889	CFSM	1.17	IN	15.84
WTR YR 1986	TOTAL	979717	MEAN	2684	MAX	10200	MIN	893	CFSM	1.19	IN	16.13

440654089120500 LAKE MORRIS AT MOUNT MORRIS, WI

LOCATION.--Lat 44°06'54", long 89°12'05", in SE 1/4 SE 1/4 Sec.16, T.19 N., R.11 E., Waushara County, Hydrologic Unit 04030202, at Mount Morris.

DRAINAGE AREA.--8.94 mi².

LAKE-STAGE RECORDS

PERIOD OF RECORD.--June 1983 to current year.

GAGE.--Staff gage read at dam outlet by Henry Pagenkopf.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 5.82 ft May 1, 1984; minimum observed, 4.93 ft Oct. 21-23, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 5.56 ft, Apr. 1; minimum observed, 4.93 ft Oct. 21-23.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.11						5.56	5.04	---	---	5.26	---
2	5.08						5.50	5.02	5.32	---	5.25	---
3	5.02						5.40	5.01	5.28	---	5.24	5.12
4	5.01						5.44	4.99	---	5.28	5.20	5.16
5	5.02						5.46	5.00	5.30	5.28	5.21	5.22
6	5.00						---	4.98	5.28	5.28	5.24	5.25
7	---						5.44	4.98	5.27	5.29	5.21	---
8	---						5.44	---	5.26	5.28	5.16	---
9	---						5.42	---	5.24	5.28	5.15	5.38
10	5.00						5.36	4.94	5.22	---	5.20	5.37
11	5.00						5.32	4.95	5.20	---	5.20	---
12	4.99						5.26	---	5.38	---	5.20	5.30
13	---						5.16	4.96	5.27	---	---	---
14	4.98						5.22	4.95	5.22	5.24	5.23	5.20
15	4.96						5.24	5.02	5.20	5.28	5.25	5.20
16	4.96						---	5.18	5.24	5.30	5.25	5.16
17	4.95						5.22	5.30	5.25	---	5.26	---
18	4.95						5.18	5.27	---	---	5.28	5.15
19	4.94						5.18	5.20	5.38	5.32	5.24	5.14
20	4.94						5.16	5.15	5.32	5.36	---	---
21	4.93						5.17	5.10	5.32	5.22	5.22	---
22	4.93						5.13	5.08	5.30	5.22	5.23	---
23	4.93						5.09	5.12	5.28	5.20	5.23	4.98
24	4.99						5.08	5.14	5.32	5.19	5.28	5.10
25	5.00						---	5.16	5.36	5.36	5.31	---
26	5.00						5.09	5.18	5.38	5.30	5.24	---
27	---						5.06	5.21	5.56	5.20	---	---
28	---						5.08	5.32	5.48	5.20	---	---
29	---						5.05	---	5.42	5.15	5.18	---
30	---						5.05	5.46	5.38	5.18	5.20	---
31	---						---	---	---	5.24	5.21	---

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1983 to current year.

REMARKS.--Lake sampled near center at a depth of 43 feet.

WATER QUALITY DATA, FEBRUARY 27 TO AUGUST 21, 1986
(Milligrams per liter unless otherwise indicated)

	Feb. 27		Apr. 22		June 17		July 23		Aug. 21	
Depth of sample (ft)	3.0	41.0	3.0	40.5	1.0	40.0	3.0	40.5	3.0	40.0
Specific conductance (uS)	359	384	320	390	300	380	324	406	334	410
pH	7.6	7.2	8.8	7.8	9.0	7.8	8.6	7.3	8.9	8.0
Water temperature (°C)	0.5	4.0	11.5	4.0	22.5	4.0	27.5	5.0	24.5	5.0
Color (Pt-Co. scale)	--	--	35	10	--	--	--	--	--	--
Turbidity (NTU)	--	--	0.6	2.4	--	--	--	--	--	--
Secchi-disc (meters)	--	--	1.9	--	3.8	--	4.3	--	3.7	--
Dissolved oxygen	6.5	0.0	11.9	0.2	11.4	0.4	9.6	0.0	10.1	0.3
Hardness, as CaCO ₃	--	--	180	210	--	--	--	--	--	--
Calcium, dissolved (Ca)	--	--	39	45	--	--	--	--	--	--
Magnesium, dissolved (Mg)	--	--	20	23	--	--	--	--	--	--
Sodium, dissolved (Na)	--	--	1.7	2.0	--	--	--	--	--	--
Potassium, dissolved (K)	--	--	1.0	1.1	--	--	--	--	--	--
Alkalinity as CaCO ₃	--	--	164	191	--	--	--	--	--	--
Sulfate, dissolved (SO ₄)	--	--	13	12	--	--	--	--	--	--
Chloride, dissolved (Cl)	--	--	2.7	2.9	--	--	--	--	--	--
Silica, dissolved (SiO ₂)	--	--	8.8	17	--	--	--	--	--	--
Solids, dissolved, at 180°C	--	--	187	224	--	--	--	--	--	--
Nitrogen, nitrate, total (as N)	--	--	.59	.45	--	--	--	--	--	--
Nitrogen, nitrite, total (as N)	--	--	.01	.05	--	--	--	--	--	--
Nitrogen, ammonia, total (as N)	--	--	.02	.47	--	--	--	--	--	--
Nitrogen, organic, total (as N)	--	--	.58	.33	--	--	--	--	--	--
Nitrogen, total (as N)	--	--	1.20	1.30	--	--	--	--	--	--
Total phosphorus (as P)	--	--	.018	.050	.010	.068	.009	.096	.009	.190
Phosphorus, ortho, diss (as P)	--	--	.002	.028	--	.053	--	.091	--	.410
Iron, dissolved (Fe) ug/L	--	--	40	70	--	--	--	--	--	--
Manganese, dissolved (Mn) ug/L	--	--	31	380	--	--	--	--	--	--
Chlorophyll <i>a</i> , phyto. (ug/L)	--	--	91	--	3	--	<5	--	<5	--

1/ Adjusted from 6 ug/L by Wisconsin State Laboratory of Hygiene.

2-27-86

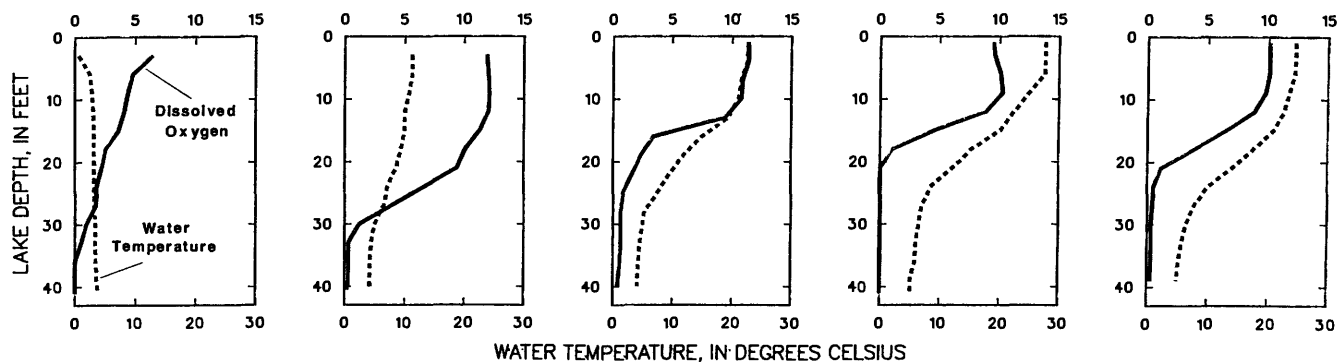
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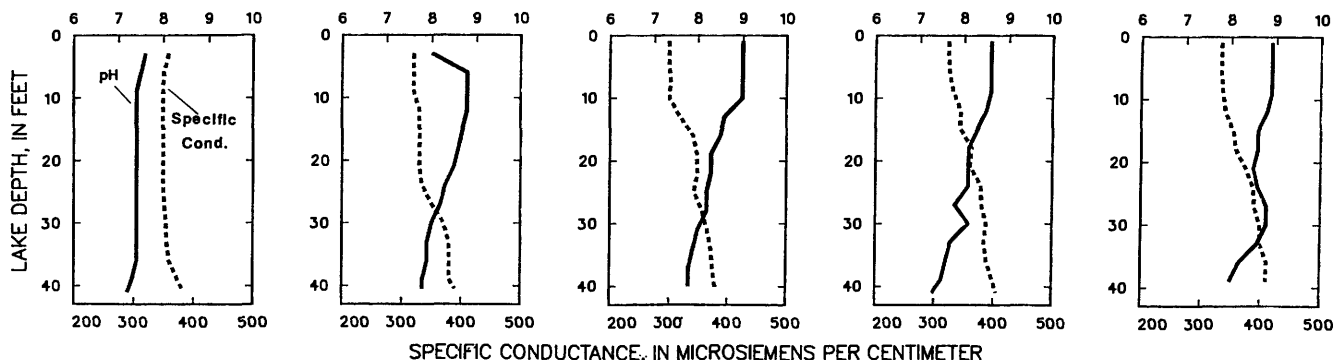
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8-21-86

DISSOLVED OXYGEN, IN MILLIGRAMS PER LITER



PH, IN STANDARD UNITS



SPECIFIC CONDUCTANCE, IN MICROSIEMENS PER CENTIMETER

04082500 LAKE WINNEBAGO AT OSHKOSH, WI

LOCATION.--Lat 44°00'35", long 88°31'38", in NE 1/4 NE 1/4 sec.25, T.18 N., R.16 E., Winnebago County, Hydrologic Unit 04030203, at 905 Bay Shore Drive, 800 ft east of mouth of the upper Fox River.

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

PERIOD OF RECORD.--October 1938 to current year in reports of Geological Survey. Records from 1882 to 1938 in files of Geological Survey and U.S. Army Corps of Engineers. A report on Fox River by U.S. Army Corps of Engineers, published as House Document No. 146, 67th Congress, 2nd session, contains semi-monthly records of inflow of Lake Winnebago for the period 1896-1917.

REVISED RECORD.--WDR WI-83-1: Drainage area.

GAGE.--Water-stage recorder. Nonrecording gage read once daily October 1938 to October 1978. Datum of gage is 745.05 ft above mean tide at New York City (levels by U.S. Army Corps of Engineers). Datum of Deuchman gage is 745.00 ft above mean tide at New York City.

REMARKS.--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. Oshkosh staff gage gives true level of lake, while Deuchman gage readings are affected by loss of head in the channel between lake and dam. Date-collection platform at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 5.33 ft (Deuchman gage) Nov. 8, 1881; minimum observed, -2.00 ft (Deuchman gage) Nov. 28, 1891.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 3.57 ft Apr. 14, local condition due to seiche; minimum, 0.35 ft Feb. 27, Mar. 1.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.60	2.61	3.12	2.04	.92	.36	2.44	2.81	2.85	2.86	3.06	2.64
2	2.63	2.75	3.10	2.01	.89	.37	2.58	2.89	2.80	2.88	3.03	2.64
3	2.63	2.84	3.04	2.00	.86	.38	2.67	2.86	2.74	2.87	2.98	2.63
4	2.64	2.85	2.97	1.98	.86	.38	2.78	2.79	2.79	2.83	2.94	2.61
5	2.67	2.85	2.91	1.96	.86	.39	2.86	2.77	2.81	2.86	2.89	2.61
6	2.77	2.82	2.86	1.93	.83	.41	2.91	2.75	2.78	2.85	2.88	2.60
7	2.79	2.81	2.80	1.89	.79	.42	2.97	2.79	2.76	2.86	2.85	2.58
8	2.71	2.85	2.75	1.86	.76	.43	3.04	2.80	2.80	2.86	2.82	2.53
9	2.77	3.01	2.71	1.81	.73	.45	3.09	2.76	2.77	2.89	2.82	2.54
10	2.81	3.01	2.68	1.77	.70	.50	3.12	2.74	2.76	2.88	2.80	2.71
11	2.84	2.98	2.64	1.73	.67	.56	3.12	2.73	2.84	2.86	2.79	3.17
12	2.89	2.94	2.60	1.69	.65	.57	3.12	2.75	2.91	2.82	2.77	3.22
13	2.96	3.00	2.56	1.66	.62	.58	3.10	2.74	2.90	2.85	2.73	3.18
14	2.99	3.02	2.52	1.62	.59	.60	3.10	2.74	2.88	2.90	2.71	3.13
15	2.98	3.12	2.49	1.59	.57	.62	3.01	2.76	2.86	2.87	2.76	3.12
16	3.05	3.07	2.46	1.55	.56	.64	3.11	2.75	2.83	2.90	2.77	3.06
17	3.00	3.16	2.42	1.52	.53	.68	3.13	2.83	2.83	2.90	2.81	2.99
18	2.99	3.22	2.38	1.46	.51	.78	3.16	2.85	2.80	2.91	2.82	2.97
19	3.00	3.18	2.35	1.40	.48	.95	3.06	2.86	2.83	2.98	2.80	3.01
20	2.99	3.14	2.33	1.35	.47	1.03	3.15	2.81	2.89	3.00	2.77	2.99
21	2.95	3.30	2.31	1.30	.46	1.09	3.14	2.80	2.83	2.97	2.80	3.01
22	2.93	3.24	2.29	1.25	.44	1.14	3.15	2.80	2.83	2.96	2.74	3.12
23	2.88	3.20	2.27	1.21	.42	1.23	3.10	2.79	2.85	2.95	2.72	3.19
24	2.83	3.17	2.26	1.16	.40	1.33	3.06	2.80	2.88	2.94	2.73	3.18
25	2.84	3.19	2.24	1.12	.38	1.45	3.06	2.81	2.83	3.17	2.70	3.22
26	2.77	3.12	2.21	1.08	.38	1.58	3.04	2.81	2.83	3.20	2.74	3.23
27	2.72	3.11	2.19	1.04	.38	1.73	3.02	2.80	2.92	3.14	2.72	3.21
28	2.69	3.08	2.16	1.00	.37	1.89	2.96	2.81	2.93	3.16	2.69	3.21
29	2.61	3.09	2.13	.97	---	2.04	2.93	2.82	2.94	3.17	2.67	3.19
30	2.59	3.06	2.10	.95	---	2.18	2.92	2.82	2.89	3.11	2.65	3.20
31	2.56	---	2.07	.92	---	2.33	---	2.84	---	3.06	2.64	---
MEAN	2.81	3.03	2.51	1.51	.61	.94	3.00	2.80	2.84	2.95	2.79	2.96
MAX	3.05	3.30	3.12	2.04	.92	2.33	3.16	2.89	2.94	3.20	3.06	3.23
MIN	2.56	2.61	2.07	.92	.37	.36	2.44	2.73	2.74	2.82	2.64	2.53
CAL YR 1985	MEAN	2.47	MAX	3.30	MIN	.83						
WTR YR 1986	MEAN	2.40	MAX	3.30	MIN	.36						

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 above mean tide of New York City (levels by U. S. Army 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. Data-collection platform at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 3.73 ft Nov. 20, 1985, local condition due to seiche. Minimum observed, 0.30 ft Mar. 1, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 3.73 ft Nov. 20, local condition due to seiche; minimum, 0.30 ft Mar. 1.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.77	2.59	3.09	2.02	.90	.34	2.48	3.00	2.77	2.85	3.09	2.64
2	2.68	2.82	3.13	2.00	.87	.35	2.59	2.88	2.74	2.88	3.08	2.63
3	2.65	2.86	3.02	1.99	.84	.36	2.67	2.86	2.77	2.86	3.04	2.63
4	2.71	2.84	2.95	1.97	.84	.37	2.76	2.88	2.74	2.90	2.99	2.70
5	2.84	2.83	2.90	1.95	.85	.38	2.86	2.83	2.70	2.89	2.94	2.69
6	2.83	2.84	2.85	1.92	.81	.39	2.96	2.81	2.73	2.87	2.86	2.62
7	2.77	2.88	2.79	1.88	.78	.40	3.03	2.77	2.76	2.88	2.85	2.59
8	2.80	2.85	2.75	1.83	.75	.41	3.08	2.69	2.77	2.84	2.87	2.62
9	2.79	2.74	2.70	1.79	.72	.43	3.12	2.69	2.71	2.86	2.84	2.54
10	2.81	2.77	2.67	1.76	.68	.48	3.14	2.69	2.74	2.83	2.86	2.70
11	2.82	2.88	2.63	1.71	.65	.54	3.13	2.70	2.79	2.73	2.83	3.19
12	2.88	2.95	2.59	1.69	.63	.54	3.09	2.72	2.92	2.81	2.78	3.24
13	2.97	2.98	2.55	1.64	.59	.57	3.06	2.71	2.92	2.95	2.76	3.17
14	2.99	3.05	2.51	1.61	.58	.58	3.00	2.71	2.89	2.88	2.75	3.07
15	3.07	3.02	2.48	1.57	.55	.60	3.01	2.71	2.86	2.86	2.78	3.01
16	3.06	3.15	2.44	1.53	.54	.62	3.05	2.75	2.87	2.89	2.77	3.00
17	3.01	3.19	2.41	1.49	.51	.65	3.12	2.73	2.81	2.92	2.78	2.98
18	2.99	3.21	2.37	1.44	.49	.76	3.14	2.77	2.80	2.91	2.77	2.97
19	2.97	3.29	2.34	1.39	.47	.92	3.19	2.71	2.82	3.00	2.77	2.95
20	2.94	3.47	2.32	1.33	.45	1.00	3.15	2.74	2.83	2.99	2.77	2.98
21	2.93	3.28	2.29	1.28	.44	1.04	3.10	2.77	2.85	2.95	2.74	2.99
22	2.91	3.27	2.28	1.24	.42	1.09	3.14	2.75	2.90	2.97	2.74	3.16
23	2.88	3.27	2.26	1.19	.40	1.18	3.12	2.78	2.91	2.97	2.76	3.21
24	2.91	3.24	2.25	1.14	.38	1.28	3.07	2.79	2.85	2.99	2.73	3.17
25	2.85	3.15	2.22	1.11	.36	1.39	3.02	2.78	2.86	3.17	2.71	3.20
26	2.80	3.14	2.20	1.07	.37	1.57	3.04	2.75	2.86	3.17	2.69	3.24
27	2.73	3.11	2.18	1.03	.36	1.74	3.01	2.77	2.95	3.18	2.70	3.23
28	2.65	3.10	2.15	.99	.35	1.89	3.02	2.80	2.94	3.18	2.71	3.22
29	2.59	3.08	2.12	.96	---	2.05	3.00	2.82	2.91	3.16	2.70	3.24
30	2.52	3.06	2.08	.93	---	2.21	2.95	2.85	2.84	3.13	2.67	3.22
31	2.47	---	2.06	.90	---	2.34	---	2.84	---	3.11	2.65	---
MEAN	2.83	3.03	2.50	1.50	.59	.92	3.00	2.78	2.83	2.95	2.81	2.96
MAX	3.07	3.47	3.13	2.02	.90	2.34	3.19	3.00	2.95	3.18	3.09	3.24
MIN	2.47	2.59	2.06	.90	.35	.34	2.48	2.69	2.70	2.73	2.65	2.54
CAL YR 1985	MEAN	2.47	MAX 3.47	MIN .80								
WTR YR 1986	MEAN	2.40	MAX 3.47	MIN .34								

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 20 ft³/s is diverted into basin from Wisconsin River at Portage Canal throughout the year.

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

AVERAGE DISCHARGE.--90 years, 4,268 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, 15,400 ft³/s Sept. 30; minimum daily, 1,720 ft³/s June 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4210	11100	9960	5580	5850	3540	11400	10300	2700	4620	9040	2280
2	4220	12200	11300	5850	6030	3310	11600	9490	2890	3230	9130	2400
3	4580	10600	11400	5200	5550	2710	12000	8300	2620	3820	8900	2740
4	5050	10300	10100	5900	5920	2560	12000	7510	2220	3920	7980	2760
5	5130	11100	10500	5220	5930	2410	13400	8160	1720	3900	7190	2640
6	4740	11400	9740	6640	5920	2700	13100	7340	1950	3590	5250	2390
7	4570	11300	10500	6930	5730	2560	13800	4220	1880	4070	4540	2500
8	4870	11400	10100	6910	5760	2250	14100	4390	1850	3390	4720	2350
9	4100	11100	11000	6470	5150	2250	13200	4410	1820	3610	4600	2620
10	4540	10500	10500	6950	5690	2600	14000	4640	1780	3690	4690	3830
11	4530	10700	10800	6560	5080	3300	14200	4470	2590	3700	4160	8320
12	4760	10700	8080	7070	4600	3500	14100	4470	3600	3570	3150	10100
13	4800	11700	10100	5780	4060	3500	13200	4540	5710	3810	2920	11700
14	4840	11800	8150	6820	4100	3650	14000	4000	5690	3690	3140	11000
15	5010	12200	9000	6720	4390	3610	14100	4060	5620	3880	2850	11800
16	6180	12300	8000	7280	4390	3740	12100	4090	5980	3770	3000	11700
17	7890	12900	8250	6880	4460	3790	11600	3800	4360	3800	2920	11300
18	7880	13200	7880	8090	3920	7470	12300	3700	4000	3710	2860	12000
19	7900	12400	7890	8720	3880	7640	12100	3640	4780	5360	2920	11600
20	7770	12600	7070	7940	3650	7390	11800	3700	4620	4420	2900	11900
21	7900	12400	7870	8550	3270	8020	10400	3820	4410	3230	2690	10900
22	10000	12400	7080	7300	3890	7240	11000	3840	4580	4420	2790	14000
23	9260	12800	7850	7830	3750	7740	12000	3860	4370	3970	2740	13900
24	11200	11100	6720	6680	4010	9400	11400	3880	4030	4340	2740	14300
25	11200	12700	6790	7660	3700	10100	11200	3890	4080	7560	2920	15100
26	11200	12700	6450	6730	3580	10400	11700	3780	3960	7680	2800	15100
27	10700	10100	7870	6220	3970	9910	11800	3020	4940	7180	2460	14800
28	10500	10800	7240	6430	4160	9620	11800	2740	5250	6450	2660	14300
29	10600	10000	6240	5840	---	9900	11300	2490	5160	7410	2760	15200
30	9640	10100	6260	6040	---	10100	11300	2650	4920	9260	2440	15400
31	9200	---	5960	5900	---	11700	---	2810	---	9510	2450	---
TOTAL	218970	346600	266650	208690	130390	178610	372000	146010	114080	148560	126310	280930
MEAN	7064	11550	8602	6732	4657	5762	12400	4710	3803	4792	4075	9364
MAX	11200	13200	11400	8720	6030	11700	14200	10300	5980	9510	9130	15400
MIN	4100	10000	5960	5200	3270	2250	10400	2490	1720	3230	2440	2280
CAL YR 1985	TOTAL	2489750	MEAN	6821	MAX	15400	MIN	1440				
WTR YR 1986	TOTAL	2537800	MEAN	6953	MAX	15400	MIN	1720				

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 1985 TO SEPTEMBER 1986

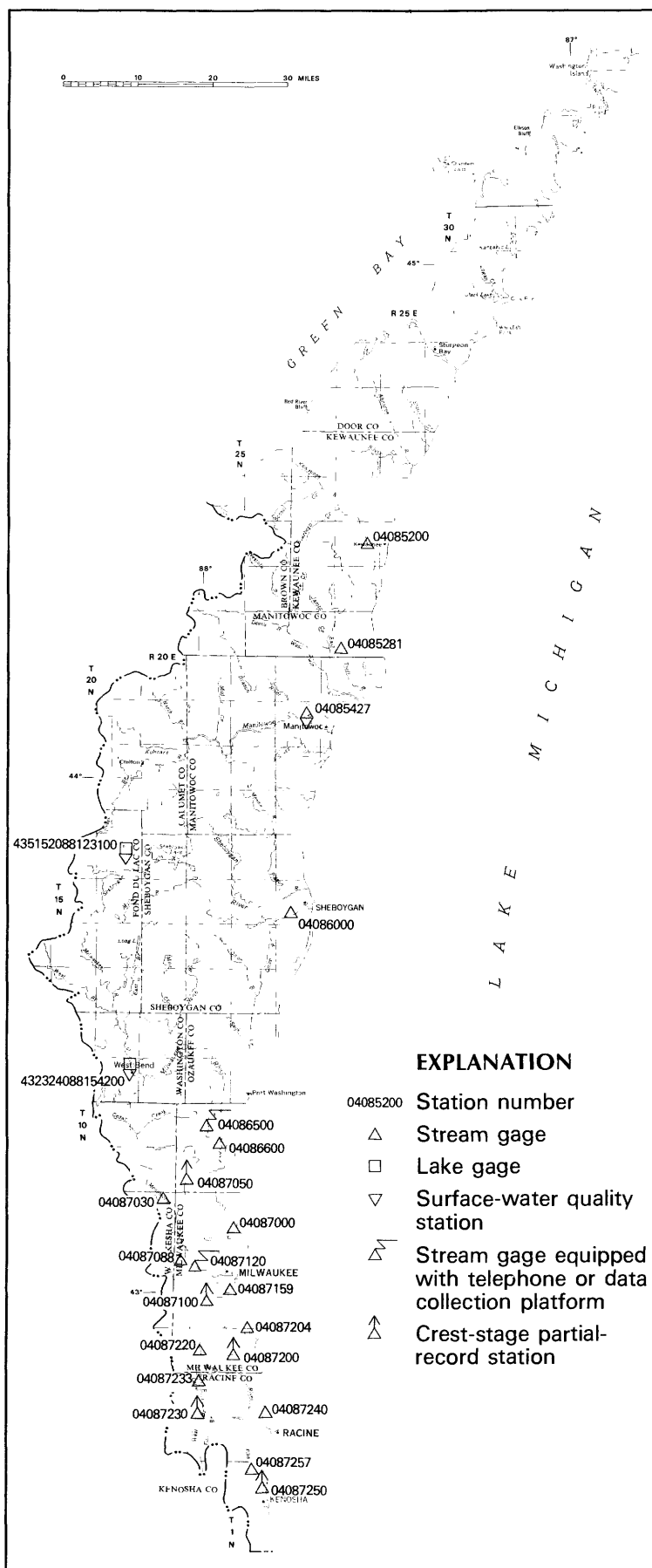
		DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	
NOV , 1985										
14...	0800	11800	365	8.20	4.0	9.0	13.0	754	100	
MAR , 1986										
26...	1530	10400	400	7.50	5.5	25	12.2	750	98	
MAY										
28...	0830	2740	360	8.20	19.5	5.0	9.1	749	101	
JUL										
16...	1010	3770	380	8.70	22.5	6.2	7.9	749	93	
DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS, NONCAR-BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV , 1985										
14...	5300	3700	170	22	35	21	8.4	9	.3	3.0
MAR , 1986										
26...	580	580	190	27	41	21	8.1	8	.3	3.0
MAY										
28...	43	51	160	0	35	18	9.8	11	.3	2.4
JUL										
16...	200	1100	180	6	39	19	9.5	10	.3	2.7
DATE	BICAR-BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR-BONATE IT-FLD (MG/L AS CO3) (99445)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L AS CACO3) (99430)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	
NOV , 1985										
14...	185	--	149	1.9	29	19	.10	3.5	200	
MAR , 1986										
26...	198	--	159	9.9	18	15	.20	9.1	233	
MAY										
28...	254	--	204	2.5	22	14	.20	1.6	198	
JUL										
16...	177	15	154	.6	22	15	.20	4.6	210	
DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	
NOV , 1985										
14...	210	.27	6370	<.10	.060	1.4	.120	.070	.050	
MAR , 1986										
26...	220	.32	6540	.87	.260	1.3	.120	.060	.050	
MAY										
28...	230	.27	1460	.24	.150	1.0	.080	.050	.030	
JUL										
16...	230	.29	2140	<.10	.040	1.9	.140	.020	<.010	

STREAMS TRIBUTARY TO LAKE MICHIGAN

04085000 FOX RIVER AT WRIGHTSTOWN, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)		
		NOV , 1985 14...	0800	11800	50	<1	24	<.5	<1	<1	<3	3
DATE	TIME	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
		NOV , 1985 14...	9	2	<4	4	<.1	<10	2	<1	110	<6
DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)					
		MAR , 1986 26...	59	<1	7	100	<.1	<10	<1	<1	100	<6
DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)					
		JUL 16...	7	<5	7	4	<.1	<10	1	<1	170	<6
DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)					
		NOV , 1985 14...	0800	11800	365	4.0	16	510	87			
DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)					
		MAR , 1986 26...	1530	10400	400	5.5	80	2250	98			
DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)					
		MAY 28...	0830	2740	360	19.5	14	104	89			
DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	TEMPER-ATURE (DEG C) (00010)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)					
		JUL 16...	1010	3770	380	22.5	45	458	90			



LAKE MICHIGAN BASIN

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. WDR WI-85-1: 1962(M), 1965(M), 1967-69(M), 1971(M), 1973-74(M), 1976(M), 1978(M), 1980-82(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 579.64 ft above 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.--Estimated daily discharges: None, except for ice period listed in rating table below. Records good except those for ice-affected period, which is fair.

AVERAGE DISCHARGE.--20 years, 88.6 ft³/s, 9.47 in/yr.

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

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 2	1630	4,680	13.76	Sept. 23	0045	2,240	12.68
Nov. 17	0815	1,440	11.98	Sept. 26	1330	831	11.18
Mar. 26	0715	*5,550	*14.05	Sept. 30	0245	1,610	12.11
Sept. 12	0415	1,290	11.80				

Minimum discharge, 18 ft³/s Sept. 7, 9, gage height, 8.50 ft.

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

Oct. 1 Mar. 25				Mar. 26 to Sept. 30			
8.6	36	11.0	722	8.5	18	10.0	263
9.0	85	12.0	1,460	8.7	31	11.0	701
9.5	175	13.0	2,800	8.9	48	12.0	1,460
10.0	307			9.1	71	13.0	2,680
				9.5	137	14.0	5,390

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	141	84	62	48	43	378	75	30	35	35	21
2	70	2720	82	60	47	43	314	67	29	32	35	20
3	59	2250	80	60	46	43	248	61	28	29	40	21
4	84	684	78	60	47	45	247	59	28	28	34	23
5	344	344	76	58	49	46	252	57	27	27	29	21
6	398	236	76	58	49	45	350	55	27	26	26	20
7	240	267	74	56	48	44	286	51	27	24	26	19
8	146	242	74	56	47	43	210	49	27	23	29	19
9	105	195	74	56	46	43	165	47	25	23	31	19
10	84	168	72	56	45	44	139	46	25	22	30	208
11	73	168	72	58	45	48	124	45	32	22	40	805
12	143	212	72	58	44	54	112	45	45	29	36	1090
13	314	362	70	56	43	62	104	45	39	29	30	445
14	240	522	70	56	42	70	115	44	33	26	27	202
15	167	504	70	54	42	80	267	45	30	29	60	259
16	118	598	70	54	41	100	377	61	29	50	89	414
17	91	1240	70	56	41	130	302	62	27	46	67	292
18	80	626	70	56	41	190	193	92	25	40	111	189
19	78	581	70	58	41	270	145	75	31	46	98	174
20	74	412	70	60	43	400	121	59	43	48	57	409
21	67	232	68	58	44	720	108	50	38	39	41	482
22	63	182	66	56	44	560	96	47	32	34	34	1520
23	60	149	66	56	44	450	89	44	30	28	30	1660
24	61	130	66	56	43	700	83	42	35	28	28	621
25	61	110	66	54	43	1580	78	41	31	49	26	469
26	58	100	66	54	43	4740	89	38	32	58	26	757
27	53	98	64	54	43	3020	88	36	87	44	30	747
28	49	94	64	52	43	1350	78	35	103	104	28	472
29	46	92	64	50	---	1300	72	33	60	100	25	918
30	45	88	62	50	---	819	73	31	43	60	24	1300
31	44	---	62	49	---	503	---	30	---	45	23	---
TOTAL	3587	13747	2188	1737	1242	17585	5303	1567	1098	1223	1245	13616
MEAN	116	458	70.6	56.0	44.4	567	177	50.5	36.6	39.5	40.2	454
MAX	398	2720	84	62	49	4740	378	92	103	104	111	1660
MIN	44	88	62	49	41	43	72	30	25	22	23	19
CFSM	.91	3.61	.56	.44	.35	4.47	1.39	.40	.29	.31	.32	3.58
IN.	1.05	4.03	.64	.51	.36	5.15	1.55	.46	.32	.36	.36	3.99
CAL YR 1985	TOTAL	56628	MEAN 155	2720	MIN 20	CFSM 1.22	IN 16.59					
WTR YR 1986	TOTAL	64138	MEAN 176	MAX 4740	MIN 19	CFSM 1.39	IN 18.79					

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: None, except for ice period listed in rating table below. Records good except those for ice-affected period, which is fair. Occasional regulation caused by recreation dam 0.3 mi upstream.

AVERAGE DISCHARGE.--14 years, 84.3 ft³/s, 10.41 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 greater than base discharge of 500 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 13	0415	539	7.70	Sept. 11	2100	1,740	10.88
Nov. 3	0215	1,310	10.58	Sept. 23	0200	613	8.01
Nov. 17	0545	695	8.38	Sept. 25	1015	745	8.50
Mar. 27	0500	*2,370	*11.95				

Minimum discharge, 17.0 ft³/s Sept. 3, 9, gage height, 4.23 and 4.24 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 25 to Mar. 24.)

Oct. 1 to Mar. 25 (1730)

Mar. 25 (1745) to Sept. 30

4.5	34	4.2	15	7.0	392
5.0	85	4.3	21	8.0	610
6.0	220	4.5	36	9.0	905
7.0	394	5.0	85	10.0	1,300
8.0	606	6.0	222	11.0	1,800
9.0	850			12.0	2,410

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	160	74	60	54	43	452	74	27	34	64	18
2	77	975	66	60	54	42	346	69	26	30	57	18
3	67	1200	80	60	54	42	277	62	25	27	49	21
4	91	884	76	60	52	44	272	59	25	26	38	30
5	301	521	74	60	56	46	277	55	26	24	32	26
6	251	314	72	58	54	45	327	53	26	22	28	22
7	208	281	70	58	52	44	304	48	24	20	26	20
8	153	244	70	56	50	43	244	43	23	19	27	18
9	115	226	70	56	50	42	186	42	22	19	33	17
10	97	251	70	56	49	43	148	41	22	18	30	191
11	92	242	70	58	48	45	126	40	30	18	29	1410
12	222	246	70	58	48	52	112	40	74	19	30	1310
13	487	379	70	56	47	58	103	40	74	20	26	768
14	342	419	70	54	46	70	105	40	49	20	24	404
15	257	382	70	54	45	90	198	41	39	20	23	271
16	186	470	70	54	44	130	252	76	35	29	22	236
17	147	664	70	54	44	170	241	83	30	31	26	194
18	120	619	70	56	43	210	187	98	27	27	53	162
19	112	602	70	56	44	310	142	93	29	229	66	172
20	104	465	68	58	45	430	117	74	42	175	47	396
21	95	304	68	62	45	600	99	62	40	90	32	360
22	87	218	68	64	45	640	95	55	33	52	25	535
23	82	167	66	64	44	680	87	50	30	38	23	551
24	89	131	66	62	44	760	81	47	33	33	21	475
25	87	120	66	62	44	1230	76	42	32	132	19	616
26	80	110	66	60	44	1990	85	40	30	168	19	581
27	71	100	64	58	44	2010	88	36	66	110	21	518
28	65	94	64	56	44	1200	82	35	97	68	22	414
29	62	88	62	56	---	961	75	33	69	50	21	331
30	59	82	62	56	---	818	73	30	43	40	19	267
31	57	---	60	56	---	607	---	28	---	35	19	---
TOTAL	4346	10958	2132	1798	1333	13495	5257	1629	1148	1643	971	10352
MEAN	140	365	68.8	58.0	47.6	435	175	52.5	38.3	53.0	31.3	345
MAX	487	1200	80	64	56	2010	452	98	97	229	66	1410
MIN	57	82	60	54	43	42	73	28	22	18	19	17
CFSM	1.27	3.32	.63	.53	.43	3.96	1.59	.48	.35	.48	.29	3.14
IN.	1.47	3.71	.72	.61	.45	4.56	1.78	.55	.39	.56	.33	3.50
CAL YR 1985	TOTAL	52259	MEAN 143	MAX 1200	MIN 12	CFSM 1.30	IN 17.67					
WTR YR 1986	TOTAL	55062	MEAN 151	MAX 2010	MIN 17	CFSM 1.37	IN 18.62					

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Mar. 26, 27, and ice period listed in rating table below. Records good except for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--14 years, 365 ft³/s, 9.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,280 ft³/s Mar. 31, 1979, gage height, 13.24 ft from floodmarks; maximum gage height, 13.30 ft Mar. 25, 1986, from floodmarks; minimum discharge, 10 ft³/s Nov. 7, 1976, gage height, 3.69 ft, result of freezeup.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 3	1400	2,050	8.72	July 25	1800	893	6.82
Nov. 16	1600	2,190	8.91	Sept. 11	0515	4,580	11.08
Mar. 25	----	ice jam	*13.30	Sept. 25	1630	3,280	9.95
Mar. 26	1630	*5,900	11.95				

Minimum discharge, 55 ft³/s June 4, gage height, 4.13 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 22 to Mar. 25.)

4.1	51	8.0	1,570
4.5	114	9.0	2,380
5.0	224	10.0	3,330
6.0	540	11.0	4,480
7.0	981	12.0	5,820

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	181	513	600	250	180	150	3080	423	78	422	715	101
2	183	1760	620	240	180	150	2850	384	66	409	724	97
3	166	1880	580	230	180	150	2580	327	62	388	693	105
4	199	1690	560	230	190	150	2470	286	87	359	661	102
5	350	1380	520	220	210	150	2390	259	135	328	630	98
6	384	1330	500	220	200	160	2370	219	115	287	598	96
7	426	1360	480	210	180	160	2250	182	105	246	566	88
8	459	1350	470	210	170	160	2090	148	101	210	540	82
9	455	1310	450	200	170	160	1930	129	94	186	507	77
10	462	1250	440	200	160	170	1760	124	86	165	469	965
11	456	1240	420	190	160	200	1620	122	126	148	428	3450
12	584	1290	410	190	160	300	1480	122	315	130	380	2210
13	711	1520	400	190	160	400	1360	121	321	131	329	2270
14	646	1640	390	180	160	520	1260	118	345	136	275	2250
15	652	1560	380	180	160	620	1250	121	358	133	255	2170
16	662	1930	370	180	160	800	1220	162	359	131	225	2120
17	631	1950	360	180	160	1200	1170	173	342	127	269	2040
18	608	2060	360	180	160	1800	1100	199	300	128	289	2040
19	603	2030	340	180	150	2600	1030	201	293	174	258	2160
20	604	1910	330	190	150	2500	981	192	293	176	231	2440
21	591	1630	320	190	160	2500	910	191	284	185	209	2310
22	577	1400	320	200	160	3300	857	176	282	187	189	2900
23	558	1200	310	200	160	4200	789	157	272	175	174	2680
24	560	1100	300	200	160	5600	717	149	259	177	160	2560
25	558	960	290	200	150	5400	661	136	240	752	141	2940
26	533	880	280	190	150	5600	634	124	243	757	133	2840
27	505	800	280	190	150	5000	587	112	369	709	128	2660
28	477	740	270	190	150	4140	539	105	425	721	123	2550
29	441	700	260	190	---	3860	505	101	438	732	123	2490
30	396	640	260	190	---	3610	469	96	436	724	116	2440
31	357	---	250	180	---	3310	---	91	---	707	109	---
TOTAL	14975	41003	12120	6170	4640	59020	42909	5450	7229	10240	10647	51331
MEAN	483	1367	391	199	166	1904	1430	176	241	330	343	1711
MAX	711	2060	620	250	210	5600	3080	423	438	757	724	3450
MIN	166	513	250	180	150	150	469	91	62	127	109	77
CFSM	.92	2.60	.74	.38	.32	3.62	2.72	.34	.46	.63	.65	3.25
IN.	1.06	2.90	.86	.44	.33	4.17	3.03	.39	.51	.72	.75	3.63
CAL YR 1985	TOTAL	204819	MEAN 561	MAX 2870	MIN 30	CFSM 1.07	IN 14.49					
WTR YR 1986	TOTAL	265734	MEAN 728	MAX 5600	MIN 62	CFSM 1.38	IN 18.79					

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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS	SPE- CIFIC CON- DUC- TANCE	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED	BARO- METRIC PRES- SURE OF HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	
		(CFS) (00061)	(US/CM) (00095)	(00400)	(00010)	(00076)	(MG/L) (00300)	(MM (00025)	(00301)	
NOV , 1985										
13...	1400	1520	490	8.00	2.0	4.0	13.4	--	--	
MAR										
26...	1130	5610	310	7.40	3.0	25	12.5	744	95	
MAY										
28...	1215	107	730	8.50	21.0	5.5	14.6	749	167	
JUL										
16...	1410	129	700	8.60	22.0	28	14.0	749	163	
DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
NOV , 1985										
13...	3200	7500	250	61	55	28	7.8	6	.2	6.5
MAR , 1986										
26...	--	310	150	17	34	17	4.9	6	.2	4.3
MAY										
28...	34	K18	370	0	77	44	14	7	.3	2.8
JUL										
16...	150	340	350	18	74	39	15	9	.4	3.5
DATE	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR- BONATE IT-FLD (MG/L AS CO3) (99445)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CACO3) (99430)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	
NOV , 1985										
13...	234	--	188	3.7	29	21	<.10	10	286	
MAR , 1986										
26...	168	--	135	11	18	11	.10	5.7	186	
MAY										
28...	390	46	388	2.0	--	--	.10	1.4	--	
JUL										
16...	339	30	296	1.4	34	30	.10	11	427	
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	
NOV , 1985										
13...	270	.39	1170	.98	.290	1.6	.210	.160	.120	
MAR , 1986										
26...	180	.25	2820	1.3	.510	1.7	.270	.110	.090	
MAY										
28...	--	--	--	.43	.040	1.4	.120	.050	.030	
JUL										
16...	440	.58	149	.45	.050	2.2	.250	.140	.110	

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

STREAMS TRIBUTARY TO LAKE MICHIGAN

91

04085427 MANITOWOC RIVER AT MANITOWOC, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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)		
		(00061)	(01106)	(01000)	(01005)	(01010)	(01025)	(01030)	(01035)	(01040)		
NOV , 1985												
13...	1400	1520	20	<1	25	<.5	<1	<1	<3	5		
MAR , 1986												
26...	1130	5610	20	<1	18	<.5	<1	<1	<3	3		
JUL												
16...	1410	129	<10	1	36	<.5	<1	<1	<3	5		
DATE	TIME	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV , 1985												
13...	110	5	<4	8	<.1	<10	2	<1	96	<6	10	
MAR , 1986												
26...	110	<1	5	34	<.1	<10	2	<1	55	<6	52	
JUL												
16...	31	<5	8	17	<.1	<10	5	<1	260	<6	41	
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)					
NOV , 1985												
13...	1400	1520	490	2.0	42	172	89					
19...	0745	1970	420	5.5	--	--	--					
JAN , 1986												
22...	1705	195	830	0.0	--	--	--					
FEB												
22...	0900	155	520	0.0	--	--	--					
MAR												
26...	1130	5610	310	3.0	117	1770	85					
26...	1700	5900	330	4.0	--	--	--					
28...	0830	4410	320	3.5	--	--	--					
MAY												
28...	1215	107	730	21.0	41	12	87					
JUN												
05...	0820	128	595	16.0	--	--	--					
JUL												
16...	1410	129	700	22.0	87	30	100					
SEP												
09...	1320	72.8	690	16.5	--	--	--					

STREAMS TRIBUTARY TO LAKE MICHIGAN

435152088123100 WOLF LAKE NEAR MT. CALVARY, WI

LOCATION.--Lat 43°51'52", long 88°12'31", in SW 1/4 SE 1/4 Sec.10, T.16 N., R.19 E., Fond du Lac County,
Hydrologic Unit 04030101, 3.2 miles northeast of Mt. Calvary.

DRAINAGE AREA.--3.43 mi².

LAKE-STAGE RECORDS

PERIOD OF RECORD.--November 17, 1983 to current year.

GAGE.--Staff gage read on west side of lake by William Krupp.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage-height observed, 6.81 ft Sept. 15, 1986; minimum observed,
4.42 ft July 24, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage-height observed, 6.81 ft, Sept. 15; minimum observed, 4.84 ft,
Sept. 9.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							5.77	5.16	5.15	5.83	5.23	4.89
2							5.71	5.14	5.14	5.80	5.20	4.88
3							5.66	5.13	5.13	5.77	5.20	4.94
4							5.60	5.13	5.25	5.74	5.18	4.91
5							5.56	5.12	5.29	5.70	5.19	4.89
6							5.53	5.12	5.31	5.67	5.19	4.88
7							5.50	5.11	5.28	5.60	5.15	4.86
8							5.46	5.11	5.27	5.57	5.14	4.85
9							5.42	5.11	5.25	5.54	5.13	4.84
10							5.39	5.11	5.28	5.54	5.10	5.02
11							5.38	5.10	5.54	5.47	5.13	6.25
12							5.36	5.14	5.78	5.44	5.11	6.56
13							5.32	5.10	6.01	5.47	5.09	6.69
14							5.40	5.08	6.12	5.43	5.06	6.80
15							5.38	5.31	6.00	5.40	5.08	6.81
16							5.34	5.40	5.98	5.40	5.06	6.80
17							5.31	5.38	5.90	5.37	5.05	6.72
18							5.28	5.36	5.82	5.34	5.12	6.64
19							5.26	5.33	5.78	5.32	5.09	6.56
20							5.22	5.30	5.79	5.36	5.06	6.50
21							5.20	5.27	5.77	5.33	5.04	6.48
22							5.18	5.25	5.75	5.31	5.01	6.42
23							5.16	5.23	5.72	5.28	4.99	6.42
24							5.14	5.23	5.70	5.26	4.97	6.40
25							5.13	5.18	5.64	5.30	4.95	6.44
26							5.11	5.20	5.61	5.28	5.00	6.42
27							5.14	5.22	5.86	5.30	4.97	6.40
28							5.17	5.24	5.90	5.29	4.94	6.38
29							5.15	5.22	5.88	5.28	4.93	6.38
30							5.17	5.19	5.86	5.25	4.92	6.45
31							---	5.16	---	5.22	4.91	---
MEAN							5.35	5.20	5.63	5.45	5.07	5.98
MAX							5.77	5.40	6.12	5.83	5.23	6.81
MIN							5.11	5.08	5.13	5.22	4.91	4.84

WATER-QUALITY RECORDS

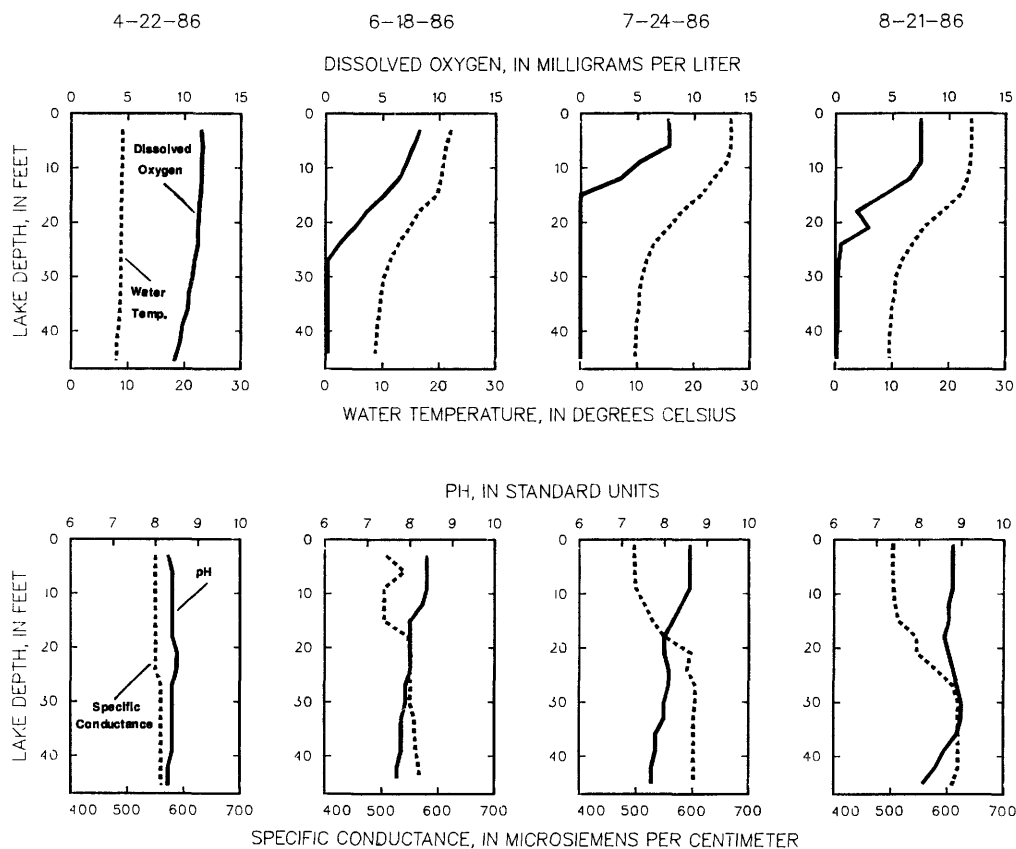
PERIOD OF RECORD.--February 20, 1984 to current year.

REMARKS.--Lake sampled near center at a depth of 47 feet.

WATER QUALITY DATA, APRIL 22 TO AUGUST 21, 1986
(Milligrams per liter unless otherwise indicated)

	Apr. 22		June 18		July 24		Aug. 21	
Depth of sample (ft)	3.0	45.5	3.0	44.0	3.0	45.5	3.0	45.0
Specific conductance (uS)	550	560	509	568	497	602	504	610
pH	8.3	8.3	8.4	7.7	8.6	7.7	8.8	8.1
Water temperature (°C)	9.0	8.0	22.0	8.5	26.5	9.5	24.0	9.5
Color (Pt-Co. scale)	30	30	--	--	--	--	--	--
Turbidity (NTU)	3.5	2.0	--	--	--	--	--	--
Secchi-disc (meters)	--	2.2	--	4.0	--	2.4	--	3.9
Dissolved oxygen	11.5	9.1	8.3	0.2	7.8	0.0	7.5	0.1
Hardness, as CaCO ₃	290	290	--	--	--	--	--	--
Calcium, dissolved (Ca)	55	55	--	--	--	--	--	--
Magnesium, dissolved (Mg)	37	36	--	--	--	--	--	--
Sodium, dissolved (Na)	5.6	5.5	--	--	--	--	--	--
Potassium, dissolved (K)	3.0	3.3	--	--	--	--	--	--
Alkalinity as CaCO ₃	238	238	--	--	--	--	--	--
Sulfate, dissolved (SO ₄)	43	43	--	--	--	--	--	--
Chloride, dissolved (Cl)	19	18	--	--	--	--	--	--
Silica, dissolved (SiO ₂)	4.2	4.5	--	--	--	--	--	--
Solids, dissolved, at 180°C	333	316	--	--	--	--	--	--
Nitrogen, nitrate, total (as N)	.39	.39	--	--	--	--	--	--
Nitrogen, nitrite, total (as N)	.010	.010	--	--	--	--	--	--
Nitrogen, ammonia, total (as N)	.040	.070	--	--	--	--	--	--
Nitrogen, organic, total (as N)	.76	.83	--	--	--	--	--	--
Nitrogen, total (as N)	1.2	1.3	--	--	--	--	--	--
Total phosphorus (as P)	.020	.024	.015	.192	.014	.070	.020	.440
Phosphorus, ortho, diss (as P)	.003	.003	--	.160	--	.078	--	.009
Iron, dissolved (Fe) ug/L	13	24	--	--	--	--	--	--
Manganese, dissolved (Mn) ug/L	8	16	--	--	--	--	--	--
Chlorophyll <i>a</i> , phyto. (ug/L)	12.0 ₁	--	3.0	--	9.0	--	3.0	--

1/ Adjusted from 8.0 ug/L by the Wisconsin State Laboratory of Hygiene.



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 above 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.--Estimated daily discharges: None, except for ice periods listed in rating table below. Records good except those for ice-affected periods, which are fair. Diurnal fluctuation caused by numerous power-plants above station.

AVERAGE DISCHARGE.--44 years (water years 1917-24, 1951-86), 259 ft³/s, 8.41 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 greater than base discharge of 1,500 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 2	0945	*4,000	8.74	Sept. 11	1930	3,360	8.07
Nov. 16	1845	2,430	6.99	Sept. 22	1945	2,100	6.56
Mar. 19	0900	ice jam	*9.13	Sept. 26	1415	3,420	8.14
Mar. 24	1930	3,360	8.27				

Minimum discharge, 49 ft³/s Aug. 21, gage height, 1.79 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 25 to Feb. 25, Feb. 28, and Mar. 6-22.)

1.9	65	4.0	570
2.0	80	5.0	992
2.5	165	7.0	2,440
3.0	270	9.0	4,260

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169	888	460	230	200	205	1490	272	131	293	117	74
2	165	3580	500	220	200	199	1350	259	123	294	136	73
3	155	2520	460	220	200	201	1030	230	115	299	145	80
4	242	2020	420	220	210	217	951	219	115	275	121	99
5	581	1460	390	220	290	222	915	221	126	259	114	93
6	434	1030	360	210	320	220	884	225	137	241	118	85
7	338	1060	340	210	300	210	804	210	125	226	124	78
8	289	1000	320	210	280	200	720	182	117	181	126	73
9	280	1010	300	200	270	190	643	173	112	210	118	71
10	349	1330	290	200	250	200	579	166	119	189	111	158
11	377	1310	280	200	240	250	525	135	130	178	91	2790
12	805	1410	280	200	230	360	476	138	219	172	106	2550
13	1120	1870	270	200	230	490	396	143	266	134	102	1880
14	771	1970	260	200	220	620	418	131	234	102	97	1540
15	576	1680	260	190	220	840	505	203	230	99	95	1110
16	502	2010	260	190	220	1000	417	192	252	115	99	936
17	433	1870	270	200	220	1300	332	261	298	125	100	929
18	485	2010	270	200	210	1800	360	301	324	120	169	957
19	747	2040	260	210	210	2700	391	297	386	126	186	986
20	631	1680	260	220	210	2300	406	250	413	139	143	972
21	478	1290	260	220	220	2200	365	223	404	127	118	1120
22	391	1010	260	230	230	2100	337	213	393	119	108	1920
23	365	906	250	230	230	2830	317	205	377	113	97	1820
24	654	789	250	230	220	3140	306	199	374	104	89	1480
25	625	700	250	220	220	2920	295	190	345	123	78	1660
26	476	640	250	220	213	3020	318	182	319	222	92	2630
27	396	580	240	220	221	2810	324	167	417	193	109	2520
28	340	540	240	210	220	2390	314	157	421	175	111	2190
29	270	500	230	210	---	2100	293	160	361	156	95	1800
30	246	470	230	200	---	1890	282	154	315	149	84	1630
31	246	---	230	200	---	1670	---	143	---	138	77	---
TOTAL	13936	41173	9200	6540	6504	40794	16743	6201	7698	5396	3476	34304
MEAN	450	1372	297	211	232	1316	558	200	257	174	112	1143
MAX	1120	3580	500	230	320	3140	1490	301	421	299	186	2790
MIN	155	470	230	190	200	190	282	131	112	99	77	71
CFSM	1.08	3.28	.71	.51	.56	3.15	1.34	.48	.62	.42	.27	2.73
IN.	1.24	3.66	.82	.58	.58	3.63	1.49	.55	.69	.48	.31	3.05
CAL YR 1985	TOTAL	168214	MEAN	461	MAX	3580	MIN	40	CFSM	1.10	IN	14.97
WTR YR 1986	TOTAL	191965	MEAN	526	MAX	3580	MIN	71	CFSM	1.26	IN	17.08

432324088154200 BIG CEDAR LAKE NEAR WEST BEND, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 43°23'24", long 88°15'42", in SE 1/4 sec. 30, T.11 N., R.19 E., Washington County, Hydrologic Unit 04040003, 4.6 mi southwest of West Bend.

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Staff gage read by Louis Ottmer, Jr. Elevation of gage is 1031 ft, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 8.42 ft, Sept. 12, 1986; minimum observed, 7.72 ft, July 23, 31, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 8.42 ft, Sept. 12; minimum observed, 7.90 ft, Aug. 15.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
MAY 28	7.94	JUNE 25	7.92	JULY 9	7.97	JULY 28	7.99	AUG. 15	7.90
JUNE 17	7.91	JULY 2	7.97	JULY 21	8.02	AUG. 10	7.99	SEPT. 12	8.42
								SEPT. 25	8.40

WATER-QUALITY RECORDS

LOCATION.--Lat 43°24'01", long 88°15'22", in SW 1/4 sec. 20, T.11 N., R.19 E., Washington County, Hydrologic Unit 04040003, at north end of lake, and 4.1 mi southwest of West Bend.

PERIOD OF RECORD.--June 1985 to current year.

REMARKS.--Secchi disc readings made by Louis Ottmer, Jr.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
MAY 28	2.1	JUNE 25	2.1	JULY 9	2.1	JULY 28	1.5	AUG. 7	1.5
JUNE 17	2.1	JULY 2	2.1	JULY 21	1.8	AUG. 2	1.5		

STREAMS TRIBUTARY TO LAKE MICHIGAN

04086500 CEDAR CREEK NEAR CEDARBURG, WI

LOCATION.--Lat 43°19'23", long 87°58'43", in SE 1/4 SW 1/4 sec.14, T.10 N., R.21 E., Ozaukee County, Hydrologic Unit 04040003, on left bank 40 ft upstream from bridge on State Highway 60, 1.9 mi north of Cedarburg and 6.6 mi upstream from mouth.

DRAINAGE AREA.--120 mi².

PERIOD OF RECORD.--August 1930 to September 1970, July 1973 to September 1981, August 1983 to current year.

REVISED RECORDS.--WSP 1307: 1932-34(M), 1937(M), 1939(M), 1945(M), 1948-49(M). WDR WI-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 795.33 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Nonrecording gage and crest-stage gage August 1930 to September 1970 at same site and datum.

REMARKS.--Estimated daily discharges: None, except for ice periods listed in rating table below. Records good except for ice-affected periods, which are fair.

AVERAGE DISCHARGE.--51 years, 71.5 ft³/s, 8.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, about 3,600 ft³/s Mar. 30, 1960, gage height, 12.25 ft, from graph based on gage readings, backwater from ice; minimum observed, 0.20 ft³/s Aug. 9-12, 1936.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 3	1845	620	7.69	Sept. 12	1630	*1,600	10.05
Nov. 18	1200	709	7.94	Sept. 26	1330	1,180	9.13
Mar. 19	0715	ice jam	*10.34				

Minimum daily discharge, 22 ft³/s Aug. 25.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 24-29, Dec. 3 to Mar. 19.)

5.3	22	7.0	398
5.5	44	8.0	732
5.7	74	9.0	1,130
6.0	134	10.0	1,570

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	173	174	56	64	72	241	109	39	40	40	37
2	26	493	232	54	62	70	213	99	36	39	52	33
3	25	589	200	54	62	72	188	87	36	36	55	32
4	33	579	170	54	68	76	205	82	39	32	44	32
5	65	480	160	52	84	80	218	82	47	29	38	32
6	55	396	150	52	80	78	226	87	51	26	42	31
7	43	333	130	52	76	76	201	81	51	24	149	29
8	37	278	120	52	74	72	170	76	46	25	148	27
9	39	242	120	52	70	70	144	70	41	29	96	27
10	89	258	110	52	68	200	127	64	36	29	72	73
11	91	275	98	52	66	350	117	61	39	34	66	1100
12	107	310	90	52	66	470	110	63	78	59	56	1480
13	189	372	80	52	64	540	115	65	82	222	50	1400
14	150	460	74	52	62	600	122	62	65	242	45	1060
15	113	494	94	54	62	680	193	64	61	177	44	791
16	91	537	90	56	60	760	190	76	60	151	42	611
17	72	531	82	56	60	840	164	76	52	131	37	485
18	68	638	80	60	64	1000	139	137	44	93	34	395
19	94	622	78	64	70	1100	125	125	39	72	33	326
20	141	624	74	70	78	906	115	90	36	66	30	271
21	126	532	72	74	76	785	113	74	33	56	30	226
22	104	433	70	80	72	598	110	69	33	49	29	297
23	92	350	66	88	74	537	102	62	41	42	29	505
24	167	270	70	88	80	499	98	57	45	36	23	562
25	196	210	68	86	84	475	94	52	50	54	22	679
26	156	190	66	82	84	484	142	46	47	70	30	906
27	117	170	64	80	80	477	193	44	49	54	108	895
28	96	160	62	76	76	445	157	45	70	53	90	784
29	85	150	60	72	---	392	128	49	52	59	64	728
30	77	143	58	68	---	336	114	58	45	47	48	694
31	71	---	56	62	---	283	---	46	---	42	42	---
TOTAL	2842	11292	3118	1954	1986	13423	4574	2258	1443	2118	1688	14548
MEAN	91.7	376	101	63.0	70.9	433	152	72.8	48.1	68.3	54.5	485
MAX	196	638	232	88	84	1100	241	137	82	242	149	1480
MIN	25	143	56	52	60	70	94	44	33	24	22	27
CFSM	.76	3.13	.84	.53	.59	3.61	1.27	.61	.40	.57	.45	4.04
IN.	.88	3.50	.97	.61	.62	4.16	1.42	.70	.45	.66	.52	4.51

CAL YR 1985	TOTAL	49908	MEAN 137	MAX 780	MIN 13	CFSM 1.14	IN 15.47
WTR YR 1986	TOTAL	61244	MEAN 168	MAX 1480	MIN 22	CFSM 1.40	IN 18.99

STREAMS TRIBUTARY TO LAKE MICHIGAN

97

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.

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

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

REMARKS.--Estimated daily discharges: None, except for ice periods listed in rating tables below. Records good except those for ice-affected periods, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,640 ft³/s Sept. 11, 1986, gage height, 11.97 ft; maximum gage height, 12.85 ft Mar. 1, 1985 (backwater from ice); minimum daily, 72 ft³/s July 24, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,640 ft³/s Sept. 11, gage height, 11.97 ft; minimum daily, 87 ft³/s Aug. 24, 25.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used May 26 to June 23; stage-discharge relation affected by ice Nov. 25-29, Dec. 3 to Mar. 18.)

Oct. 1 to Sept. 11 (0245)				Sept. 11 (0300) to Sept. 30			
5.3	54	7.0	866	6.8	814	10.0	2,960
5.4	80	8.0	1,480	7.0	923	11.2	3,960
5.7	200	10.0	2,870	8.0	1,520		
6.0	336	11.3	3,860				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230	562	799	360	380	420	1440	464	241	242	196	188
2	221	2080	763	350	370	410	1370	429	215	241	233	166
3	219	2420	760	340	360	410	1180	398	227	186	236	280
4	267	2310	740	340	390	440	1100	376	179	196	215	227
5	349	2040	740	340	470	460	1110	363	204	188	202	193
6	399	1810	720	330	450	450	1120	374	296	178	238	180
7	426	1650	720	330	430	430	1040	365	190	177	394	154
8	421	1450	700	330	410	410	939	334	207	211	439	140
9	439	1410	680	320	400	400	856	363	196	178	238	141
10	514	1400	620	320	390	620	778	362	204	143	192	295
11	539	1200	580	310	380	920	707	363	227	192	207	3940
12	653	1320	520	310	370	1200	639	371	322	321	190	3960
13	975	1390	470	300	350	1500	596	398	301	457	169	3320
14	882	1750	360	300	350	1700	591	402	294	444	160	2510
15	780	1730	490	310	350	2000	627	405	279	342	154	2010
16	670	1920	560	310	350	2200	661	439	276	328	143	1690
17	630	1970	540	330	350	2700	706	491	256	349	135	1500
18	621	2360	540	350	350	3200	658	596	232	264	125	1330
19	665	2600	520	370	350	3810	619	675	217	238	109	1110
20	711	2390	500	390	360	3610	570	693	203	222	110	945
21	777	2060	480	430	380	3400	564	506	195	191	105	819
22	673	1750	460	470	400	2980	538	454	195	181	96	1030
23	636	1490	450	500	420	2980	501	350	205	178	91	1770
24	808	1140	440	490	430	2780	471	262	221	172	87	1800
25	782	980	440	490	430	2640	448	320	284	220	87	2280
26	687	900	430	470	430	2670	548	307	183	287	156	3480
27	596	800	420	450	430	2540	542	298	248	257	454	3730
28	539	720	400	430	430	2400	532	299	318	237	390	3040
29	491	640	390	420	---	2220	513	298	244	189	279	2880
30	446	695	380	400	---	1960	487	301	211	207	242	2670
31	366	---	370	390	---	1710	---	272	---	199	212	---
TOTAL	17412	46937	16982	11580	10960	55570	22451	12328	7070	7415	6284	47778
MEAN	562	1565	548	374	391	1793	748	398	236	239	203	1593
MAX	975	2600	799	500	470	3810	1440	693	322	457	454	3960
MIN	219	562	360	300	350	400	448	262	179	143	87	140
CFSM	.93	2.58	.90	.62	.64	2.95	1.23	.66	.39	.39	.33	2.62
IN.	1.07	2.88	1.04	.71	.67	3.41	1.38	.76	.43	.45	.39	2.93

CAL YR 1985 TOTAL 230805 MEAN 632 MAX 2700 MIN 72 CFSM 1.04 IN 14.14
WTR YR 1986 TOTAL 262767 MEAN 720 MAX 3960 MIN 87 CFSM 1.19 IN 16.10

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.--Water-stage recorder and crest-stage gage. Datum of gage is 607.23 ft above National Geodetic Vertical Datum of 1929 (levels by U. S. Army 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.--Estimated daily discharge: Sept. 11 (partial day) and ice periods listed in rating table below. Records good except those for ice-affected periods, which are fair. Occasional regulation caused by recreation dam approximately 1,200 ft upstream.

AVERAGE DISCHARGE.--72 years, 424 ft³/s, 8.27 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 greater than base discharge of 3,000 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 4	0915	3,770	5.26	Aug. 26	1045	3,830	5.29
Nov. 18	1015	3,970	5.37	Sept. 11	unknown	*5,920	*6.35
Mar. 17	1145	4,760	5.79	Sept. 26	1115	4,740	5.78
Aug. 6	1545	5,620	6.21				

Minimum discharge, 14 ft³/s Aug. 27, gage height, 1.54 ft, result of regulation.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 26 to Dec. 12, Dec. 16 to Feb. 24, Mar. 6-15.)

1.8	81	3.0	756
2.0	156	4.0	1,830
2.5	412	5.0	3,320
		6.0	5,180

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	261	1180	1300	410	440	467	1740	585	271	263	228	217
2	251	2650	980	410	430	474	1520	558	242	299	299	194
3	248	2880	880	400	430	472	1450	514	238	242	259	210
4	428	2790	860	400	660	512	1280	469	247	213	255	325
5	343	2490	840	390	620	515	1270	463	219	213	236	221
6	425	2130	840	390	580	520	1240	448	306	237	1510	213
7	454	1930	840	380	540	490	1190	445	337	225	400	192
8	490	1720	820	380	500	480	1080	387	240	321	605	177
9	620	2230	780	370	470	470	991	400	237	220	400	293
10	594	2250	720	360	460	700	908	398	319	199	307	786
11	613	1730	700	370	440	1000	830	396	313	224	272	4970
12	900	1570	640	370	420	1400	756	408	405	329	267	5130
13	1000	1700	545	360	400	1700	698	390	390	592	242	4150
14	1050	1990	417	360	400	2000	792	395	401	558	261	3110
15	918	2040	586	360	400	2300	794	462	364	574	225	2240
16	808	2410	640	360	400	2540	720	449	338	477	211	1950
17	706	2360	620	380	400	3230	834	578	322	450	197	1730
18	756	3140	600	400	400	3640	786	617	291	380	187	1560
19	859	3250	580	440	410	4310	734	492	283	366	173	1280
20	812	2960	560	460	420	4160	706	768	264	438	162	1080
21	841	2500	540	490	430	3730	684	630	237	297	161	982
22	848	2160	520	540	460	3570	650	532	303	253	152	1290
23	790	1810	500	580	480	3390	613	466	302	229	143	1720
24	1290	1400	520	560	490	3290	583	324	336	219	138	2110
25	1060	1030	540	540	500	2960	559	310	298	505	136	2760
26	869	1000	500	520	501	3050	777	353	271	295	871	3570
27	754	940	480	500	492	2930	696	386	594	322	288	4630
28	666	860	470	490	500	2710	676	340	405	657	520	3940
29	606	820	450	480	---	2540	649	327	340	274	332	3920
30	614	760	440	470	---	2280	637	320	251	247	283	3320
31	475	---	420	450	---	1970	---	309	---	282	241	---
TOTAL	21349	58680	20128	13370	13073	63800	26843	13919	9364	10400	9961	58270
MEAN	689	1956	649	431	467	2058	895	449	312	335	321	1942
MAX	1290	3250	1300	580	660	4310	1740	768	594	657	1510	5130
MIN	248	760	417	360	400	467	559	309	219	199	136	177
CFSM	.99	2.81	.93	.62	.67	2.96	1.29	.65	.45	.48	.46	2.79
IN.	1.14	3.14	1.08	.71	.70	3.41	1.43	.74	.50	.56	.53	3.11
CAL YR 1985	TOTAL	266534	MEAN 730	MAX 3250	MIN 84	CFSM 1.05	IN 14.25					
WTR YR 1986	TOTAL	319157	MEAN 874	MAX 5130	MIN 136	CFSM 1.26	IN 17.06					

STREAMS TRIBUTARY TO LAKE MICHIGAN

99

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.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	
NOV , 1985										
13...	0830	1840	585	7.90	4.0	4.0	11.4	753	88	
MAR , 1986										
25...	1000	2980	440	7.70	3.0	4.3	12.9	745	98	
MAY										
29...	1045	327	740	8.60	19.0	30	10.6	747	117	
JUL										
15...	1045	448	600	8.60	22.0	2.0	93.0 9.3	756	1070	
DATE		COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
NOV , 1985										
13...	K2200	K3500	280	48	61	31	21	14	.6	2.9
MAR , 1986										
25...	K18	K43	210	44	47	23	9.8	9	.3	3.0
MAY										
29...	370	150	320	39	67	37	29	16	.7	1.8
JUL										
15...	550	220	260	44	56	30	24	16	.7	3.1
DATE		BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR- BONATE IT-FLD (MG/L CO3) (99445)	ALKA- LINITY, CARBON- ATE IT-FLD - (MG/L - CACO3) (99430)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
NOV , 1985										
13...	283	--	227	5.7	34	39	.10	9.9	355	
MAR , 1986										
25...	205	--	165	6.5	18	21	.10	7.7	259	
MAY										
29...	--	--	325	1.6	42	28	.10	1.7	425	
JUL										
15...	262	3.0	213	1.0	32	44	.10	8.3	340	
DATE		SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
NOV , 1985										
13...	340	.48	1760	.88	.070	.80	.100	.070	.050	
MAR , 1986										
25...	240	.35	2080	1.2	.160	.90	.100	.070	.050	
MAY										
29...	380	.58	375	.70	.030	1.0	.080	.030	.010	
JUL										
15...	340	.46	411	.99	.050	1.5	.160	.040	.020	

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

STREAMS TRIBUTARY TO LAKE MICHIGAN

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	
		IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)
NOV , 1985											
13...	0830	1840	40	1	33	<.5	<1	3	<3	5	
MAR , 1986											
25...	1000	2980	<10	<1	25	<.5	<1	<1	<3	5	
JUL											
15...	1045	448	<10	3	36	<.5	<1	<1	<3	4	
NOV , 1985											
13...	46	1	<4	12	<.1	<10	1	<1	160	<6	17
MAR , 1986											
25...	39	1	6	12	<.1	<10	2	<1	120	6	23
JUL											
15...	17	<5	11	5	<.1	<10	2	<1	200	<6	12
NOV , 1985											
13...	0830	1840	585	4.0	21	104	82				
20...	1225	2990	540	5.0	--	--	--				
JAN , 1986											
08...	1250	377	670	0.0	--	--	--				
FEB											
25...	1305	483	830	0.0	--	--	--				
MAR											
25...	1000	2980	440	3.0	23	185	69				
MAY											
29...	1045	327	740	19.0	23	20	90				
JUN											
03...	1250	229	680	19.0	--	--	--				
JUL											
15...	1045	448	600	22.0	84	102	99				
29...	1245	273	575	26.0	--	--	--				
SEP											
08...	1530	166	605	19.5	--	--	--				
11...	1630	5600	320	19.5	--	--	--				

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.

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 above National Geodetic Vertical Datum of 1929 (University of Wisconsin bench mark).

REMARKS.--Estimated discharges: None, except for ice periods listed in rating table below. 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.--9 years (1976-77, 1980-86) 32.3 ft³/s, 12.64 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,440 ft³/s Sept. 11, 1986, gage height, 6.49 ft; maximum gage height, 6.57 ft July 13, 1981; minimum discharge, 0.85 ft³/s July 29, 30, and Aug. 13, 1982, gage height, 2.55 ft.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Mar. 19	2325	409	4.84	Sept. 11	0405	*1,440	*6.49
July 19	1740	405	4.88	Sept. 28	1845	409	4.89
Aug. 6	1550	670	5.43				

Minimum, 6.0 ft³/s Oct. 3, gage height, 2.84 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 26-29, and Dec. 3 to Mar. 17.)

2.8	6.0	4.0	131
3.0	14	4.5	264
3.2	26	5.0	456
3.4	43	5.5	710
3.7	80		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	119	105	16	24	18	47	27	9.2	16	11	11
2	6.3	254	125	16	21	18	42	22	8.5	14	16	10
3	6.4	274	74	16	24	17	43	21	7.8	12	12	10
4	18	245	64	16	29	18	50	19	7.8	11	10	10
5	15	170	56	15	35	19	49	19	7.9	9.3	9.3	9.6
6	12	103	50	15	32	20	46	19	7.8	10	138	8.8
7	10	68	45	15	30	19	41	18	9.2	10	200	7.6
8	10	56	43	15	27	18	35	17	8.8	16	168	7.2
9	20	74	39	15	25	18	32	15	7.7	10	96	13
10	29	106	36	15	23	30	29	15	8.8	10	44	68
11	22	107	34	15	22	110	27	14	14	14	29	531
12	67	117	32	15	21	130	26	17	18	35	22	674
13	64	147	30	16	19	150	24	16	14	75	19	625
14	42	172	28	16	18	170	35	14	14	61	19	422
15	32	161	32	17	18	180	47	17	14	40	16	230
16	27	170	31	18	17	200	42	19	13	47	14	107
17	23	154	29	20	17	230	35	35	10	31	12	50
18	25	239	27	21	18	325	31	47	9.9	20	11	45
19	36	275	25	23	19	365	28	32	9.5	46	11	40
20	35	281	24	25	19	316	27	23	8.1	53	10	36
21	31	209	23	28	18	216	27	20	7.4	29	9.0	34
22	26	137	22	30	18	130	24	18	12	21	8.2	78
23	46	86	21	31	17	104	23	17	15	15	7.8	106
24	105	68	20	30	18	96	22	15	17	13	7.3	95
25	111	59	19	29	18	91	23	14	13	19	6.9	167
26	78	54	19	28	18	114	59	13	11	14	44	214
27	51	50	18	26	18	107	55	14	57	13	52	213
28	36	48	17	25	18	84	39	14	57	22	31	207
29	30	47	17	24	---	69	33	13	31	16	20	249
30	27	47	16	23	---	57	30	12	19	13	15	250
31	25	---	16	22	---	49	---	11	---	12	13	---
TOTAL	1072.0	4097	1137	636	601	3488	1071	587	447.4	727.3	1081.5	4528.2
MEAN	34.6	137	36.7	20.5	21.5	113	35.7	18.9	14.9	23.5	34.9	151
MAX	111	281	125	31	35	365	59	47	57	75	200	674
MIN	6.3	47	16	15	17	17	22	11	7.4	9.3	6.9	7.2
CFSM	1.00	3.95	1.06	.59	.62	3.26	1.03	.55	.43	.68	1.01	4.35
IN.	1.15	4.39	1.22	.68	.64	3.74	1.15	.63	.48	.78	1.16	4.85
CAL YR 1985	TOTAL	15386.8	MEAN	42.2	MAX	350	MIN	2.3	CFSM	1.22	IN	16.49
WTR YR 1986	TOTAL	19473.4	MEAN	53.4	MAX	674	MIN	6.3	CFSM	1.54	IN	20.88

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. WRD WI-85-1: 1984.

GAGE.--Water-stage recorder and steel plate weir. Elevation of gage is 690 ft, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 12 to Nov. 13, Mar. 10-18 and ice periods listed in rating table below. Records are good, except those for discharges less than 6 ft³/s and greater than 600 ft³/s which are fair to poor, and the periods of ice effect, which are poor.

AVERAGE DISCHARGE.--10 years (1976-79, 1981-86), 13.4 ft³/s, 10.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft³/s July 13, 1981, gage height, 5.55 ft; maximum gage height, 6.58 ft, Feb. 29, 1984, backwater from ice; no flow on all or part of many days during 1977 winter period.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,460 ft³/s June 27, gage height, 6.24 ft; minimum daily, 2.8 ft³/s Oct. 2.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 13 to Feb. 3 and Feb. 7 to Mar. 9.)

1.9	2.0	2.4	24
2.0	3.7	2.7	57
2.1	6.5	3.0	105
2.2	10	3.5	211
		4.0	353

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	120	210	5.8	20	9.0	14	8.1	4.2	6.7	8.8	6.3
2	2.8	160	112	6.8	14	15	9.8	7.6	4.0	6.0	11	7.1
3	3.2	30	74	8.0	10	13	19	7.3	4.2	5.5	8.4	7.5
4	34	9.4	28	7.0	121	25	13	7.3	4.3	5.4	8.6	7.6
5	7.9	9.4	22	6.6	48	20	14	10	5.9	5.1	9.2	6.5
6	3.4	13	19	6.2	16	15	9.3	7.2	4.6	27	244	5.5
7	3.0	9.2	16	6.0	12	9.0	8.7	6.2	4.5	11	119	5.6
8	8.5	7.5	14	5.8	9.0	7.0	8.5	6.0	4.4	41	43	6.3
9	61	90	13	5.8	7.0	20	8.0	5.9	4.1	9.0	19	42
10	18	30	15	5.6	6.4	250	7.5	5.7	27	15	21	131
11	4.8	12	12	5.6	5.8	110	7.5	6.8	7.8	14	12	296
12	50	20	11	5.6	5.6	15	7.5	9.6	9.3	34	9.3	105
13	10	70	10	7.0	5.4	70	7.4	6.1	4.5	17	8.5	34
14	5.6	64	9.6	6.0	5.2	30	30	5.5	11	8.2	23	21
15	3.8	28	9.0	5.8	5.0	22	15	17	4.8	51	10	18
16	3.4	75	8.6	8.0	4.9	21	10	9.4	4.1	31	8.1	15
17	3.2	30	8.0	15	5.4	20	8.5	38	3.6	14	7.5	26
18	12	138	7.6	11	6.0	110	8.2	20	3.8	10	7.4	18
19	25	94	7.4	7.0	70	76	8.1	7.5	4.6	14	7.4	15
20	9.0	55	7.0	6.2	30	33	9.7	6.4	4.3	8.3	7.1	11
21	4.2	31	6.8	6.6	20	21	14	6.2	3.9	8.0	7.2	12
22	3.7	29	6.6	7.2	11	16	7.8	5.8	12	7.5	7.2	41
23	5.0	22	7.8	6.6	7.0	15	7.1	5.6	18	7.0	7.2	67
24	50	17	7.0	5.4	9.0	13	7.3	5.7	8.6	8.8	7.1	37
25	12	17	6.4	5.0	10	13	10	5.6	4.4	46	7.2	96
26	4.8	23	6.2	4.8	9.0	28	53	5.7	4.2	8.8	96	90
27	3.8	18	6.0	4.6	8.0	16	12	20	153	6.7	32	83
28	3.8	15	6.0	4.5	7.6	13	9.2	6.4	24	49	13	62
29	4.1	13	6.0	4.4	---	12	8.5	5.0	9.5	10	9.3	256
30	3.8	15	6.4	4.3	---	11	14	4.8	7.5	7.8	7.1	152
31	8.0	---	6.0	4.3	---	11	---	4.7	---	15	6.7	---
TOTAL	374.8	1264.5	684.4	198.5	488.3	1059.0	366.6	273.1	370.1	507.8	792.3	1680.4
MEAN	12.1	42.2	22.1	6.40	17.4	34.2	12.2	8.81	12.3	16.4	25.6	56.0
MAX	61	160	210	15	121	250	53	38	153	51	244	296
MIN	2.8	7.5	6.0	4.3	4.9	7.0	7.1	4.7	3.6	5.1	6.7	5.5
CFSM	.67	2.32	1.21	.35	.96	1.88	.67	.48	.68	.90	1.41	3.08
IN.	.77	2.58	1.40	.41	1.00	2.16	.75	.56	.76	1.04	1.62	3.43
CAL YR 1985	TOTAL	6082.8	MEAN 16.7	MAX 210	MIN 2.8	CFSM .92	IN 12.43					
WTR YR 1986	TOTAL	8059.8	MEAN 22.1	MAX 296	MIN 2.8	CFSM 1.21	IN 16.47					

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.

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

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

REMARKS.--Estimated daily discharges: June 11 to July 16, July 20 to Aug. 6, and ice period listed in rating tables below. Records good except for estimated daily discharges, which are poor. Low flow affected by three sewage treatment plants upstream. Gage-height telemeter at station.

AVERAGE DISCHARGE.--25 years, 98.2 ft³/s, 10.84 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 greater than base discharge of 2,000 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Mar. 10	1325	3,930	7.66	Sept. 11	1320	5,050	9.29
Aug. 6	2300	*10,600	A *13.13	Sept. 29	0535	2,710	6.39
Aug. 26	1015	2,870	6.59				

A Outside high-water mark.

Minimum daily discharge, 18 ft³/s Oct. 2.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 14 to Feb. 19.)

Oct. 1 to Aug. 6 (1455)

Aug. 6 (1500) to Sept. 30

0.6	14	1.5	109	0.5	19	2.5	410
0.7	17	2.0	225	0.7	36	3.0	630
0.9	28	3.0	566	1.0	71	5.0	1,740
1.1	46	4.0	1,040	1.5	152	7.0	3,140
1.3	74	5.0	1,650	2.0	252	9.0	4,740

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	802	980	28	80	55	146	65	28	37	50	38
2	18	1110	699	33	60	72	113	54	25	34	56	35
3	19	634	323	31	45	73	161	47	24	31	33	33
4	225	471	260	28	400	111	139	44	23	28	33	36
5	85	356	197	26	200	116	145	51	41	24	35	30
6	39	285	168	25	120	89	118	45	26	110	2700	24
7	28	211	146	24	96	53	103	42	85	40	2160	21
8	57	158	130	23	90	64	93	39	36	160	505	21
9	299	514	115	23	62	70	82	37	24	30	260	178
10	174	576	125	22	54	1290	73	34	109	50	207	743
11	76	388	112	23	50	804	68	37	54	60	132	3310
12	361	417	92	26	46	557	59	65	43	150	102	1320
13	193	492	73	35	43	850	55	41	35	120	83	974
14	123	515	66	25	40	726	199	38	50	90	139	705
15	88	392	60	25	38	598	148	97	26	500	81	446
16	64	605	54	27	36	568	121	79	23	250	65	253
17	52	424	47	120	37	595	95	194	21	119	52	203
18	98	904	42	110	39	788	80	187	20	68	45	179
19	212	818	40	74	200	893	68	98	19	66	41	132
20	96	617	38	68	149	647	72	68	19	150	38	109
21	76	421	35	60	105	472	104	53	20	60	36	103
22	65	320	34	52	91	321	65	46	60	40	32	417
23	148	220	35	45	65	262	56	44	100	30	29	579
24	454	167	32	40	65	236	52	40	60	30	25	307
25	262	146	29	37	62	220	56	37	35	150	25	1110
26	198	173	28	35	58	354	350	34	150	45	687	1110
27	136	155	27	34	57	280	148	112	500	30	226	1090
28	99	134	26	33	45	223	104	51	90	200	127	754
29	80	118	26	32	---	183	78	39	54	45	81	1530
30	67	123	28	31	---	156	94	35	45	33	58	1080
31	87	---	30	30	---	131	---	32	---	70	46	---
TOTAL	3999	12666	4097	1225	2433	11857	3245	1885	1845	2850	8189	16870
MEAN	129	422	132	39.5	86.9	382	108	60.8	61.5	91.9	264	562
MAX	454	1110	980	120	400	1290	350	194	500	500	2700	3310
MIN	18	118	26	22	36	53	52	32	19	24	25	21
CFSM	1.05	3.43	1.07	.32	.71	3.11	.88	.49	.50	.75	2.15	4.57
IN.	1.21	3.83	1.24	.37	.74	3.59	.98	.57	.56	.86	2.48	5.10

CAL YR 1985	TOTAL	49230	MEAN 135	MAX 1110	MIN 13	CFSM 1.10	IN 14.89
WTR YR 1986	TOTAL	71161	MEAN 195	MAX 3310	MIN 18	CFSM 1.59	IN 21.52

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.

PERIOD OF RECORD.--October 1982 to current year. 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. Elevation of gage is 590 ft from river-profile map.

REMARKS.--Estimated daily discharge: None, except for ice periods listed in rating table below. Records are good except for the ice-affected periods, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft³/s Aug. 6, 1986, from rating curve extended above 600 ft³/s on basis of step-backwater analysis at peak gage height, gage height, 14.41 ft from inside gage, 16.01 ft, from floodmarks; minimum discharge, 1.3 ft³/s Jan. 26 and 27, 1986, gage height, 5.80 ft, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,600 ft³/s Aug. 6, gage height, 14.41 ft from inside gage, 16.01 ft, from floodmarks; minimum discharge, 1.3 ft³/s Jan. 26 and 27, gage height, 5.80 ft, result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 14 to Jan. 16, Jan. 26 to Feb. 1, and Feb. 8-18.)

6.0	4.2	6.9	68
6.2	9.4	7.4	156
6.4	19	8.1	348
6.6	33	9.0	736
		10.3	1,630

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	389	449	6.2	50	11	28	13	7.7	8.0	9.6	8.3
2	6.3	148	43	8.8	13	19	10	11	7.0	8.0	11	9.6
3	7.5	26	24	11	9.7	16	31	9.9	7.5	7.5	7.7	10
4	101	20	19	7.4	473	44	11	9.7	8.3	7.2	8.3	9.9
5	14	12	16	6.8	57	26	18	13	23	7.9	9.4	9.4
6	6.9	31	16	6.4	17	16	9.4	13	9.4	256	1630	10
7	7.0	20	13	6.2	12	11	9.5	11	7.5	63	207	8.2
8	45	14	12	6.0	11	7.4	10	11	7.7	67	47	8.6
9	204	263	12	6.0	9.0	23	8.6	10	7.9	14	22	111
10	57	83	23	5.8	8.0	494	8.0	9.3	57	27	33	419
11	14	24	15	5.6	7.6	49	7.8	10	46	60	15	338
12	106	59	12	5.6	7.0	19	6.5	20	35	146	14	33
13	24	46	9.9	7.8	6.6	119	6.1	11	11	29	13	17
14	12	43	9.4	6.0	6.2	43	67	11	30	14	47	13
15	10	23	8.8	5.8	6.2	26	15	59	12	254	14	12
16	8.9	168	8.4	6.0	6.4	26	14	17	9.5	58	12	11
17	8.4	28	8.0	31	6.8	22	10	116	8.5	19	11	25
18	31	304	7.6	50	8.0	68	8.4	32	8.4	15	9.5	14
19	55	100	7.4	16	129	34	7.5	13	10	35	9.8	13
20	14	41	7.0	8.3	29	14	13	11	8.1	15	9.8	9.6
21	9.1	20	6.8	14	23	12	18	11	7.5	10	9.7	14
22	8.1	31	6.6	16	13	11	7.9	10	23	10	9.4	120
23	60	17	7.8	8.8	8.1	12	7.7	10	27	10	12	73
24	84	14	7.0	7.6	11	11	8.1	8.5	18	11	7.3	41
25	11	16	6.4	7.3	13	12	11	7.8	7.9	214	9.0	242
26	11	29	6.2	7.0	11	58	102	8.1	7.9	14	304	69
27	9.2	12	6.0	6.8	10	15	9.2	76	467	13	23	26
28	7.8	14	6.0	6.6	9.5	13	9.5	12	17	116	11	58
29	8.0	13	6.4	6.4	---	12	9.3	9.5	9.8	14	9.7	248
30	7.2	26	7.6	6.2	---	11	33	9.2	8.9	12	8.4	71
31	26	---	6.6	6.0	---	10	---	8.6	---	13	8.1	---
TOTAL	979.7	2034	793.9	305.4	971.1	1264.4	514.5	581.6	915.5	1547.6	2551.7	2051.6
MEAN	31.6	67.8	25.6	9.85	34.7	40.8	17.2	18.8	30.5	49.9	82.3	68.4
MAX	204	389	449	50	473	494	102	116	467	256	1630	419
MIN	6.3	12	6.0	5.6	6.2	7.4	6.1	7.8	7.0	7.2	7.3	8.2
CFSM	1.56	3.36	1.27	.49	1.72	2.02	.85	.93	1.51	2.47	4.07	3.39
IN.	1.80	3.75	1.46	.56	1.79	2.33	.95	1.07	1.69	2.85	4.70	3.78
CAL YR 1985	TOTAL	9121.6	MEAN	25.0	MAX	449	MIN	5.5	CFSM	1.24	IN	16.80
WTR YR 1986	TOTAL	14511.0	MEAN	39.8	MAX	1630	MIN	5.6	CFSM	1.97	IN	26.72

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: None, except for ice periods listed in rating table below. Records good except for ice-affected periods, which are fair. Low flows may occasionally be affected by construction and activity at gravel pit upstream.

AVERAGE DISCHARGE.--23 years, 22.6 ft³/s, 12.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,140 ft³/s Aug. 6, 1986, gage height, 9.88 ft; no flow Jan. 8-13, 15-18, 27-31, Feb. 6-8, 1977.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 2	0415	410	6.76	Aug. 6	1730	*1,140	*9.88
Dec. 1	1430	483	7.18	Sept. 11	1145	415	6.79
Feb. 5	0200	408	6.75	Sept. 29	1645	431	6.89
Mar. 10	1245	527	7.41				

Minimum discharge, 1.1 ft³/s part of each day Oct. 2, 3, gage height, 2.28 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 25-31, Jan. 4-14, 27-29, and Feb. 11-15.)

2.3	1.6	4.0	110
2.35	2.4	5.0	194
2.4	3.8	6.0	303
2.5	8.3	7.0	450
2.6	13	8.0	649
3.0	37		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	131	315	4.8	13	14	18	13	6.6	16	9.9	4.4
2	2.2	324	252	4.6	17	13	17	8.1	5.4	13	9.7	3.8
3	1.8	112	89	4.6	13	14	17	6.8	4.7	9.9	7.2	3.1
4	14	45	50	4.5	206	24	18	6.6	4.4	7.6	5.6	2.9
5	18	29	37	4.5	243	42	17	7.7	19	6.0	4.5	2.6
6	6.4	25	29	4.4	70	32	16	8.7	13	16	491	2.1
7	4.2	29	25	4.4	44	22	15	9.0	8.0	88	518	1.8
8	12	20	22	4.3	33	16	14	9.2	6.1	81	169	1.8
9	64	120	17	4.3	21	18	13	9.8	4.3	38	54	18
10	101	227	20	4.4	17	382	11	10	23	21	31	203
11	25	73	26	4.5	14	258	10	11	35	22	20	334
12	57	54	21	4.6	12	126	8.9	13	19	44	15	162
13	54	73	15	4.6	10	204	7.8	12	15	92	12	48
14	18	67	14	4.6	9.6	158	16	10	14	29	20	25
15	14	45	13	4.6	9.0	107	24	15	21	49	22	19
16	9.3	172	12	4.7	8.6	90	17	23	15	147	27	14
17	7.5	94	12	6.0	8.1	85	14	39	9.4	39	14	13
18	9.3	210	10	21	8.5	118	12	83	7.1	21	12	13
19	34	230	9.5	29	41	132	10	26	6.8	25	11	11
20	21	162	8.4	15	51	49	9.1	17	7.0	24	10	11
21	15	62	7.7	15	23	29	11	13	5.0	17	8.7	11
22	11	44	7.3	21	23	24	11	9.6	8.1	17	7.5	24
23	15	36	7.0	16	15	25	8.6	7.6	9.7	15	6.8	57
24	81	27	7.0	15	15	24	7.3	6.7	14	14	5.7	35
25	29	22	6.6	14	15	22	7.0	5.4	7.1	126	5.0	285
26	15	31	6.0	12	15	47	7.9	5.1	4.2	48	54	136
27	11	30	5.0	10	14	34	8.3	51	217	20	45	82
28	8.7	23	4.8	8.0	14	23	6.5	47	103	38	15	66
29	7.2	20	4.7	6.6	---	20	6.3	18	24	23	10	321
30	6.6	23	5.0	5.8	---	18	18	12	18	15	7.9	242
31	9.2	---	5.2	5.1	---	17	---	8.5	---	12	6.0	---
TOTAL	683.6	2560	1063.2	271.9	982.8	2187	376.7	521.8	653.9	1133.5	1634.5	2152.5
MEAN	22.1	85.3	34.3	8.77	35.1	70.5	12.6	16.8	21.8	36.6	52.7	71.8
MAX	101	324	315	29	243	382	24	83	217	147	518	334
MIN	1.8	20	4.7	4.3	8.1	13	6.3	5.1	4.2	6.0	4.5	1.8
CFSM	.88	3.41	1.37	.35	1.40	2.82	.50	.67	.87	1.46	2.11	2.87
IN.	1.02	3.81	1.58	.40	1.46	3.25	.56	.78	.97	1.69	2.43	3.20
CAL YR 1985	TOTAL	10159.4	MEAN	27.8	MAX	324	MIN	1.1	CFSM	1.11	IN	15.12
WTR YR 1986	TOTAL	14221.4	MEAN	39.0	MAX	518	MIN	1.8	CFSM	1.56	IN	21.16

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. WDR WI-83-1: 1981.

GAGE.--Water-stage recorder. Datum of gage is 674.5 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharge: None, except for ice periods listed in rating table below. Records good except for ice-affected periods, which are fair. Flow affected by urbanization in the drainage basin.

AVERAGE DISCHARGE.--23 years, 45.4 ft³/s, 12.53 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 greater than base discharge of 500 ft³/s, revised, and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 2	1300	579	7.53	Feb. 5	0945	621	7.85
Dec. 2	0445	639	7.71	Mar. 11	0130	*708	*8.10

Minimum discharge, 3.4 ft³/s Oct. 3, gage height, 1.74 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Feb. 5-8, Mar. 10-20, 26, May 18, June 27-28,
July 6-9, 11-18, 25, 26, 28, 29, Aug. 6-8, 26, 27, Sept. 10-13, 22-30; stage-
discharge relation affected by ice Dec. 12 to Feb. 4, Feb. 9 to Mar. 9.)

1.7	3.5	4.0	112
1.8	5.5	5.0	169
1.9	8.5	6.0	270
2.0	12	7.0	444
2.5	47	8.0	740
3.0	69		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	151	322	9.2	15	38	52	36	11	31	16	9.5
2	3.9	536	582	8.6	40	38	52	24	9.3	21	13	8.6
3	3.7	355	316	8.4	24	40	49	20	8.5	16	11	9.5
4	18	110	160	8.2	120	45	62	19	8.5	12	10	7.4
5	50	74	89	8.0	555	80	53	20	13	11	11	6.3
6	12	63	65	7.8	264	66	50	20	12	21	51	5.5
7	7.4	97	53	7.6	196	54	47	19	9.7	206	240	5.3
8	9.6	73	48	7.4	141	46	44	16	8.9	100	70	5.1
9	74	137	43	7.2	110	44	37	16	8.5	73	35	6.7
10	199	368	44	7.0	70	485	35	16	10	47	23	214
11	58	157	42	7.0	50	629	48	16	38	76	28	417
12	66	109	35	7.0	29	390	26	17	37	166	18	275
13	91	135	29	7.0	24	324	21	17	26	292	14	82
14	37	119	24	7.2	22	414	32	16	12	93	24	55
15	19	88	20	7.4	20	255	76	16	26	88	43	46
16	13	214	19	7.8	19	182	51	48	16	330	27	37
17	11	161	18	12	18	206	30	30	12	139	14	30
18	11	308	17	30	17	224	22	99	9.5	68	11	45
19	53	414	16	50	60	273	21	46	8.3	50	11	35
20	44	246	15	40	130	146	18	24	8.1	56	9.5	31
21	20	123	14	30	80	92	19	19	7.9	30	9.5	29
22	15	79	14	35	60	75	20	15	8.0	21	8.1	63
23	13	70	13	40	45	74	17	14	11	19	7.4	173
24	120	55	13	28	42	69	17	13	18	14	6.6	116
25	62	50	12	24	40	67	15	12	12	114	5.9	331
26	23	61	12	20	43	100	66	11	8.8	71	53	309
27	16	56	12	16	42	95	52	44	225	32	126	178
28	13	44	11	14	40	70	30	63	290	89	35	109
29	10	37	11	12	---	63	23	28	71	62	18	251
30	10	32	10	10	---	57	39	17	41	31	13	413
31	8.8	---	9.6	9.0	---	53	---	13	---	18	11	---
TOTAL	1096.5	4522	2088.6	492.8	2316	4794	1124	784	985.0	2397	973.0	3302.9
MEAN	35.4	151	67.4	15.9	82.7	155	37.5	25.3	32.8	77.3	31.4	110
MAX	199	536	582	50	555	629	76	99	290	330	240	417
MIN	3.7	32	9.6	7.0	15	38	15	11	7.9	11	5.9	5.1
CFSM	.72	3.07	1.37	.32	1.68	3.15	.76	.51	.67	1.57	.64	2.24
IN.	.83	3.42	1.58	.37	1.75	3.62	.85	.59	.74	1.81	.74	2.50
CAL YR 1985	TOTAL	18308.6	MEAN	50.2	MAX	663	MIN	2.6	CFSM	1.02	IN	13.84
WTR YR 1986	TOTAL	24875.8	MEAN	68.2	MAX	629	MIN	3.7	CFSM	1.39	IN	18.81

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. Elevation of gage is 670 ft, from topographic map.

REMARKS.--Estimated daily discharge: None, except for ice periods listed in rating table below. Records fair.

AVERAGE DISCHARGE.--23 years, 47.8 ft³/s, 11.39 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 discharges greater than base discharge of 500 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 20	0245	537	8.26	Mar. 13	2215	503	8.09
Dec. 2	0200	697	8.89	Sept. 26	0100	905	9.49
Feb. 5	0845	697	8.89	Sept. 30	0500	1,080	9.89
Mar. 10	1900	*1,120	*9.97				

Minimum discharge, 1.7 ft³/s Oct. 2, 3, gage height, 1.94 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 13 to Feb. 3, Feb. 9 to Mar. 3, and Mar. 7-9.)

1.9	1.3	5.0	162
2.0	2.6	6.0	236
2.1	4.9	7.0	337
2.3	12	8.0	485
3.0	47	9.0	730
4.0	101	10.0	1,140

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	35	334	10	20	22	42	16	39	60	11	4.9
2	2.0	333	615	10	64	21	37	12	30	46	8.6	4.1
3	1.9	247	304	10	46	18	35	11	25	34	5.8	3.9
4	3.8	128	151	9.8	229	26	35	10	22	28	5.5	3.8
5	7.9	84	107	9.6	633	60	33	9.9	38	23	5.1	3.2
6	4.5	63	80	9.2	327	71	32	9.7	45	18	22	3.1
7	4.4	62	65	9.0	191	50	28	8.5	35	24	77	2.7
8	7.2	50	55	8.6	136	38	25	7.9	28	135	41	2.4
9	13	63	47	8.4	90	39	23	7.3	22	168	26	3.3
10	24	273	44	8.4	60	847	21	6.9	22	94	19	33
11	12	178	47	8.2	35	940	19	6.6	24	85	14	123
12	13	114	45	8.2	27	511	17	8.2	21	131	11	148
13	20	123	40	8.2	23	409	16	7.3	18	104	8.5	65
14	8.9	130	33	8.4	20	390	19	6.3	16	60	9.9	40
15	5.8	108	30	8.6	19	259	30	6.2	32	44	12	30
16	4.8	220	27	8.8	18	217	28	15	28	87	8.4	23
17	4.0	236	26	10	17	208	25	22	20	56	6.4	19
18	4.3	274	23	20	16	243	23	142	17	36	5.3	18
19	35	479	21	70	30	301	21	89	15	28	4.6	16
20	33	477	19	52	130	163	19	55	14	23	4.0	14
21	19	234	17	40	90	115	19	40	12	18	3.7	16
22	13	136	16	42	70	96	16	31	12	15	3.3	33
23	8.9	103	15	50	50	87	15	26	11	13	3.5	324
24	16	79	14	40	40	76	15	22	11	11	2.8	222
25	14	63	14	34	35	72	14	18	9.7	45	2.6	720
26	9.3	63	14	28	34	80	15	16	8.1	37	14	858
27	6.5	60	13	20	30	74	15	91	208	25	42	606
28	4.4	53	12	16	23	64	13	233	374	28	19	329
29	4.1	47	12	14	---	58	12	120	164	23	11	764
30	3.7	44	11	12	---	51	18	76	87	16	8.3	1040
31	3.9	---	11	10	---	45	---	52	---	13	6.3	---
TOTAL	314.7	4559	2262	601.4	2503	5651	680	1181.8	1407.8	1528	422.6	5472.4
MEAN	10.2	152	73.0	19.4	89.4	182	22.7	38.1	46.9	49.3	13.6	182
MAX	35	479	615	70	633	940	42	233	374	168	77	1040
MIN	1.9	35	11	8.2	16	18	12	6.2	8.1	11	2.6	2.4
CFSM	.18	2.67	1.28	.34	1.57	3.19	.40	.67	.82	.87	.24	3.19
IN.	.21	2.98	1.48	.39	1.63	3.69	.44	.77	.92	1.00	.28	3.57

CAL YR 1985	TOTAL	18904.6	MEAN	51.8	MAX	899	MIN	1.3	CFSM	.91	IN	12.34
WTR YR 1986	TOTAL	26583.7	MEAN	72.8	MAX	1040	MIN	1.9	CFSM	1.28	IN	17.35

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, of which 1.24 mi² is probably noncontributing.

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

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

GAGE.--Water-stage recorder. Elevation of gage is 610 ft, from topographic map. Prior to Feb. 5, 1964, nonrecording gage on bridge 30 ft upstream.

REMARKS.--Estimated daily discharge: Nov. 23 to Dec. 17, Feb. 8-20, and ice-affected periods listed in rating table below. Records good except for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--23 years, 155 ft³/s, 11.14 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 greater than base discharge of 900 ft³/s, and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 20	0315	1,130	4.83	Sept. 25	0915	1,360	5.06
Dec. 3	----	A 1,400	----	Sept. 29	2130	1,430	5.15
Mar. 11	2330	*2,140	*5.69				

A Estimated, daily mean discharge.

Minimum daily, 3.8 ft³/s Oct. 3.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Mar. 11-16; stage-discharge relation affected by ice Dec. 22-29 and Feb. 28.)

2.1	3.0	2.9	92
2.2	6.0	3.4	260
2.3	11	4.0	575
2.5	26	6.0	2,130
2.7	49		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	57	250	34	44	62	158	97	97	220	49	29
2	4.0	396	700	34	72	62	145	93	66	155	41	25
3	3.8	596	1400	33	127	61	135	75	54	113	34	24
4	5.9	811	1000	33	263	75	135	62	48	82	28	22
5	7.5	548	600	33	645	134	144	63	58	61	25	20
6	25	256	400	33	708	213	136	64	75	49	74	17
7	27	202	250	33	804	215	124	63	83	77	260	15
8	21	211	200	31	580	152	109	59	63	311	358	14
9	19	200	170	29	450	134	95	53	51	385	208	14
10	88	464	140	28	280	860	85	48	49	332	113	62
11	173	593	120	28	150	1570	84	43	58	217	77	438
12	88	613	110	30	110	2060	90	39	76	460	64	642
13	92	446	100	30	90	1880	69	36	72	476	50	685
14	108	424	90	29	78	1390	67	35	62	484	44	431
15	54	403	80	28	70	1320	107	31	60	361	47	182
16	36	430	74	28	66	1050	153	33	85	299	56	128
17	26	549	68	28	64	873	118	73	66	442	46	99
18	24	701	66	37	62	808	92	181	51	387	32	82
19	43	870	62	79	80	862	80	288	44	187	25	84
20	82	1120	56	132	150	854	73	171	40	143	23	69
21	87	994	53	139	228	609	67	114	37	108	22	63
22	53	727	50	132	190	392	64	82	38	69	21	86
23	39	450	49	146	155	324	64	62	39	56	21	273
24	39	350	48	141	115	291	61	56	45	47	19	461
25	129	280	45	113	91	259	60	47	46	134	17	1100
26	82	230	43	90	82	265	64	43	43	264	27	1020
27	47	200	41	67	78	322	111	75	136	155	138	1190
28	37	180	38	52	68	275	101	275	462	122	189	1100
29	30	170	36	44	---	223	74	347	598	167	72	1260
30	26	160	35	39	---	197	77	207	504	112	44	1320
31	24	---	36	38	---	176	---	141	---	67	35	---
TOTAL	1524.7	13631	6410	1771	5900	17968	2942	3056	3206	6542	2259	10955
MEAN	49.2	454	207	57.1	211	580	98.1	98.6	107	211	72.9	365
MAX	173	1120	1400	146	804	2060	158	347	598	484	358	1320
MIN	3.8	57	35	28	44	61	60	31	37	47	17	14
CFSM	.26	2.39	1.09	.30	1.11	3.05	.52	.52	.56	1.11	.38	1.92
IN.	.30	2.67	1.26	.35	1.16	3.52	.58	.60	.63	1.28	.44	2.14

CAL YR 1985	TOTAL	62196.3	MEAN	170	MAX	1600	MIN	3.1	CFSM	.90	IN	12.18
WTR YR 1986	TOTAL	76164.7	MEAN	209	MAX	2060	MIN	3.8	CFSM	1.10	IN	14.91

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.--Estimated daily discharge: Mar. 12, 13 and ice periods listed in rating table below. Records good except those for estimated daily discharges and periods of ice effect, 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.--15 years, 37.3 ft³/s, 13.16 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.--Peak discharge greater than base discharge of 600 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Dec. 1	1630	860	6.65	June 27	1145	686	6.01
Feb. 4	1915	613	5.67	Sept. 25	0430	1,020	7.19
Mar. 10	1315	*1,090	*7.44	Sept. 29	1945	825	6.52

Minimum daily, 4.3 ft³/s Oct. 6, 7.

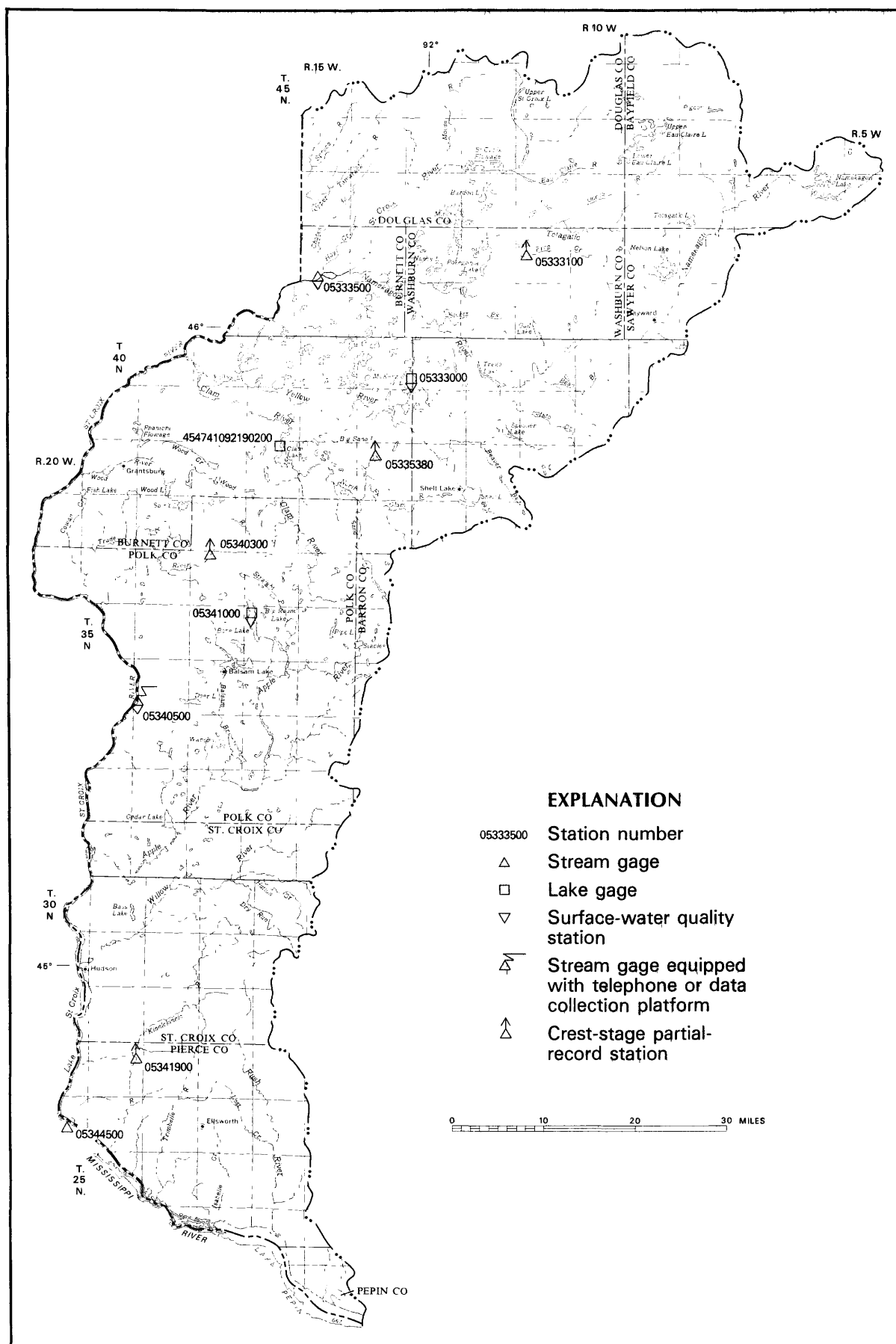
RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 12 to Jan. 18, Jan. 26 to Feb. 3, Feb. 9-19, 22, 23, 28, and Mar. 6-8.)

1.7	3.8	3.0	93
1.8	6.4	4.0	242
2.0	14	5.0	440
2.2	24	6.0	684
2.5	44	7.0	958

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	130	477	9.4	30	12	29	24	27	37	11	7.0
2	4.5	468	310	9.4	50	12	25	14	25	31	9.6	8.0
3	4.6	221	143	9.2	28	15	25	11	24	24	7.4	10
4	16	128	92	9.2	273	25	24	12	23	21	8.1	10
5	7.3	87	62	9.0	257	44	22	21	92	18	9.7	6.9
6	4.3	64	49	8.6	89	50	20	13	59	17	28	5.5
7	4.3	63	41	8.2	60	40	20	10	39	42	33	5.3
8	15	47	37	8.2	42	30	19	13	30	165	17	5.3
9	37	59	32	8.0	33	72	18	14	26	135	11	6.3
10	64	229	33	8.0	27	837	18	13	30	59	9.3	95
11	23	112	37	8.0	22	364	15	11	33	99	9.6	201
12	41	86	32	8.0	18	300	12	14	27	112	10	143
13	30	109	28	8.0	15	220	12	14	24	83	9.8	58
14	16	101	25	8.4	14	169	15	13	24	46	15	33
15	12	71	22	9.0	13	118	32	13	31	40	12	26
16	14	174	20	10	12	94	24	15	26	101	8.4	22
17	13	125	19	15	11	81	21	37	23	45	7.1	19
18	13	242	18	100	11	95	20	119	19	31	8.0	18
19	194	370	17	140	20	138	18	53	19	36	8.7	17
20	88	297	16	73	63	66	17	37	20	57	8.7	15
21	51	136	15	50	38	46	18	22	19	25	8.9	18
22	36	88	14	49	24	38	16	26	19	22	8.4	28
23	29	62	13	33	20	36	12	25	16	19	7.1	203
24	31	47	13	26	18	32	9.3	21	18	15	5.6	110
25	20	41	12	22	17	33	12	19	17	28	7.5	742
26	24	49	11	19	17	51	37	12	12	17	47	486
27	13	45	11	17	16	45	23	142	373	14	57	380
28	10	42	10	14	15	38	18	146	174	29	21	214
29	13	41	10	12	---	33	15	76	78	17	15	566
30	16	47	9.8	11	---	30	22	43	50	14	9.6	470
31	18	---	9.6	9.8	---	26	---	40	---	12	7.9	---
TOTAL	866.4	3781	1638.4	729.4	1253	3190	588.3	1043	1397	1411	436.4	3928.3
MEAN	27.9	126	52.9	23.5	44.8	103	19.6	33.6	46.6	45.5	14.1	131
MAX	194	468	477	140	273	837	37	146	373	165	57	742
MIN	4.3	41	9.6	8.0	11	12	9.3	10	12	12	5.6	5.3
CFSM	.73	3.27	1.37	.61	1.16	2.68	.51	.87	1.21	1.18	.37	3.40
IN.	.84	3.65	1.58	.70	1.21	3.08	.57	1.01	1.35	1.36	.42	3.80
CAL YR 1985	TOTAL	14954.3	MEAN	41.0	MAX	477	MIN	1.9	CFSM	1.07	IN	14.45
WTR YR 1986	TOTAL	20262.2	MEAN	55.5	MAX	837	MIN	4.3	CFSM	1.44	IN	19.58

UPPER MISSISSIPPI RIVER BASIN RECORDS



ST CROIX RIVER BASIN

ST. CROIX RIVER BASIN
05333000 MCKENZIE LAKE NEAR SPOONER, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 45°55'58", long 92°02'17", in SE 1/4 sec.24, T.40 N., R.14 W., Burnett County, Hydrologic Unit 07030002, at outlet of McKenzie Lake, 10.2 mi northwest of Spooner.

DRAINAGE AREA.--32.3 mi².

PERIOD OF RECORD.--August 1936 to September 1976, April 1985 to current year. Data 1936 to 1976 unpublished in district files.

GAGE.--Staff gage read by Fred Kruger. Elevation of gage is 990 ft, from topographic map.

EXTREMES FOR PERIOD OF RECORD (EXCLUDING 1985 WATER YEAR).--Maximum gage height observed, 1.36 ft May 30, 1937; minimum observed, -0.52 ft Sept. 16, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 1.08 ft, May 13; minimum observed, 0.42 ft, July 3.

REVISED RECORDS.--The gage datum for water year 1985 is given incorrectly at 990 ft from topographic map; gage datum is unknown.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
APR. 27	0.65	MAY 21	0.94	JUNE 17	0.58	JULY 4	0.54	JULY 14	0.60	AUG. 9	0.88
MAY 10	0.74	JUNE 8	0.70	JUNE 26	0.52	JULY 6	0.58	JULY 26	0.66	AUG. 10	0.96
MAY 13	1.08	JUNE 14	0.62	JULY 3	0.42	JULY 10	0.54	AUG. 4	0.68	AUG. 11	0.96
										SEPT. 13	0.60

WATER-QUALITY RECORDS

LOCATION.--Lat 45°55'06", long 92°01'54", in SW 1/4 sec.30, T.40 N., R.13 W., Burnett County, Hydrologic Unit 07030002, near center of lake, and 9.8 mi northwest of Spooner.

PERIOD OF RECORD.--April 1985 to current year.

REMARKS.--Secchi disc readings made by Fred Kruger.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
OCT. 27	3.7	JUNE 8	4.2	JUNE 26	2.4	JULY 4	2.4	JULY 14	2.4	AUG. 11	1.8
MAY 21	4.3	JUNE 14	3.7	JULY 3	3.2	JULY 10	2.9	JULY 26	2.4	SEPT. 13	2.1

05333500 ST. CROIX RIVER NEAR DANBURY, WI

LOCATION.--Lat 46°04'28", long 92°14'50", in SW 1/4 sec.33, T.42 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 downstream from Namekagon River, 10 mi northeast of Danbury, and at mile 129.2.

DRAINAGE AREA.--1,580 mi².

PERIOD OF RECORD.--March 1914 to September 1981, October 1984 to September 1985. Prior to October 1933, published as "at Swiss".

REVISED RECORDS.--WSP 1438: 1915(M), 1919-20, 1923-24(M), 1927(M), 1931(M), 1934, 1935-37(M). WSP 1628: 1918. WDR WI-85-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 882.21 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 23, 1937, nonrecording gage 40 ft downstream at same datum. Apr. 23, 1937, to Jan. 5, 1939, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: None, except for ice period listed in rating table below. Records good except those for ice-affected period, which is fair.

AVERAGE DISCHARGE.--69 years (water years 1915-81, 1985-86), 1,316 ft³/s, 11.31 in/yr.

EXTREMES FOR PERIODS OF RECORD.--Maximum discharge, 10,200 ft³/s May 6, 1950, gage height, 8.22 ft; minimum observed, 393 ft³/s Aug. 6, 13, 1934, gage height, -0.20 ft, site then in use.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 9	0300	3,310	3.37	May 14	2300	*6,640	*5.92
Apr. 4	1000	6,580	5.88	July 27	1500	3,010	3.11
Apr. 29	1100	3,570	3.60	Sept. 26	2000	3,850	3.83

Minimum discharge, 1,080 ft³/s, July 3, gage height, 1.06 ft

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 23 to Mar. 30.)

1.0	1,020	4.0	4,050
2.0	1,900	6.0	6,760
3.0	2,880		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2690	1780	1600	1400	1200	1200	5160	3070	1390	1180	2010	1560
2	2940	1820	1500	1400	1200	1200	6000	2880	1390	1130	1770	1480
3	3000	1820	1500	1400	1200	1200	6320	2660	1280	1180	1560	1520
4	2960	1780	1500	1400	1200	1200	6550	2230	1590	1250	1540	1780
5	2860	1810	1500	1400	1200	1200	6330	2240	1720	1420	1590	1680
6	2820	1900	1500	1400	1200	1200	6030	2080	1580	1500	1600	1580
7	2710	1770	1500	1400	1200	1200	5650	1920	1680	1400	2030	1530
8	3090	1680	1500	1400	1200	1200	4880	1860	1850	1310	2740	1500
9	3210	1770	1500	1400	1200	1200	4130	2220	1720	1300	2460	1540
10	3060	1670	1500	1400	1200	1200	3960	2510	1650	1250	2700	1560
11	2860	1640	1500	1300	1200	1200	3720	2960	1700	1290	2700	1660
12	2920	1650	1500	1300	1200	1200	3220	3650	1750	1440	2480	1640
13	3150	1580	1500	1300	1200	1300	2960	4490	1720	1660	2280	1640
14	2910	1540	1500	1300	1200	1300	2810	6140	1570	1710	1970	1620
15	2630	1570	1500	1300	1200	1400	2740	6250	1560	1800	2450	1780
16	2610	1540	1400	1300	1200	1400	2710	5260	1450	2020	2420	1830
17	2580	1570	1400	1300	1200	1500	2760	4450	1380	2030	2220	1910
18	2500	1660	1400	1300	1200	1500	2650	4060	1310	1790	1980	2210
19	2320	1890	1400	1300	1200	1600	2530	3690	1290	1860	1690	2240
20	2150	1820	1400	1300	1200	1500	2510	2980	1260	2100	1810	2520
21	2000	1720	1400	1300	1200	1600	2450	2390	1330	2040	2170	2680
22	1880	1610	1400	1300	1200	1600	2350	2300	1720	1800	2270	3380
23	1930	1600	1400	1300	1200	1600	2240	2190	1680	1610	2830	3620
24	2010	1600	1400	1300	1200	1500	2160	2070	1630	1560	2740	3500
25	1940	1600	1400	1300	1200	1900	2110	2040	1670	1540	2460	3630
26	1940	1500	1400	1200	1200	2400	2160	2010	1470	1470	2260	3830
27	1800	1500	1400	1200	1100	2100	2490	1910	1440	2600	2100	3510
28	1710	1400	1400	1200	1100	2000	3150	1700	1370	2780	1920	3130
29	1670	1400	1400	1200	---	1900	3520	1720	1300	2320	1740	2790
30	1840	1500	1400	1200	---	2200	3300	1550	1210	2100	1650	2850
31	1770	---	1400	1200	---	3360	---	1470	---	2000	1620	---
TOTAL	76460	49690	45000	40700	33400	48060	109550	88950	45660	52440	65760	67700
MEAN	2466	1656	1452	1313	1193	1550	3652	2869	1522	1692	2121	2257
MAX	3210	1900	1600	1400	1200	3360	6550	6250	1850	2780	2830	3830
MIN	1670	1400	1400	1200	1100	1200	2110	1470	1210	1130	1540	1480
CFSM	1.56	1.05	.92	.83	.76	.98	2.31	1.82	.96	1.07	1.34	1.43
IN.	1.80	1.17	1.06	.96	.79	1.13	2.58	2.09	1.08	1.23	1.55	1.59

CAL YR 1985	TOTAL	667252	MEAN	1828	MAX	4370	MIN	922	CFSM	1.16	IN	15.71
WTR YR 1986	TOTAL	723370	MEAN	1982	MAX	6550	MIN	1100	CFSM	1.25	IN	17.03

not in site file

ST. CROIX RIVER BASIN

454711090203000 · CLAM LAKE NEAR SIREN, WI

LOCATION.--Lat 45°47'11", long 90°20'30", in SW 1/4 SW 1/4 sec.10, T.38 N., R.16 W., Burnett County, Hydrologic Unit 07030001, 1.8 mi east of Siren.

PERIOD OF RECORD.--April 1985 to September 1986.

GAGE.--Staff gage read by Gordon Arbuckle. Elevation of gage is 950 ft, from topographic map. Prior to October 1985, staff gage located at the southeast side of lake approximately 3.1 mi east of Siren.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 11.19 ft, May 12, 1986; minimum observed, 7.79 ft, Oct. 28, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 11.19 ft, May 19; minimum observed, 7.79 ft, Oct. 28.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
OCT. 6	10.47	NOV. 4	8.85	JUNE 2	9.09	JULY 7	9.09	JULY 29	9.10	AUG. 18	9.39
OCT. 16	10.19	NOV. 11	9.37	JUNE 9	8.99	JULY 14	9.39	AUG. 4	9.39	SEPT. 2	9.19
OCT. 22	9.47	MAY 19	11.19	JUNE 17	8.89	JULY 21	9.89	AUG. 11	9.39	SEPT. 9	9.19
OCT. 28	7.79	MAY 27	9.39	JUNE 23	8.99	JULY 28	9.49				

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 above 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.--No estimated daily discharges. Records are good. Diurnal fluctuation caused by St. Croix Falls Powerplant 1,500 ft upstream. Data-collection platform at station.

AVERAGE DISCHARGE.--84 years, 4,346 ft³/s, 9.46 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, 37,000 ft³/s May 14, gage height, 17.17 ft; minimum daily, 1,460 ft³/s Feb. 13.

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

2.5	1,400	9.0	18,200
3.0	2,350	12.0	25,400
4.0	4,950	14.0	29,900
6.0	10,700	16.0	34,400
		18.0	38,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9880	6020	3450	3380	2590	2720	23900	32800	5400	4480	7730	5350
2	10600	5650	3720	3420	3170	2860	29300	30000	5450	4140	7330	5470
3	11400	5770	3270	3270	2900	3150	34100	26200	4810	3820	6750	7190
4	12600	5630	3930	3360	2560	3320	36000	22200	4730	4000	5930	8840
5	11300	5680	4210	3430	2620	3060	36900	18900	4870	4250	5640	9010
6	10400	5550	3980	3460	2200	3160	34700	16000	5140	4530	5520	8970
7	9240	5530	4220	3420	2810	3290	32400	14100	5650	5160	6000	7530
8	9850	5560	4390	3600	2510	3350	29600	12300	5460	4540	7060	7120
9	10100	5450	4330	3370	2510	3140	27000	14700	6450	4630	9020	6660
10	10800	5290	4360	3490	1870	3250	24000	17800	5770	3940	10300	6500
11	10900	4860	4460	3330	2390	3190	21000	22500	6310	4090	10700	6270
12	11000	4910	4680	3210	1960	3430	18700	27400	8170	4560	10200	6470
13	11300	4620	4170	3140	1460	3480	16700	32200	11200	5620	9090	6460
14	12100	4880	4190	3280	1870	3500	14800	36700	11700	6320	7400	6450
15	12500	4560	4100	3500	2240	3320	13600	36300	10300	6180	7310	6390
16	11800	4890	3700	3300	2220	3610	13200	35200	8840	6500	9110	6990
17	10700	4640	3900	3360	3080	3760	12800	32400	8140	7730	9710	7710
18	10100	4450	3930	3280	2690	4630	12300	28400	7340	8610	8620	10200
19	9650	4810	3800	3300	2520	4070	12100	24500	7060	9380	7340	14400
20	9100	4830	3740	3210	2780	4430	12100	20700	5700	9550	6790	16300
21	8210	4300	3600	3340	2790	4890	12500	17900	5560	8670	6710	17800
22	7790	3630	3350	3180	2260	4160	12100	15100	6480	8290	7200	21000
23	7460	4010	3570	3140	2470	4700	9630	12700	7150	7320	9480	22900
24	7250	2380	3610	3480	2350	4780	10100	11200	7740	6750	10800	24900
25	7190	3450	3620	3230	2780	5060	10200	9920	7260	6190	11500	24900
26	6770	3220	3580	3380	2900	5790	10600	9250	7210	6290	10600	23400
27	6690	3600	3500	2480	3010	6520	12600	9130	6170	6110	8830	21800
28	6470	3020	3550	2940	3000	7260	19200	8450	5680	9590	7570	20600
29	6150	3600	3470	2850	---	10500	28100	7010	5280	12100	6830	18800
30	6020	3460	3460	2500	---	14800	32000	5900	4580	12400	6560	16400
31	5520	---	3430	2670	---	17000	---	5670	---	10100	5540	---
TOTAL	290840	138250	119270	100300	70510	154180	611330	613530	201600	205840	249170	372780
MEAN	9382	4608	3847	3235	2518	4974	20380	19790	6720	6640	8038	12430
MAX	12600	6020	4680	3600	3170	17000	36000	36700	11700	12400	11500	24900
MIN	5520	2380	3270	2480	1460	2720	9630	5670	4580	3820	5520	5350
CFSM	1.50	.74	.62	.52	.40	.80	3.27	3.17	1.08	1.06	1.29	1.99
IN.	1.73	.82	.71	.60	.42	.92	3.64	3.66	1.20	1.23	1.49	2.22
CAL YR 1985	TOTAL	2327470	MEAN	6377	MAX	27200	MIN	1960	CFSM	1.02	IN	13.88
WTR YR 1986	TOTAL	3127600	MEAN	8569	MAX	36700	MIN	1460	CFSM	1.37	IN	18.65

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 September 1986 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT , 1985									
07...	1220	7870	129	7.30	8.5	2.7	10.8	748	94
JAN , 1986									
07...	1030	5150	193	7.30	.5	2.9	9.7	771	67
FEB									
24...	1200	1800	211	7.50	.0	2.7	9.4	757	65
APR									
04...	1110	36000	85	7.20	3.5	--	12.4	755	94

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS./ PER 100 ML) (31673)	HARD- NESS NONCAR- BONATE (MG/L CAC03) (00900)	HARD- NESS, CARBON- DIOXIDE (MG/L CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
OCT , 1985										
07...	40	320	61	8	16	5.2	2.4	8	.1	1.0
JAN , 1986										
07...	K6	K9	95	14	25	7.8	3.3	7	.2	1.0
FEB										
24...	K5	K4	96	6	25	8.2	3.6	7	.2	1.0
APR										
04...	K67	110	--	--	--	--	--	--	--	--

DATE	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR- BONATE IT-FLD (MG/L AS CO3) (99445)	ALKA- LILITY, CARBON- ATE (MG/L - CAC03) (99430)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
OCT , 1985									
07...	65	--	52	5.2	9.2	3.2	<.10	10	99
JAN , 1986									
07...	99	--	80	7.9	9.9	3.5	<.10	17	121
FEB									
24...	110	--	88	5.5	8.5	3.3	<.10	17	117
APR									
04...	37	--	30	--	--	--	--	--	--

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT , 1985									
07...	80	.13	2100	.11	.020	.30	.050	.030	<.010
JAN , 1986									
07...	120	.16	1680	.37	.090	.40	.020	.010	<.010
FEB									
24...	120	.16	569	.45	.070	.40	.030	.010	<.010
APR									
04...	--	--	--	.24	.120	.90	.090	.020	<.010

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

05340500 ST. CROIX RIVER AT ST. CROIX FALLS, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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)		
		(00061)	(01106)	(01000)	(01005)	(01010)	(01025)	(01030)	(01035)	(01040)		
OCT , 1985												
07...	1220	7870	30	<1	20	<.5	<1	6	<3	1		
JAN , 1986												
07...	1030	5150	10	<1	25	<5.0	<1	<1	<3	2		
FEB												
24...	1200	1800	<10	<1	23	<.5	<1	<1	<3	<1		
<i>repair made in database</i>												
DATE	TIME	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT , 1985												
07...	430	6	<4	20	<.1	<10	11	<1	33	<6	<3	
JAN , 1986												
07...	460	<1	<4	29	<.1	<10	1	<1	48	<6	9	
FEB												
24...	350	<1	4	27	<.1	<10	1	<1	49	<6	<3	

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT , 1985							
01...	1040	9710	138	9.0	--	--	--
07...	1220	7870	129	8.5	7	149	73
NOV							
26...	1110	4860	192	.0	--	--	--
JAN , 1986							
07...	1030	5150	193	.5	4	56	66
FEB							
24...	1200	1800	211	.0	3	15	70
APR							
04...	1110	36000	85	3.5	26	2530	90
JUN							
13...	1050	11000	120	17.5	--	--	--
JUL							
23...	1105	6980	116	25.0	--	--	--

LOCATION.--Lat 45°33'21", long 92°23'16", in SE 1/4 sec.31, T.36 N., R.16 W., Polk County, Hydrologic Unit 07030005, 4.9 mi southeast of Luck.

PERIOD OF RECORD.--September 1936 to September 1940 (fragmentary). October 1940 to September 1964 (fragmentary), in files of district office. October 1984 to current year.

GAGE.--Staff gage read by A. D. Brosveen. Elevation of gage is 1152 ft, from topographic map. Prior to 1964, staff gage 0.2 mi south at different datum.

EXTREMES FOR PERIOD OF RECORD (OCTOBER 1984 TO CURRENT YEAR).--Maximum gage height observed, 6.83 ft, July 29, 1986;
minimum observed, 6.00 ft, Oct. 4, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 6.83 ft, July 29; minimum observed, 6.12 ft, June 21.

		GAGE		GAGE		GAGE		GAGE		GAGE		GAGE		
DATE		HEIGHT		DATE		HEIGHT		DATE		HEIGHT		DATE		HEIGHT
OCT.	7	6.63		OCT.	30	6.68		JUNE	21	6.12		JULY	14	6.48
OCT.	15	6.73		NOV.	6	6.68		JUNE	30	6.17		JULY	19	6.63
OCT.	22	6.78		NOV.	14	6.58		JULY	5	6.27		JULY	29	6.83
								AUG.	4	6.73		AUG.	16	6.51
								AUG.	25	6.35		SEPT.	8	6.29
												SEPT.	16	6.17

LOCATION.--Lat 45°32'00", long 92°23'31", in NE 1/4 sec.7, T.35 N., R.16 W., Polk County, Hydrologic Unit 07030005, near center of lake, and 5.3 mi southeast of Luck.

PERIOD OF RECORD.--May 1985 to current year.

REMARKS.--Secchi disc readings made by A. D. Brosveen.

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
OCT. 1	1.7	OCT. 29	2.0	JUNE 21	2.1	JULY 14	1.4	AUG. 9	0.9	SEPT. 1	0.6
OCT. 8	1.7	MAY 23	2.8	JUNE 30	1.8	JULY 19	1.2	AUG. 16	0.8	SEPT. 8	0.6
OCT. 15	1.7	MAY 30	2.7	JULY 5	1.8	JULY 29	1.2	AUG. 25	0.6	SEPT. 16	0.6
OCT. 22	1.7	JUNE 13	2.2								

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 above 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.--No estimated daily discharges. Records good. Some regulation by reservoirs, navigation dam, and powerplants at low and medium stages. Flood flow not materially affected by artificial storage.

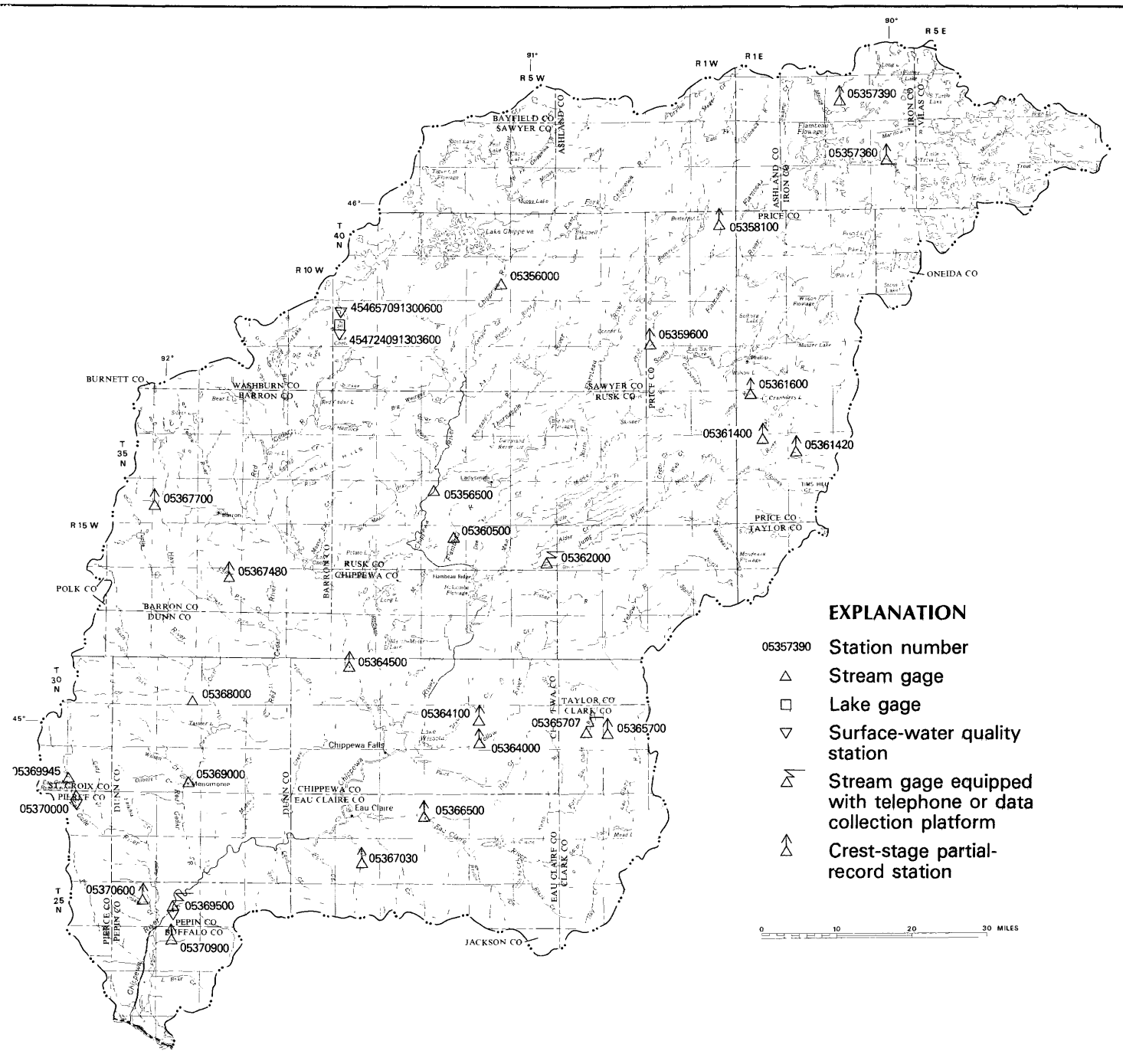
AVERAGE DISCHARGE.--58 years, 17,300 ft³/s, 5.27 in/yr; median of yearly mean discharges, 16,500 ft³/s, 5.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily 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 daily discharge, 116,000 ft³/s Apr. 6, 7; maximum recorded gage height, 36.37 ft, Apr. 8, but was known to be higher during period of recorder malfunction, Apr. 1-7; minimum daily, 10,600 ft³/s Feb. 11; minimum gage height, 24.90 ft Mar. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32000	27300	14000	15700	14200	12200	82800	104000	47800	48600	34800	26800
2	32400	27100	14900	16100	13700	12200	93200	107000	44600	46800	33400	26100
3	33300	26400	14800	16300	15000	12500	103000	107000	43000	43700	32200	25400
4	35700	26000	14200	15900	14200	13100	111000	107000	41600	41100	31300	27300
5	38200	25700	17600	15600	13600	13100	114000	107000	39500	38800	30700	30000
6	39300	25500	19000	15200	14000	12800	116000	106000	37900	37100	30300	31000
7	40600	24500	18000	15000	13300	12800	116000	103000	36600	34400	29400	31200
8	42200	24100	18200	14800	13600	11400	109000	98900	35900	32400	29900	30500
9	43100	23800	18600	15200	13200	12300	109000	93600	35400	30500	30500	29600
10	43000	23300	18700	15800	12100	14500	106000	93300	35200	28900	31400	30000
11	43600	23000	18700	16000	10600	14300	102000	95200	34300	28700	32100	29900
12	44400	22600	18800	15300	12200	15000	98700	99700	33100	29100	31900	29300
13	44700	21900	18300	15000	12000	16500	95100	103000	34200	29500	31800	30400
14	44400	21100	17300	14800	11700	17600	93300	108000	36100	30000	32000	31100
15	44800	21400	17200	14700	12100	18100	90200	113000	37400	30600	31200	31300
16	45200	21700	17200	14900	13300	17900	86100	113000	37500	31800	30100	31300
17	44800	21900	17600	14700	12000	18800	82600	112000	35900	32900	30100	31700
18	44200	21600	17100	14800	13200	20100	80400	103000	34800	34300	30900	33000
19	42700	21000	16300	14500	13100	22300	79000	98100	34300	35800	30200	36100
20	40800	21000	16500	14500	12900	23500	77400	92600	34500	36600	28700	41200
21	39300	21200	17100	14700	12500	24300	75800	86600	34400	36900	28200	50400
22	37800	19500	17100	14700	11100	25700	75000	80800	38300	36700	27500	60200
23	36600	17000	16600	13700	12200	29800	73900	75800	40800	36200	27900	68400
24	35000	15700	17800	14200	12100	33500	72400	71300	41500	35800	29900	76000
25	33700	14300	16700	14600	11500	38000	70700	67900	44000	35000	31400	81800
26	33100	15100	15500	14300	12200	44800	70300	65000	46600	33400	32600	84500
27	31900	15200	16500	13200	12800	51800	70300	61900	48600	33100	31900	85700
28	30400	16500	16900	11300	12500	58200	73900	59400	49600	32600	30600	85900
29	29700	14900	15800	13200	---	63100	79400	56500	50100	32100	29300	86500
30	28900	15700	15700	13800	---	67600	88400	53600	49400	33300	28100	86000
31	28000	---	16100	13900	---	73100	---	50000	---	35000	27400	---
TOTAL	1183800	636000	524800	456400	356900	820900	2694900	2793200	1192900	1081700	947700	1378600
MEAN	38190	21200	16930	14720	12750	26480	89830	90100	39760	34890	30570	45950
MAX	45200	27300	19000	16300	15000	73100	116000	113000	50100	48600	34800	86500
MIN	28000	14300	14000	11300	10600	11400	70300	50000	33100	28700	27400	25400
CFSM	.85	.47	.38	.33	.29	.59	2.01	2.01	.89	.78	.68	1.03
IN.	.98	.53	.44	.38	.30	.68	2.24	2.32	.99	.90	.79	1.14
CAL YR 1985	TOTAL	10018470	MEAN	27450	MAX	73000	MIN	8390	CFSM	.61	IN	8.32
WTR YR 1986	TOTAL	14067800	MEAN	38540	MAX	116000	MIN	10600	CFSM	.86	IN	11.68



24. from U.S. Geological Survey
at base map, 1968

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 above 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.--No estimated daily discharges. Records good. Flow regulated by Moose Lake and Lake Chippewa.

AVERAGE DISCHARGE.--74 years, 729 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, 6,290 ft³/s Oct. 9, gage height, 9.98 ft; minimum discharge, 70 ft³/s Oct. 17, gage height 3.72 ft.

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

4.0	134	6.0	1,430
4.3	248	7.0	2,400
4.6	399	8.0	3,600
5.0	660	10.0	6,320

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2150	885	1530	1400	1240	136	661	1440	229	706	1060	296
2	2260	1170	1530	1390	1240	134	482	1430	231	705	1060	262
3	2300	1170	1530	1390	1230	135	323	1430	231	706	1060	181
4	2980	1190	1520	1390	992	137	303	1430	230	711	1060	245
5	3950	1220	1520	1390	700	137	322	1430	230	708	1060	191
6	4670	1220	1520	1380	327	139	319	1430	230	707	1070	175
7	5430	1200	1510	1380	137	183	299	1410	232	704	1070	175
8	5900	1180	1500	1380	134	222	331	1420	232	696	1060	174
9	6000	1180	1490	1370	193	137	773	1120	236	507	1060	176
10	6230	1180	1490	1360	239	138	1300	612	238	315	1060	229
11	5690	1160	1490	1360	237	281	1680	618	243	518	1060	265
12	5330	1180	1490	1340	215	550	1680	616	277	488	1060	243
13	5050	1490	1480	1340	248	549	1690	639	234	486	1060	176
14	3580	1470	1480	1340	221	684	1690	739	233	486	1060	178
15	2770	1530	1470	1330	217	1190	1710	1340	234	495	1060	231
16	2570	1530	1470	1320	156	1190	1770	1470	232	492	1060	235
17	1780	1530	1470	1320	138	1180	2140	1460	287	537	1050	680
18	2200	1520	1460	1310	135	1190	2140	1460	321	459	1050	201
19	2190	1350	1460	1300	134	1180	2140	1460	219	471	1050	179
20	2190	1500	1460	1300	136	1180	2130	1460	193	461	1050	179
21	2190	1570	1460	1290	173	1170	2080	1460	199	473	1050	199
22	1950	1570	1450	1290	138	1170	1990	1460	215	484	1060	346
23	1460	1580	1440	1280	156	1170	1720	1450	551	428	1050	560
24	1500	1570	1440	1280	157	1170	1430	1450	956	563	1050	956
25	1580	1560	1440	1270	136	1170	1420	1450	956	778	1050	1410
26	1780	1550	1430	1270	135	1170	1430	1440	951	777	1040	1430
27	1770	1550	1430	1270	135	1170	1430	1200	811	954	1040	1400
28	1030	1550	1430	1270	167	945	1440	704	706	1070	767	1390
29	286	1550	1420	1260	---	554	1450	703	705	1060	408	1400
30	496	1530	1420	1250	---	467	1440	537	706	1060	298	1390
31	513	---	1410	1250	---	649	---	230	---	1060	299	---
TOTAL	89775	41435	45640	41070	9466	21477	39713	36498	11548	20065	30292	15152
MEAN	2896	1381	1472	1325	338	693	1324	1177	385	647	977	505
MAX	6230	1580	1530	1400	1240	1190	2140	1470	956	1070	1070	1430
MIN	286	885	1410	1250	134	134	299	230	193	315	298	174
CAL YR 1985	TOTAL	443127	MEAN	1214	MAX	6230	MIN	86				
WTR YR 1986	TOTAL	402131	MEAN	1102	MAX	6230	MIN	134				

CHIPPEWA RIVER BASIN

454724091303600 BIG SISSABAGAMA LAKE NEAR STONE LAKE, WI

LOCATION.--Lat 45°47'24", long 91°30'36", in NW 1/4 SE 1/4 sec.6, T.38 N., R.9 W., Sawyer County, Hydrologic Unit 07050001, near Stone Lake.

DRAINAGE AREA.--9.47 mi².

LAKE-STAGE RECORDS

PERIOD OF RECORD.--April 25 to September 30, 1986.

GAGE.--Staff gage read on south side of lake by Harold Kissinger. Elevation of gage is 1,320 ft, from topographic map.

EXTREMES FOR CURRENT YEAR.--Maximum gage-height observed, 5.76 ft, Sept. 28; minimum observed, 5.14 ft, June 20, 21.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	---	5.38	5.19	5.47	5.35
2							---	5.50	5.36	5.18	5.46	5.35
3							---	5.48	5.33	5.17	5.52	5.36
4							---	5.51	5.31	5.29	5.54	5.36
5							---	5.52	5.30	5.30	5.54	5.37
6							---	5.52	5.28	5.32	5.55	5.36
7							---	5.50	5.28	5.31	5.57	5.36
8							---	5.50	5.28	5.32	5.49	5.36
9							---	5.50	5.27	5.31	5.47	5.36
10							---	5.51	5.26	5.28	5.46	5.37
11							---	5.54	5.25	5.30	5.45	5.38
12							---	5.54	5.24	5.33	5.43	5.38
13							---	5.56	5.24	5.34	5.42	5.38
14							---	5.60	5.21	5.35	5.43	5.40
15							---	5.62	5.20	5.38	5.42	5.44
16							---	5.62	5.19	5.42	5.41	5.46
17							---	5.60	5.18	5.42	5.40	5.47
18							---	5.60	5.17	5.42	---	5.48
19							---	5.58	5.15	5.64	---	5.50
20							---	5.56	5.14	5.64	5.40	5.51
21							---	5.54	5.14	5.62	5.39	5.58
22							---	5.52	5.23	5.59	5.39	5.62
23							---	5.50	5.25	5.57	5.41	5.67
24							---	5.48	5.28	5.55	5.41	5.69
25							5.46	5.48	5.27	5.54	5.40	5.73
26							---	5.46	5.26	5.55	5.38	5.75
27							---	5.45	5.25	5.56	5.38	5.75
28							---	5.45	5.24	5.55	5.37	5.76
29							---	5.45	5.23	5.54	5.36	5.74
30							---	5.41	5.21	5.52	5.35	5.72
31							---	5.40	---	5.49	5.35	---
MEAN							---	---	5.25	5.42	---	5.50
MAX							---	---	5.38	5.64	---	5.76
MIN							---	---	5.14	5.17	---	5.35

454724091303600 BIG SISSABAGAMA LAKE NEAR STONE LAKE, WI--CONTINUED

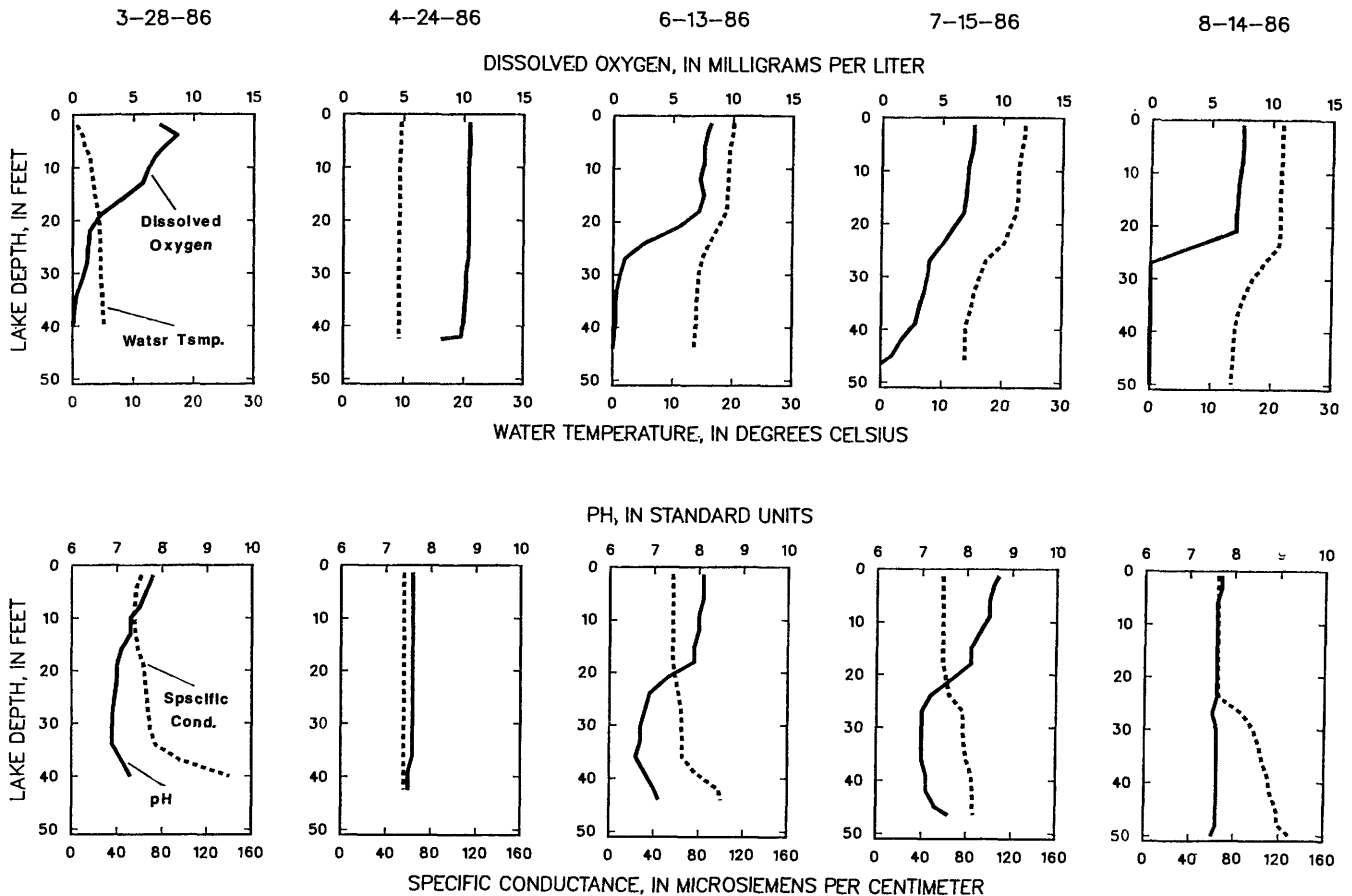
WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 28 to August 14, 1986.

REMARKS.--Lake sampled near center at a depth of 45 ft.

WATER QUALITY DATA, MARCH 28 TO AUGUST 14, 1986
(Milligrams per liter unless otherwise indicated)

	Mar. 28		Apr. 24		June 13		July 15		Aug. 14	
Depth of sample (ft)	2.0	40.0	1.5	41.5	1.5	42.0	1.5	45.0	3.0	49.5
Specific conductance (uS)	61	140	56	56	57	98	59	86	65	119
pH	7.8	7.3	7.7	7.5	8.2	7.0	8.7	7.3	7.7	7.5
Water temperature (°C)	0.5	5.0	9.5	9.5	20.0	13.5	23.5	14.0	21.5	13.5
Color (Pt-Co. scale)	--	--	20	20	--	--	--	--	--	--
Turbidity (NTU)	--	--	1.5	1.2	--	--	--	--	--	--
Secchi-disc (meters)	--	--	--	2.1	--	2.4	--	1.7	--	1.2
Dissolved oxygen	7.2	0.0	10.5	8.2	8.2	0.1	7.6	0.9	7.6	0.0
Hardness, as CaCO ₃	--	--	28	27	--	--	--	--	--	--
Calcium, dissolved (Ca)	--	--	7.5	7.1	--	--	--	--	--	--
Magnesium, dissolved (Mg)	--	--	2.3	2.2	--	--	--	--	--	--
Sodium, dissolved (Na)	--	--	1.3	1.2	--	--	--	--	--	--
Potassium, dissolved (K)	--	--	.70	.70	--	--	--	--	--	--
Alkalinity as CaCO ₃	--	--	26	26	--	--	--	--	--	--
Sulfate, dissolved (SO ₄)	--	--	6.9	6.7	--	--	--	--	--	--
Chloride, dissolved (Cl)	--	--	.80	.80	--	--	--	--	--	--
Silica, dissolved (SiO ₂)	--	--	8.8	8.7	--	--	--	--	--	--
Solids, dissolved, at 180°C	--	--	52	51	--	--	--	--	--	--
Nitrogen, nitrate, total (as N)	--	--	.19	.19	--	--	--	--	--	--
Nitrogen, nitrite, total (as N)	--	--	<.010	<.010	--	--	--	--	--	--
Nitrogen, ammonia, total (as N)	--	--	.040	.020	--	--	--	--	--	--
Nitrogen, organic, total (as N)	--	--	.46	.48	--	--	--	--	--	--
Nitrogen, total (as N)	--	--	.70	.70	--	--	--	--	--	--
Total phosphorus (as P)	--	--	.026	.022	.017	.062	.025	.093	.022	.290
Phosphorus, ortho, diss (as P)	--	--	.002	.003	--	--	--	.067	--	.280
Iron, dissolved (Fe) ug/L	--	--	200	150	--	--	--	--	--	--
Manganese, dissolved (Mn) ug/L	--	--	39	40	--	--	--	--	--	--
Chlorophyll <i>a</i> , phyto. (ug/L)	--	--	19 ^{1/}	--	7	--	11	--	21	--

^{1/} Adjusted from 12 ug/L by Wisconsin State Laboratory of Hygiene.

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 above 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.--Estimated daily discharges: Ice period listed in rating table below and Mar. 30 to Apr. 1. Records good except for estimated daily discharges, which are fair. Flow from 48 percent of the drainage area regulated by Moose Lake and Lake Chippewa.

AVERAGE DISCHARGE.--72 years, 1,490 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, 17,500 ft³/s Apr. 1, gage height, 15.18 ft; minimum, 370 ft³/s June 17, gage height, 1.47 ft.

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

1.6	460	6.0	4,300
2.0	740	8.0	6,620
4.0	2,320	12.0	12,200
		15.0	17,200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5920	1460	2100	1800	1500	640	15000	3240	674	949	1600	579
2	6150	2660	2100	1800	1600	640	16200	2930	601	939	1550	605
3	5190	2690	2100	1800	1600	680	11600	2580	517	935	1520	682
4	6210	2450	2000	1800	1600	720	7810	2390	526	1020	1510	1040
5	14900	2350	2000	1800	1300	740	5540	2270	544	1350	1460	1050
6	15400	2270	2000	1800	1000	740	5170	2170	517	1430	2430	832
7	12500	2210	2000	1800	800	720	4760	2080	597	1350	2550	690
8	10800	2090	2000	1800	600	740	3760	2050	539	1130	2490	632
9	10100	1960	2000	1800	600	760	3050	2130	506	1070	2120	626
10	9460	1880	2000	1900	600	820	3120	1620	540	840	1820	991
11	8760	1780	2000	1900	600	860	3050	1300	590	631	1660	1270
12	7690	1780	2000	1800	600	960	3000	1470	746	1240	1550	1200
13	7690	1880	2000	1800	600	1100	2870	1760	637	1260	1500	933
14	7150	2050	2000	1800	600	1300	2830	3890	673	1110	1600	843
15	5020	2030	2000	1800	600	1500	3600	4740	511	1110	1700	1150
16	4410	2100	1900	1700	600	1700	3960	4470	538	1850	1600	1640
17	3880	2100	1900	1700	620	2100	3620	3730	489	1530	1520	1400
18	2910	2100	1900	1700	620	2300	3480	3090	555	1250	1470	1990
19	3350	2220	1900	1700	620	2300	3450	2600	655	4550	1420	1310
20	3260	2000	1900	1700	620	2300	3480	2390	501	5590	1390	1240
21	3190	2100	1900	1700	640	2400	3310	2170	526	3240	1380	1360
22	3160	2100	1900	1600	640	2400	3160	2060	910	1920	1390	3210
23	2690	2100	1900	1600	640	2500	2960	2000	896	1490	1450	4080
24	2370	2100	1900	1600	620	2500	2280	1960	1210	1280	1420	3260
25	2390	2200	1900	1600	620	2700	2200	1940	1330	1560	1400	3370
26	2430	2200	1900	1500	620	3100	2190	1920	1270	1570	1370	4340
27	2560	2200	1800	1500	620	3800	2290	1890	1250	1830	1340	4010
28	2490	2100	1800	1400	620	5250	2580	1470	1070	3280	1320	3450
29	1560	2100	1800	1500	---	6780	3190	1120	974	2720	1020	2910
30	977	2100	1800	1500	---	9200	3570	1030	955	2120	720	2690
31	1080	---	1800	1500	---	12000	---	899	---	1760	597	---
TOTAL	175647	63360	60200	52700	22300	76250	137080	71359	21847	53904	47867	53383
MEAN	5666	2112	1942	1700	796	2460	4569	2302	728	1739	1544	1779
MAX	15400	2690	2100	1900	1600	12000	16200	4740	1330	5590	2550	4340
MIN	977	1460	1800	1400	600	640	2190	899	489	631	597	579
CAL YR 1985	TOTAL	839659	MEAN	2300	MAX	15400	MIN	520				
WTR YR 1986	TOTAL	835897	MEAN	2290	MAX	16200	MIN	489				

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: None, except for ice period listed in rating table below. Records good except those for ice-affected period, which is fair. Flow regulated by several powerplants above station and by Rest Lake and Flambeau Flowage Reservoirs.

AVERAGE DISCHARGE.--35 years, 1,876 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft³/s Apr. 2, 1986, gage height, 10.45 ft; maximum gage height, 10.90 ft May 1, 1954; minimum, about 100 ft³/s Aug. 7, 9, 1957, gage height, 2.06 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,600 ft³/s Apr. 2, gage height, 10.45 ft; minimum, 436 ft³/s June 19, gage height, 2.46 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 23 to Mar. 31.)

2.6	526	5.0	3,480
3.0	833	7.0	7,660
4.0	1,920	9.0	13,200
		11.0	19,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6800	2800	2100	1800	1300	1200	13500	4170	902	1290	1670	1220
2	6950	4020	2000	1800	1300	1200	17300	3520	865	1210	1610	1210
3	6730	5110	2100	1800	1300	1200	15900	2890	659	1260	1480	1280
4	8610	4940	2200	1700	1300	1200	13500	2610	574	1390	1540	1520
5	12100	4490	2300	1500	1300	1200	12000	2460	671	1720	1410	1490
6	11300	4420	2300	1300	1300	1300	9420	2360	954	2160	1720	1490
7	10500	4100	2400	1200	1300	1400	7870	2100	847	1990	1890	1530
8	9530	3810	2300	1300	1400	1300	7270	1980	782	1710	2550	1300
9	8300	3390	2400	1500	1300	1300	6780	2180	765	1160	1580	1300
10	6810	2850	2300	1700	1200	1400	5930	1850	849	1100	1760	2090
11	5950	2810	2200	1700	1200	1400	6020	2060	852	1240	1880	2590
12	6180	2690	2200	1600	1200	1500	4850	1990	1020	1500	1500	1790
13	5370	2720	2100	1500	1200	1500	3760	2260	900	1850	1230	1780
14	5540	2790	2100	1400	1100	1500	3660	2590	965	1710	1460	1730
15	5410	2680	2000	1400	1200	1500	3850	2620	836	1800	1590	2160
16	4900	2740	1900	1400	1200	1400	3250	2360	926	2400	1470	2390
17	5080	2810	1800	1400	1200	1500	4240	2110	864	2390	1390	2420
18	4940	2750	1900	1300	1200	1500	4080	1610	766	1800	1350	2460
19	4360	2580	2000	1300	1200	1400	3660	1560	764	2720	1380	2520
20	4300	3690	1900	1300	1200	1500	3420	1370	940	2510	1180	2210
21	3920	3600	1800	1300	1300	1500	3670	1510	1630	2040	1350	2470
22	3960	2850	1800	1300	1400	1400	3360	1320	3270	1960	1340	3590
23	3670	2600	1800	1300	1400	1400	2930	1130	2940	1660	1370	4610
24	2990	2400	1800	1300	1300	1500	2870	1040	2360	1430	1540	3480
25	3480	2200	1800	1300	1200	1600	2590	1100	1840	1950	1450	5340
26	3360	2100	1800	1300	1200	1800	2510	1200	1850	2380	1330	3990
27	2780	2100	1700	1200	1200	2000	2790	1300	1670	1990	1300	2950
28	2610	2200	1700	1200	1200	2300	2780	908	1650	1870	1400	3710
29	2750	2200	1700	1200	---	3000	3290	1200	1950	2100	1280	3250
30	2650	2100	1700	1200	---	3800	3570	1020	1930	1640	1240	2880
31	2260	---	1700	1200	---	5200	---	873	---	1860	1160	---
TOTAL	174090	92540	61800	43700	35100	52900	180620	59251	37791	55790	46400	72750
MEAN	5616	3085	1994	1410	1254	1706	6021	1911	1260	1800	1497	2425
MAX	12100	5110	2400	1800	1400	5200	17300	4170	3270	2720	2550	5340
MIN	2260	2100	1700	1200	1100	1200	2510	873	574	1100	1160	1210
CAL YR 1985	TOTAL	988910	MEAN	2709	MAX	12100	MIN	640				
WTR YR 1986	TOTAL	912732	MEAN	2501	MAX	17300	MIN	574				

CHIPPEWA RIVER BASIN

05362000 JUMP RIVER AT SHELTON, 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 above 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.--Estimated daily discharge: None, except for ice periods listed in rating table below. Records good except those for ice-affected periods, which are fair. Data-collection platform at station.

AVERAGE DISCHARGE.--71 years, 524 ft³/s, 12.35 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 greater than base discharge 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. 1	1200	4,570	8.83	Sept. 23	0100	4,200	8.59
Oct. 5	1500	7,680	10.38	Sept. 28	1000	6,450	9.73
Apr. 1	2400	*14,000	*12.47				

Minimum discharge, 64 ft³/s June 10, gage height 3.18 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Sept. 28-30; stage-discharge relation affected by ice Nov. 9-11, Nov. 21 to Mar. 28.)

3.1	52	6.0	1,300
3.5	126	7.0	2,180
4.0	252	9.0	4,850
4.5	443	11.0	9,300
5.0	685	13.0	16,200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4460	594	300	160	160	140	12900	1630	81	194	402	94
2	4000	2440	290	160	150	140	12700	1220	77	170	322	89
3	2890	2520	280	160	150	140	7480	888	72	148	295	87
4	3530	1900	270	160	150	150	4420	675	68	150	256	100
5	7180	1440	270	160	150	150	3350	541	79	154	216	286
6	7010	1150	260	160	150	140	3260	446	76	192	269	270
7	4950	995	250	150	150	140	2930	367	73	195	362	234
8	3520	862	250	150	150	140	2350	310	67	170	410	187
9	2780	700	240	150	150	140	1760	277	66	150	367	190
10	2110	560	240	150	150	140	1320	255	66	134	293	1080
11	1640	440	230	160	150	140	1020	250	86	153	250	3060
12	1430	475	230	160	150	150	838	304	109	228	218	2870
13	1610	434	220	170	140	180	704	338	149	313	189	2100
14	1500	411	220	170	140	200	621	423	141	290	215	1410
15	1250	384	210	170	140	230	784	420	118	233	333	1440
16	1030	384	210	170	140	260	989	344	100	1020	462	2010
17	872	376	210	170	140	300	911	285	87	1720	669	1770
18	781	381	200	170	140	340	767	242	77	1120	373	1740
19	701	589	200	170	140	400	686	210	70	1630	267	1510
20	590	917	190	170	140	380	645	191	67	1650	208	1360
21	529	660	190	170	140	540	635	174	158	1020	182	1580
22	472	520	190	170	140	560	571	156	354	687	161	3290
23	450	460	180	170	140	600	467	144	399	489	156	3990
24	463	430	180	170	140	680	406	140	357	439	152	3150
25	467	400	170	160	140	800	362	134	301	761	152	2380
26	421	380	170	160	140	1400	348	125	246	660	148	2260
27	371	360	170	160	140	2100	437	118	232	520	140	4310
28	349	340	170	160	140	3000	567	109	302	680	123	6190
29	334	330	170	160	---	4850	813	99	286	796	111	4740
30	317	310	160	160	---	8650	1400	94	229	662	104	2990
31	302	---	160	160	---	11400	---	89	---	516	98	---
TOTAL	58309	22142	6680	5040	4050	38580	66441	10998	4593	17244	7903	56767
MEAN	1881	738	215	163	145	1245	2215	355	153	556	255	1892
MAX	7180	2520	300	170	160	11400	12900	1630	399	1720	669	6190
MIN	302	310	160	150	140	140	348	89	66	134	98	87
CFSM	3.27	1.28	.37	.28	.25	2.16	3.85	.62	.27	.97	.44	3.29
IN.	3.77	1.43	.43	.33	.26	2.49	4.29	.71	.30	1.11	.51	3.67
CAL YR 1985	TOTAL	281951	MEAN 772	MAX 7180	MIN 50	CFSM 1.34	IN 18.21					
WTR YR 1986	TOTAL	298747	MEAN 818	MAX 12900	MIN 66	CFSM 1.42	IN 19.29					

CHIPPEWA RIVER BASIN

05365707 NORTH FORK EAU CLAIRE RIVER NEAR THORP, WI

127

LOCATION.--Lat 44°58'25", long 90°50'57", in NW 1/4-NE 1/4 sec.27, T.29 N., R.4 W., Clark County, Hydrologic Unit 07050006, on left bank 15 ft downstream from town road, 0.3 mi downstream from Goggle-Eye Creek, and 2.6 mi northwest of Thorp.

DRAINAGE AREA.--51.0 mi².

PERIOD OF RECORD.--April to September 1986.

GAGE.--Water-stage recorder. Elevation of gage is 1,115 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 1-10. Records good except for estimated daily discharges, which are fair to poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period April to September, 9,050 ft³/s Sept. 22, gage height, 10.13 ft, from rating curve extended above 2,500 ft³/s on basis of step-backwater measurement of peak flow; minimum, 2.9 ft³/s June 10, gage height, 1.30 ft.

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

Apr. 11 to Sept. 30

1.3	2.9	3.5	258
1.4	5.3	4.0	400
1.6	12	5.0	800
2.0	36	6.0	1,430
2.5	85	7.0	2,520
3.0	156	8.0	4,030

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							640	72	4.6	6.6	18	7.0
2							360	51	4.1	5.8	31	6.6
3							220	34	4.0	7.0	29	6.5
4							130	24	4.2	20	17	9.7
5							120	19	5.0	22	12	9.5
6							110	16	5.0	43	28	7.6
7							88	12	4.8	35	65	6.3
8							62	11	3.8	21	362	5.5
9							47	11	3.2	14	304	9.2
10							38	10	3.1	11	138	286
11							29	10	18	30	63	390
12							25	10	14	75	39	146
13							23	11	15	65	31	98
14							38	13	9.9	47	1420	56
15							63	13	7.2	26	692	123
16							77	11	5.8	23	438	94
17							57	10	4.3	19	310	95
18							42	9.4	4.1	14	133	93
19							34	8.4	3.9	32	72	157
20							29	7.5	3.7	46	45	157
21							25	6.9	6.1	31	33	545
22							20	6.5	32	20	26	3670
23							18	6.8	27	15	24	1170
24							16	7.2	21	212	20	473
25							14	7.8	14	290	17	480
26							18	7.4	10	139	16	627
27							21	6.9	16	70	15	2330
28							19	6.3	15	98	12	951
29							43	5.9	13	45	9.5	414
30							93	4.9	8.6	29	8.4	177
31							---	4.8	---	21	7.6	---
TOTAL							2519	434.7	290.4	1532.4	4435.5	12599.9
MEAN							84.0	14.0	9.68	49.4	143	420
MAX							640	72	32	290	1420	3670
MIN							14	4.8	3.1	5.8	7.6	5.5
CFSM							1.65	.28	.19	.97	2.80	8.24
IN.							1.84	.32	.21	1.12	3.24	9.19

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 above National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1951, nonrecording gage.

REMARKS.--Estimated daily discharges: None, except ice period listed in rating table below. Records good except for ice-affected period, which is fair.

AVERAGE DISCHARGE.--36 years, 311 ft³/s, 10.10 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.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 6	0300	1,820	7.83	Sept. 23	0100	*5,340	*11.56
Mar. 30	0900	2,780	9.28				

Minimum daily discharge, 200 ft³/s, Mar. 7, result of freezeup.

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

Oct. 1 to Mar. 29

Mar. 30 to Sept. 30

3.1	191	6.0	970	3.4	227	7.0	1,360
3.5	263	7.0	1,380	4.0	348	9.0	2,560
4.0	369	8.0	1,920	5.0	600	11.0	4,480
5.0	630			6.0	930		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	631	377	280	270	280	260	2060	657	292	271	286	253
2	498	405	290	270	270	250	1910	511	277	269	278	249
3	432	374	300	260	270	250	1160	445	276	266	270	253
4	587	353	300	260	270	240	885	416	277	274	263	284
5	1480	342	300	260	270	240	857	396	279	296	260	281
6	1670	335	300	260	270	230	1030	378	274	314	261	262
7	1090	333	300	250	270	200	901	365	273	293	277	253
8	858	329	290	250	260	230	751	397	271	274	387	248
9	802	320	290	250	260	240	645	565	264	269	337	260
10	653	314	280	260	260	240	581	564	258	262	294	693
11	578	311	280	280	260	240	535	513	265	293	275	1210
12	564	305	280	280	260	250	503	582	267	449	261	1180
13	601	305	280	280	250	250	480	536	264	397	256	545
14	564	306	270	270	250	260	492	708	258	363	330	432
15	522	303	270	260	260	260	677	613	254	326	499	511
16	493	299	270	260	260	270	650	539	250	320	430	581
17	466	305	280	270	260	290	536	461	243	300	372	482
18	452	303	280	270	250	320	489	419	240	283	369	450
19	437	307	280	280	250	440	479	395	239	328	311	437
20	421	340	280	260	240	430	473	378	236	406	291	524
21	410	310	280	250	240	410	448	364	251	356	284	679
22	404	300	270	250	240	400	420	352	512	326	279	2870
23	405	290	270	250	240	430	404	343	645	304	283	3950
24	402	290	270	250	240	540	390	340	399	300	283	1540
25	390	280	270	260	250	580	388	362	343	363	279	936
26	380	270	270	250	250	1030	383	354	318	309	278	899
27	371	270	270	260	260	1380	401	340	314	347	274	765
28	359	270	270	270	250	1070	497	327	299	483	265	660
29	353	270	270	280	---	1730	711	319	280	371	260	595
30	347	280	270	280	---	2580	662	288	274	327	258	565
31	343	---	270	280	---	2320	---	290	---	304	258	---
TOTAL	17963	9396	8680	8180	7190	17860	20798	13517	8892	10043	9308	22847
MEAN	579	313	280	264	257	576	693	436	296	324	300	762
MAX	1670	405	300	280	280	2580	2060	708	645	483	499	3950
MIN	343	270	270	250	240	200	383	288	236	262	256	248
CFSM	1.39	.75	.67	.63	.62	1.38	1.66	1.04	.71	.78	.72	1.82
IN.	1.60	.84	.77	.73	.64	1.59	1.85	1.20	.79	.89	.83	2.03

CAL YR 1985	TOTAL	140182	MEAN 384	MAX 1860	MIN 194	CFSM .92	IN 12.48
WTR YR 1986	TOTAL	154674	MEAN 424	MAX 3950	MIN 200	CFSM 1.01	IN 13.77

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 above 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.--Estimated daily discharges: Nov. 25 to Jan. 10, Mar. 30 to Apr. 2. Records good except for periods of estimated discharge, which are fair. Flow regulated by powerplants at Menomonie and Cedar Falls.

AVERAGE DISCHARGE.--74 years, 1,280 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, less than 10 ft³/s July 3, 1985, gage height, 0.46 ft, result of temporary powerplant shutdown at request of Dunn County Sheriff's Department.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,760 ft³/s Sept. 23, gage height, 5.79 ft; minimum, 14 ft³/s Jan. 28, gage height, 0.62 ft; minimum daily, 560 ft³/s Nov. 26.

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

1.6	489	3.0	2,340
2.0	865	4.0	4,190
2.5	1,540	5.0	6,600
		6.0	9,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2760	1750	1260	1300	1060	1090	6900	2380	1250	883	1610	904
2	2470	1920	925	1120	1080	1200	7800	2720	1050	1190	1440	1070
3	2160	1890	840	1310	1070	1150	6620	2280	1340	958	1280	1170
4	2650	1810	1050	1240	1110	1240	5820	2240	1030	1250	1220	1180
5	4170	1740	1160	1360	1110	1220	5110	2060	1260	1130	1290	1190
6	5130	1750	1260	955	1110	1090	4530	1640	1190	1550	1310	1080
7	6450	1670	1160	1080	1290	965	4440	1930	1160	1400	1310	1130
8	5180	1630	1350	1160	1110	1050	4140	1880	1130	1380	1390	1150
9	4810	1650	1580	1140	1070	1270	3480	2270	1140	1090	1310	1290
10	4380	1580	1380	1100	1000	1210	3150	2230	1350	1270	1210	1990
11	3920	1660	1320	1110	1010	1310	3060	2340	1350	1270	1140	3290
12	3550	1570	1380	1150	862	1170	2800	2310	1300	2000	1110	3130
13	3050	1550	1360	1140	1090	1320	2560	2540	1180	1870	1050	2320
14	2960	1510	1260	1160	886	1750	2480	2780	1060	1530	1650	1760
15	2910	1550	1200	1160	1040	1820	2490	3080	1170	1470	1850	1950
16	2790	1510	1300	1160	1090	1910	2340	2550	1080	1330	1790	2280
17	2720	1540	1020	1090	1070	2100	2520	2470	1050	1250	1400	2150
18	2410	1550	1080	1100	1020	2350	2330	2430	1000	1460	1480	2160
19	2300	1580	1260	1170	1260	2360	2400	2200	1050	1540	1300	2070
20	1880	1810	1160	1280	1100	1980	2470	1620	823	1880	1200	2140
21	1680	1230	1120	1110	942	2340	2510	1840	1170	1920	1160	2800
22	796	1270	1120	1180	1070	1450	2410	1610	1810	1700	1170	5810
23	1030	1330	970	1100	1020	2130	2410	1300	2300	1770	975	7960
24	840	1220	1060	1080	1140	2070	2000	1370	1750	1710	1060	6060
25	1740	740	1020	1110	997	2150	1270	1400	1610	1770	1330	4440
26	1680	560	1300	1060	1140	2430	605	1480	1530	1840	1090	3610
27	1560	1140	1160	937	1020	2400	826	1360	1350	1970	971	3340
28	1660	990	1220	976	1090	2370	1730	1320	1310	2130	1010	3530
29	1540	1020	1220	1020	---	3310	2180	1310	1160	1910	1030	3040
30	1560	1140	900	1020	---	4650	2880	1140	1210	1570	1080	2260
31	1610	---	1140	1170	---	8400	---	1220	---	1560	1060	---
TOTAL	84346	43860	36535	35048	29857	63255	96261	61300	38163	47551	39276	78254
MEAN	2721	1462	1179	1131	1066	2040	3209	1977	1272	1534	1267	2608
MAX	6450	1920	1580	1360	1290	8400	7800	3080	2300	2130	1850	7960
MIN	796	560	840	937	862	965	605	1140	823	883	971	904
CAL YR 1985	TOTAL	580121	MEAN	1589	MAX	6450	MIN	560				
WTR YR 1986	TOTAL	653706	MEAN	1791	MAX	8400	MIN	560				

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 above National Geodetic Vertical Datum of 1929. Prior to Dec. 9, 1930, nonrecording gage at bridge 400 ft downstream at same datum.

REMARKS.--Estimated daily discharges: None, except for ice period listed in rating table below. Records good except for ice-affected period, which is fair. Flow regulated by powerplants, Moose Lake, Lake Chippewa, Rest Lake, Flambeau Flowage, and Lake Wissota on Chippewa and Flambeau Rivers. Gage-height telemeter and data-collection platform at station.

AVERAGE DISCHARGE.--58 years, 7,732 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 U.S. Army Corps of Engineers) occurred Sept. 12, 1884, and has not been exceeded since.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 68,500 ft³/s Apr. 4, gage height, 13.80 ft; minimum discharge, 2,490 ft³/s June 8, gage height, 0.87 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Apr. 3-15, June 1-9, 15-21, Aug. 26 to Sept. 6;
stage-discharge relation affected by ice Nov. 26 to Mar. 29.)

Oct. 1 to Apr. 15, Sept. 7-30				Apr. 16 to Sept. 6			
1.0	2,650	8.0	22,400	1.0	2,960		
2.0	4,360	10.0	31,800	2.0	4,790		
4.0	9,150	12.0	45,000	4.0	9,820		
6.0	15,100	14.0	70,100	7.0	19,700		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17100	7780	8000	9200	5800	4900	49700	15800	4060	6430	10200	4710
2	23600	9190	8600	9400	5400	4400	55500	15300	3590	6370	8800	4420
3	24900	12800	8400	9400	4500	3200	64300	14500	4430	6320	7150	5240
4	23200	16700	8200	8800	5000	3400	66300	12100	3810	5370	8010	5060
5	26500	15800	8600	7000	5800	3900	52900	10600	3800	5710	7980	4610
6	37500	12600	9000	7800	6200	4700	41500	9910	3490	8230	7160	5300
7	45500	12200	8400	7800	6200	4900	32700	9270	3330	9320	6290	4690
8	48300	12400	8000	8000	4900	4700	30000	9090	2990	8180	10000	4280
9	42000	11000	8800	8400	4800	4400	22700	7860	3280	8010	10800	5350
10	34000	10100	9800	7400	3800	4300	20100	10300	4440	5960	10200	6340
11	29600	9720	10000	7000	4000	4700	19400	8870	4980	6040	8530	11400
12	22300	8930	8800	7400	4500	5200	17600	9100	4870	6840	8210	17600
13	26100	7740	9000	7200	4200	5600	16400	9840	5280	7680	7450	19000
14	21300	8140	9000	6400	3900	5800	14700	9910	4540	8550	7980	14900
15	21200	8940	8800	5600	3600	6200	14200	11900	3880	10000	11100	12100
16	18900	8970	9200	6000	3600	6400	14300	14200	3200	8220	14200	13500
17	16500	9040	9400	6400	3900	7000	14700	13900	3950	10000	16800	14300
18	16500	8660	9000	6600	4300	8000	14800	11600	3870	11800	15000	14300
19	14000	9000	8600	5600	4400	9400	16900	9460	4290	11600	10500	13800
20	12600	10300	8800	5000	4400	10000	14300	8910	4400	11400	9580	13700
21	12500	10900	9000	5600	4500	9800	13900	8840	3800	14300	8420	13800
22	11800	10700	9200	6400	4600	10000	13400	7740	4870	14600	7390	23400
23	10700	9870	8800	6400	4600	9000	12200	7150	7840	10700	6830	43300
24	10200	8860	8200	6200	4400	7600	11900	7020	9610	8320	5770	52400
25	9810	7560	8800	6200	4200	5400	10700	5300	7240	8190	6650	47700
26	9310	7600	9200	5400	4300	9000	9180	5470	6920	11300	7000	34600
27	9550	7400	9400	4200	4500	12000	7350	6410	8730	12500	5780	30600
28	8940	7600	9400	4500	4900	14000	10500	6740	9860	12800	6080	32000
29	9570	7400	9000	5800	---	15000	11600	6530	6880	13500	5910	34200
30	8550	7600	8200	5800	---	24700	13200	5740	7820	13600	5750	32700
31	8510	---	8600	6000	---	38400	---	5380	---	12100	4790	---
TOTAL	631040	295500	274200	208900	129200	266000	706930	294740	154050	293940	266310	539300
MEAN	20360	9850	8845	6739	4614	8581	23560	9508	5135	9482	8591	17980
MAX	48300	16700	10000	9400	6200	38400	66300	15800	9860	14600	16800	52400
MIN	8510	7400	8000	4200	3600	3200	7350	5300	2990	5370	4790	4280
CAL YR 1985	TOTAL	3738770	MEAN	10240	MAX	48300	MIN	3290				
WTR YR 1986	TOTAL	4060110	MEAN	11120	MAX	66300	MIN	2990				

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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT , 1985										
01...	1300	17200	--	96	7.50	11.0	1.5	10.1	754	93
JAN , 1986										
06...	1400	--	7800	139	7.20	.0	2.4	11.6	761	79
FEB										
25...	1200	--	4200	183	7.40	.0	36	11.2	754	77
APR										
03...	1130	64200	--	78	7.30	5.0	14	12.3	754	97
JUN										
24...	1130	9800	--	120	8.00	21.0	4.0	8.6	761	97
AUG										
19...	1050	10100	--	109	7.70	22.0	3.9	7.4	762	85
		COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOGOCCHI FECAL, KF AGAR (COLS./ 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION (PERCENT SODIUM RATIO) (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
OCT , 1985										
01...	--	K1600	48	10	12	4.4	2.5	10	.2	1.5
JAN , 1986										
06...	--	K22	58	14	15	5.1	3.1	10	.2	1.0
FEB										
25...	K1300	75	76	17	19	6.9	4.3	11	.2	1.1
APR										
03...	290	130	29	7	7.4	2.5	1.9	12	.2	1.7
JUN										
24...	760	1100	53	8	13	4.9	2.9	10	.2	1.0
AUG										
19...	350	1000	51	11	13	4.5	2.7	10	.2	1.9
		BICAR- BONATE IT-FLD (MG/L AS HC03) (99440)	CAR- BONATE IT-FLD (MG/L AS C03) (99445)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CAC03) (99430)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
OCT , 1985										
01...	47	--	38	2.4	3.9	4.2	<.10	9.1		93
JAN , 1986										
06...	54	--	43	5.4	12	5.1	<.10	13		82
FEB										
25...	72	--	58	4.6	11	6.4	<.10	15		102
APR										
03...	26	--	21	2.1	12	3.1	<.10	8.2		58
JUN										
24...	54	--	44	.9	10	4.3	<.10	3.9		76
AUG										
19...	49	--	40	1.6	11	4.0	<.10	10		88
		SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, ORTHOPHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHOPHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00671)
OCT , 1985										
01...	61	.13	4320	.30	<.010	.50	.110	.070	<.010	
JAN , 1986										
06...	84	.11	1730	.68	.080	.60	.060	.030	.020	
FEB										
25...	100	.14	1120	1.1	.120	.70	.080	.040	.030	
APR										
03...	52	.08	10000	.49	.110	.70	.140	.040	.020	
JUN										
24...	68	.10	2010	.37	.030	.90	.100	.030	.020	
AUG										
19...	73	.12	2400	.30	.020	1.0	.110	.060	.050	

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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT , 1985											
01...	1300	17200	--	40	<1	18	<.5	2	5	<3	7
FEB , 1986											
25...	1200	--	4200	20	<1	19	<.5	<1	<1	<3	1
AUG											
19...	1050	10100	--	30	<1	20	<.5	<1	4	<3	9

	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT , 1985											
01...	410	2	5	10	<.1	<10	8	<1	28	<6	5
FEB , 1986											
25...	350	<1	<4	56	<.1	<10	1	<1	39	<6	24
AUG											
19...	330	<5	<4	9	.1	<10	2	<1	33	<6	3

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L) (80020)
JAN , 1986										
06...	1400	--	7800	<.4	<.6	1.8	1.6	<.6	.03	.03

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT , 1985								
01...	1300	17200	--	96	11.0	49	2280	27
NOV								
19...	1315	10000	--	120	4.5	--	--	--
JAN , 1986								
06...	1400	--	7800	139	.0	4	84	61
FEB								
25...	1200	--	4200	183	.0	3	33	65
APR								
03...	1130	64200	--	78	5.0	146	25300	19
MAY								
06...	1100	9710	--	96	16.5	--	--	--
JUN								
02...	1150	3100	--	168	19.0	--	--	--
24...	1130	9800	--	120	21.0	36	953	52
JUL								
28...	1650	12600	--	125	25.5	--	--	--
AUG								
19...	1050	10100	--	109	22.0	17	464	52
SEP								
26...	1130	34200	--	122	17.5	--	--	--

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.

PERIOD OF RECORD.--November 1981 to September 1983, May to September 1986.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 960 ft, from topographic map.

REMARKS.--No estimated daily discharges. Records good below 300 ft³/s and poor above.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,000 ft³/s Sept. 21, 1986, gage height, 8.80 ft, from rating curve extended above 140 ft³/s on basis of indirect measurement of peak flow; minimum discharge, 5.1 ft³/s Mar. 7, 1982, gage height, 2.21 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period May to September, 6,000 ft³/s Sept. 21, gage height, 8.80 ft, from rating curve extended above 140 ft³/s on basis of indirect measurement of peak flow; minimum discharge, 14 ft³/s June 16-18, 20, 21, July 7-11, Aug. 12, 13, Sept. 5-9, gage height, 1.54 ft.

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

1.5	13	3.1	194
1.8	22	3.5	311
2.0	32	4.0	510
2.3	56	4.5	772
2.7	109	5.0	1,110

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								46	17	16	16	16
2								26	16	15	15	16
3								23	16	15	15	19
4								21	16	15	15	18
5								21	16	16	15	15
6								20	16	17	15	14
7								19	16	15	16	14
8								19	16	15	33	14
9								19	16	15	27	15
10								20	16	14	17	257
11								23	17	19	15	439
12								31	16	23	15	61
13								138	15	45	15	26
14								133	15	28	19	27
15								35	15	54	243	201
16								23	15	47	39	80
17								20	14	20	48	34
18								19	15	17	24	31
19								18	15	92	18	58
20								18	15	48	17	82
21								18	18	21	16	846
22								18	130	18	15	744
23								18	58	17	15	146
24								18	21	17	16	56
25								18	17	18	16	275
26								18	18	20	16	84
27								17	18	21	15	47
28								17	17	45	15	36
29								17	16	21	15	163
30								17	16	17	16	50
31								17	---	17	16	---
TOTAL								885	642	778	808	3884
MEAN								28.5	21.4	25.1	26.1	129
MAX								138	130	92	243	846
MIN								17	14	14	15	14
CFSM								.60	.45	.52	.55	2.69
IN.								.69	.50	.60	.63	3.02

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 above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to July 31, 1957, nonrecording gage at site 850 ft downstream at datum of 912.45 ft above National Geodetic Vertical Datum of 1929. Aug. 1, 1957, to June 6, 1966, nonrecording gage at downstream site at datum of 910.45 ft above National Geodetic Vertical Datum of 1929. June 7, 1966, to Oct. 31, 1968, nonrecording gage at downstream site at datum of 909.45 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharge: Jan. 15. Records good. Low flow slightly regulated and high flow completely regulated by flood-control dam 770 ft upstream.

AVERAGE DISCHARGE.--18 years (1969-86), 34.5 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 above National Geodetic Vertical Datum of 1929, from floodmarks, discharge, 33,000 ft³/s estimated by U.S. Army 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, 2,340 ft³/s Sept. 21, gage height, 18.90 ft; minimum discharge, 3.4 ft³/s Oct. 3, gage height, 12.63 ft.

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

13.5	14	14.8	183
13.8	23	15.3	373
14.1	44	16.0	660
14.4	90	18.0	1,750

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	20	20	16	16	15	134	73	27	24	23	19
2	51	21	20	16	16	15	94	54	37	23	22	19
3	32	20	19	16	16	15	62	46	34	23	21	23
4	124	20	18	16	15	15	80	41	28	27	21	28
5	449	19	18	16	15	15	165	38	26	27	21	23
6	106	19	18	16	15	14	140	33	24	34	21	21
7	98	19	18	15	15	14	73	28	24	27	22	19
8	65	18	18	16	15	15	49	27	23	23	28	19
9	18	18	18	16	15	15	42	27	23	23	37	20
10	31	18	17	16	15	15	38	27	22	22	29	102
11	29	18	17	15	15	15	36	28	26	29	22	421
12	29	18	17	15	14	15	34	34	25	37	20	119
13	49	18	17	15	14	16	33	58	24	43	20	53
14	43	18	17	15	15	17	39	173	23	45	26	39
15	33	18	16	15	15	16	134	78	23	40	144	110
16	28	19	17	15	16	16	84	46	23	64	72	129
17	25	19	17	15	15	17	54	34	22	39	53	74
18	24	20	17	15	15	29	43	30	23	30	38	74
19	23	21	16	15	15	149	36	30	23	50	30	65
20	22	23	16	15	15	154	33	29	22	73	25	82
21	21	23	16	15	15	115	33	28	28	39	23	1050
22	21	21	16	16	15	92	33	28	71	29	22	881
23	21	21	17	15	15	146	31	26	99	24	21	304
24	21	19	17	16	15	221	29	26	42	23	21	142
25	21	19	17	16	15	437	28	26	28	27	22	220
26	20	19	17	15	15	755	28	25	26	27	22	173
27	20	19	17	15	15	187	28	20	30	31	21	84
28	19	18	16	15	14	337	298	17	26	41	20	58
29	19	18	16	16	---	372	266	33	24	41	19	110
30	19	18	16	15	---	176	109	54	25	33	19	98
31	19	---	16	15	---	93	---	34	---	26	19	---
TOTAL	1547	579	532	478	421	3523	2286	1251	901	1044	924	4579
MEAN	49.9	19.3	17.2	15.4	15.0	114	76.2	40.4	30.0	33.7	29.8	153
MAX	449	23	20	16	16	755	298	173	99	73	144	1050
MIN	18	18	16	15	14	14	28	17	22	22	19	19
CAL YR 1985	TOTAL	11461.6	MEAN	31.4	MAX	449	MIN	7.0				
WTR YR 1986	TOTAL	18065.0	MEAN	49.5	MAX	1050	MIN	14				

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.--The water-quality monitor was moved upstream to 100 ft downstream from dam on July 2, 1986. Prior to July 2, 1986, poor water circulation due to aquatic macrophytes, and ground-water seepage from the streambed, caused local water temperature and specific conductance differences. Records from Jan. 16 to June 30 were not published because of major differences between recorded values and field measurements. Unpublished records of hourly specific conductance and water temperature are available in files of District Office. Records for Oct. 1 to July 2 were poor and from July 3 to Sept. 30 were good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 837 microsiemens Oct. 27, 1985; minimum, 138 microsiemens Sept. 22, 1986, but may have been lower during period Jan. 16 to June 30, 1986, when there were major differences between recorded values and field measurements.

WATER TEMPERATURES: Maximum, 27.5°C Aug. 11, 1982; minimum, 0.0°C Mar. 30, 31, 1982, and many days during February and March 1984, and Nov. 20, 21, 1985.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 837 microsiemens Oct. 27; minimum, 138 microsiemens Sept. 22 (see note under EXTREMES FOR PERIOD OF DAILY RECORD).

WATER TEMPERATURES: Maximum, 27.0°C May 31 and June 22; minimum, 0.0°C Nov. 20, 21.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	11.0	9.5	10.5	9.0	7.5	8.0	4.0	.5	2.0	---	---	---
2	13.5	9.5	10.5	8.0	7.0	7.5	5.0	1.0	2.5	---	---	---
3	14.0	9.5	10.5	8.5	6.5	7.0	1.5	.5	1.0	---	---	---
4	10.5	9.5	10.0	8.5	6.0	7.0	3.0	1.0	1.5	---	---	---
5	9.5	9.0	9.0	7.5	6.0	6.5	4.5	.5	2.5	---	---	---
6	9.5	8.5	9.0	7.0	5.5	6.0	1.0	.5	1.0	---	---	---
7	9.0	8.5	8.5	7.5	5.5	6.0	1.5	1.0	1.0	---	---	---
8	10.0	8.0	9.0	5.5	5.0	5.0	3.5	1.0	2.5	---	---	---
9	8.5	8.0	8.0	5.5	3.5	5.0	4.5	1.0	3.0	---	---	---
10	9.0	7.5	8.5	5.5	3.0	4.0	4.0	1.0	3.0	---	---	---
11	9.0	7.5	8.0	4.0	3.0	3.5	1.5	1.0	1.0	---	---	---
12	9.0	8.0	8.5	4.0	3.0	3.5	1.5	1.0	1.0	---	---	---
13	9.5	8.5	9.0	3.5	3.0	3.0	1.5	1.0	1.0	---	---	---
14	10.0	8.5	9.0	3.5	2.5	3.0	2.0	1.0	1.5	---	---	---
15	8.5	8.0	8.0	4.0	3.0	3.0	1.5	1.0	1.0	---	---	---
16	9.0	7.5	8.0	3.5	2.5	3.0	1.0	1.0	1.0	---	---	---
17	8.5	7.5	8.0	3.0	2.0	2.5	1.5	1.0	1.5	---	---	---
18	9.0	8.0	8.5	3.0	2.5	3.0	1.5	1.5	1.5	---	---	---
19	9.0	8.0	8.5	3.0	1.0	2.0	---	---	---	---	---	---
20	9.0	7.5	8.0	1.5	.0	.5	---	---	---	---	---	---
21	9.0	8.0	8.5	.5	.0	.5	---	---	---	---	---	---
22	9.0	8.5	8.5	3.5	.5	1.0	---	---	---	---	---	---
23	10.5	8.5	9.5	2.0	.5	.5	---	---	---	---	---	---
24	10.5	9.0	9.5	1.5	.5	.5	---	---	---	---	---	---
25	10.0	8.5	9.0	1.5	.5	1.0	---	---	---	---	---	---
26	11.0	9.0	10.0	5.0	1.5	3.5	---	---	---	---	---	---
27	10.5	8.5	9.5	3.5	.5	1.5	---	---	---	---	---	---
28	10.0	8.5	9.0	2.5	.5	1.5	---	---	---	---	---	---
29	10.0	8.0	9.0	3.0	1.0	2.0	---	---	---	---	---	---
30	9.0	8.0	8.5	2.5	1.0	2.0	---	---	---	---	---	---
31	9.0	7.5	8.0	---	---	---	---	---	---	---	---	---
MONTH	14.0	7.5	9.0	9.0	.0	3.5	5.0	.5	1.5			

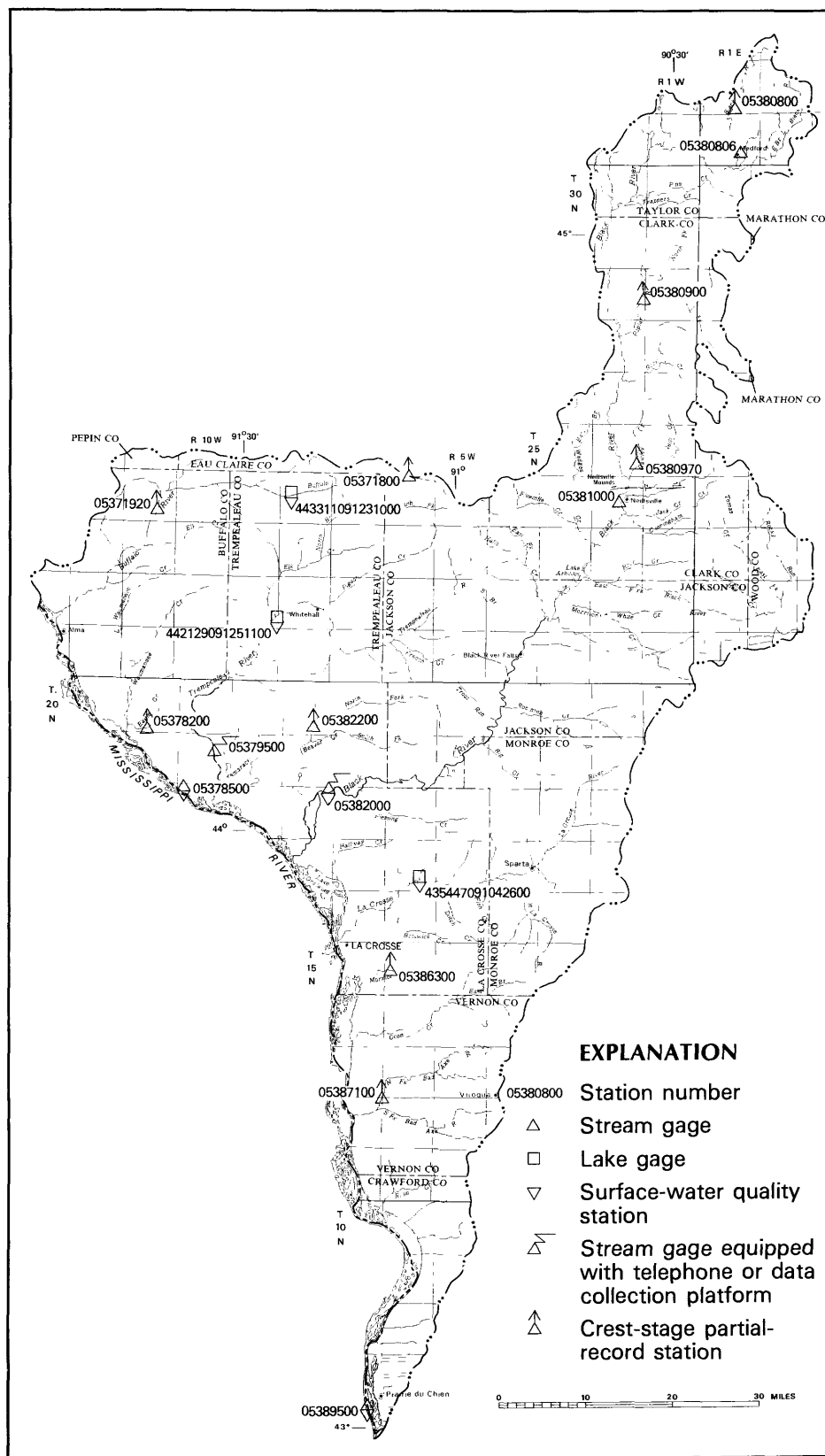
05370000 EAU GALLE RIVER AT SPRING VALLEY, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
MONTH												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1				22.0	20.5	21.5	23.0	21.5	22.0	20.0	17.5	18.5
2				21.5	20.0	20.5	21.5	21.0	21.0	19.0	18.0	18.5
3				21.0	19.5	20.0	22.0	20.5	21.0	20.0	18.0	19.0
4				22.5	20.0	21.0	22.0	20.5	21.0	19.5	18.5	19.0
5				23.0	20.5	21.5	23.0	20.5	21.5	18.5	17.5	18.0
6				24.0	22.0	23.0	22.5	20.5	21.5	18.0	17.0	17.5
7				24.0	21.5	22.5	21.5	21.0	21.5	17.5	17.0	17.0
8				22.5	21.5	22.0	23.5	20.5	22.0	17.0	16.5	17.0
9				23.0	21.0	22.0	24.0	21.5	22.5	17.0	16.5	16.5
10				22.0	21.0	21.5	22.0	21.0	21.5	17.0	16.5	16.5
11				22.5	20.5	21.5	21.5	20.0	20.5	17.0	15.0	16.0
12				22.0	21.0	21.5	20.0	19.5	20.0	16.0	14.5	15.5
13				21.5	21.0	21.5	19.5	19.0	19.5	16.0	15.0	15.0
14				21.5	20.5	21.0	20.5	19.0	20.0	15.5	14.0	14.5
15				22.5	21.0	21.5	22.0	20.0	21.0	14.0	14.0	14.0
16				23.5	21.0	22.5	24.0	20.0	22.0	14.0	12.5	13.5
17				25.5	22.5	23.5	25.5	22.5	23.5	13.5	12.5	13.0
18				26.5	23.5	24.5	22.5	21.0	22.0	13.5	13.0	13.0
19				26.5	23.0	25.0	22.0	20.5	21.0	13		

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]



TREMPEALEAU-BLACK RIVER BASIN

BUFFALO RIVER BASIN

443311091231000 CRYSTAL LAKE AT STRUM, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 44°33'11", long 91°23'10", in SW 1/4 sec.17, T.24 N., R.8 W., Trempealeau County, Hydrologic Unit 07040003, at Strum.

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Staff gage read by LaVerne Anderson. Elevation of gage is 870.56 ft, revised, National Geodetic Vertical Datum of 1929.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 15.3 ft, Aug. 15, 1986; minimum observed, 13.3 ft, June 14, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 15.3 ft, Aug. 15; minimum observed, 13.3 ft, June 14.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
APR. 7	14.5	APR. 28	14.7	MAY 19	14.6	JUNE 14	13.3	JULY 16	14.6	AUG. 30	14.4
APR. 14	13.7	MAY 5	13.7	MAY 30	13.5	JUNE 21	14.1	JULY 31	14.6	SEPT. 14	14.6
APR. 21	13.5	MAY 12	13.5	JUNE 7	13.4	JUNE 28	15.2	AUG. 15	15.3		

WATER-QUALITY RECORDS

LOCATION.--Lat 44°33'16", long 91°23'09", in SW 1/4 sec.17, T.24 N., R.8 W., Trempealeau County, Hydrologic Unit 07040003, near center of lake, at Strum.

PERIOD OF RECORD.--April 1985 to current year.

REMARKS.--Secchi disc readings made by LaVerne Anderson.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
APR. 7	1.1	APR. 28	0.9	MAY 19	0.9	JUNE 13	0.9	JULY 16	0.6	AUG. 30	1.1
APR. 14	1.2	MAY 5	1.1	MAY 30	1.2	JUNE 21	0.8	JULY 31	1.1	SEPT. 14	0.7
APR. 21	1.2	MAY 12	1.2	JUNE 7	1.1	JUNE 27	0.6	AUG. 15	0.6		

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, 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 above 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.--No estimated daily discharges. 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.--58 years, 27,980 ft³/s, 6.42 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 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, 167,000 ft³/s Apr. 7, gage height, 16.60 ft; minimum daily discharge, 15,000 ft³/s Nov. 30; minimum gage height, 5.16 ft Nov. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57100	50000	22300	28700	22600	19800	97800	100000	71800	66700	57500	42000
2	54200	47800	26800	28500	22700	19800	111000	107000	66400	66500	57600	38800
3	56800	44100	25800	28500	23900	19900	126000	115000	62500	65700	55600	37900
4	62300	44100	24300	28400	24000	20300	139000	120000	60800	62900	51400	38000
5	65200	45800	23200	28400	24100	20900	153000	122000	60700	61000	49000	38900
6	66400	47200	23100	28300	24100	21000	163000	124000	57600	60700	48800	38800
7	69100	48200	26400	27500	24100	20200	166000	124000	54300	61300	48200	39900
8	75700	47000	28500	25700	24400	18900	165000	123000	52500	59700	48300	40600
9	84700	46000	30100	23700	24400	20000	161000	121000	49200	55800	47600	40900
10	91100	43800	31700	23600	24200	20200	155000	118000	45900	51400	48000	43300
11	92100	41300	31600	25200	22700	22500	148000	116000	47000	49100	48200	48400
12	89900	38900	32200	25800	21000	22500	142000	114000	48000	48600	48400	50800
13	85200	38100	32100	25900	19600	24500	137000	114000	48600	48000	48300	54000
14	81000	37800	31500	26000	18200	26500	132000	115000	48900	47200	48600	56800
15	78700	36600	29400	26100	18400	27800	128000	117000	48200	47400	49000	57700
16	76800	35500	27900	25800	18600	28300	125000	122000	47100	49000	49400	57200
17	75400	34900	28600	25500	19800	28100	121000	126000	47200	50200	50400	55700
18	74000	34400	28300	25000	20100	28500	116000	128000	48000	51000	53300	55600
19	72500	34500	28300	25200	20300	33100	112000	129000	48400	53000	54000	57700
20	71300	35000	28300	25200	20800	38800	111000	128000	47800	54500	52700	59500
21	68500	34800	28200	27300	20900	41000	109000	124000	47800	56800	50600	63900
22	65400	34300	28300	24700	21100	45700	106000	119000	50000	58100	47000	75000
23	63200	35300	28400	24600	21100	47200	102000	113000	52100	57500	44100	88400
24	61200	32200	29400	24600	21100	51800	99600	107000	54500	55700	43000	105000
25	61200	24500	28500	23900	20700	60200	98200	102000	58800	55600	42700	120000
26	57200	18600	26900	23900	20600	63500	96400	95800	61400	55100	44500	133000
27	55700	19700	26800	23500	20700	66300	94500	89700	63100	55500	46200	138000
28	53500	20800	27600	20100	20300	68800	92600	84600	64000	56300	47200	138000
29	49500	18000	28600	18800	---	78100	91800	82100	66000	56100	45700	136000
30	47500	15000	28700	19700	---	83500	94400	79300	67600	56400	43600	135000
31	49400	---	28700	21000	---	89600	---	76000	---	56600	43400	---
TOTAL	2111800	1084200	870500	779100	604500	1177300	3693300	3455500	1646200	1729400	1512300	2084800
MEAN	68120	36140	28080	25130	21590	37980	123100	111500	54870	55790	48780	69490
MAX	92100	50000	32200	28700	24400	89600	166000	129000	71800	66700	57600	138000
MIN	47500	15000	22300	18800	18200	18900	91800	76000	45900	47200	42700	37900
CFSM	1.15	.61	.47	.42	.37	.64	2.08	1.88	.93	.94	.82	1.17
IN.	1.33	.68	.55	.49	.38	.74	2.32	2.17	1.03	1.09	.95	1.31
CAL YR 1985	TOTAL	16011400	MEAN	43870	MAX	101000	MIN	15000	CFSM	.74	IN	10.06
WTR YR 1986	TOTAL	20748900	MEAN	56850	MAX	166000	MIN	15000	CFSM	.96	IN	13.04

MISSISSIPPI RIVER MAIN STEM

05378500 MISSISSIPPI RIVER AT WINONA, MN--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL DATA: Water years 1963 to August 1986 (discontinued).

SPECIFIC CONDUCTANCE: Water years 1980 to September 1984 (discontinued).

WATER TEMPERATURES: Water years 1976 to current year.

SUSPENDED-SEDIMENT DISCHARGE: Water years 1976 to current year.

REMARKS.--Daily sediment concentrations and loads were estimated on the basis of water records and sediment samples that were collected weekly during April 1 to September 30. No samples were collected October 1 to May 31. Water temperature was measured at the time of sample collection. Letter K indicates a non-ideal colony count.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE, AIR (DEG C) (00020)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)
NOV , 1985										
25...	1050	24500	390	395	8.30	7.70	-1.5	1.0	4.0	766
JAN , 1986										
14...	1315	26000	400	446	7.70	7.70	-4.0	0.0	2.6	773
APR										
09...	1500	161000	370	350	7.90	7.80	12.0	8.0	4.5	770
AUG										
20...	1345	52700	340	358	8.20	8.20	25.5	23.5	6.6	772

DATE	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CAC03 (00410)	ALKA- LITY LAB (MG/L AS CAC03) (90410)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L - CAC03) (99430)
NOV , 1985										
25...	14.9	K11	K9	48	19	9.1	2.0	148	146	--
JAN , 1986										
14...	13.4	K19	K8	51	20	11	2.5	182	166	182
APR										
09...	11.0	K20	K24	41	13	5.8	3.7	124	123	125
AUG										
20...	7.4	83	510	41	17	7.5	2.6	128	136	129

05378500 MISSISSIPPI RIVER AT WINONA, MN--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

		BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR- BONATE IT-FLD (MG/L AS CO3) (99445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L (70300)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)			
NOV , 1985													
25...		--	--	39	14	0.2	10	245	1.49	0.01			
JAN , 1986													
14...		222	0	34	16	0.2	15	264	1.58	0.02			
APR													
09...		152	0	29	8.9	0.2	12	216	2.17	0.03			
AUG													
20...		157	0	39	9.1	0.2	13	228	0.71	0.04			
DATE		NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)			
NOV , 1985													
25...		1.50	0.06	0.05	0.8	0.13	0.04	0.03	--	--			
JAN , 1986													
14...		1.60	0.46	0.45	1.1	0.09	0.07	0.07	--	--			
APR													
09...		2.20	0.21	0.20	0.9	0.14	0.08	0.06	--	--			
AUG													
20...		0.75	0.09	0.02	0.9	0.14	0.09	0.08	16	99			
DATE		TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	
NOV , 1985													
25...		1050	20	<1	38	2	<1	<1	<3	2	100	3	
JAN , 1986													
14...		1315	10	<1	44	0.6	<1	<1	<3	<1	110	4	
AUG													
20...		1345	<10	2	43	<0.5	<1	<1	<3	1	43	30	
DATE		LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)		
NOV , 1985													
25...		<4	26	<0.1	<10	2	<1	<1	120	<6	62		
JAN , 1986													
14...		11	88	3.0	<10	3	<1	<1	130	<6	4		
AUG													
20...		12	3	<0.1	<10	2	<1	<1	110	<6	42		
DATE		TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	NUMBER OF SAM- PLING POINTS (00063)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)
APR , 1986													
09...		1500	161000	4	<1	<1	3	49	88	95	97	99	100

05378500 MISSISSIPPI RIVER AT WINONA, MN--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	ONCE-DAILY MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---			7.0	---	---	---	---	---
2				---			---	---		24.0	---	---
3				---			---	---	21.0	---	---	21.5
4				---			---	---	---	---	---	---
5				---			---	15.0	---	---	---	---
6				---			---	---	---	---	---	---
7				---			---	---	---	---	---	18.0
8				---			---	---	---	---	---	---
9				---			---	---	---	25.0	24.0	---
10				---			7.0	---		---	---	---
11				---			8.5	---	20.0	---	---	---
12				---			---	---	---	---	---	---
13				---			---	16.0	---	---	---	---
14				---			---	---	---	---	---	18.0
15				.0			---	---	---	---	---	---
16				---			7.5	---	---	---	23.0	---
17				---			---	---	---	---	---	---
18				---			---	---	21.5	28.0	---	---
19				---			---	---	---	---	---	---
20				---			---	18.0	---	---	---	---
21				---			---	---	---	---	22.0	18.0
22				---			---	---	---	---	---	---
23				---			9.5	---	---	---	---	---
24				---			---	---	---	---	---	---
25				---			---	---	---	27.0	22.5	---
26				---			17.5	---	---	---	---	---
27				---			---	18.0	---	---	---	---
28				---			---	---	---	---	---	18.0
29				---			---	---	---	---	---	---
30				---			---	---	---	---	---	---
31				---			---	---	---	---	---	---
MEAN				.0			9.5	17.0	21.0	26.0	23.0	18.5
MAX				.0			17.5	18.0	21.5	28.0	24.0	21.5
MIN				.0			7.0	15.0	20.0	24.0	22.0	18.0
WTR YR 1986	MEAN	17.5	MAX	28.0		MIN	.0					

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

05378500 MISSISSIPPI RIVER AT WINONA, MN--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	56	14800	25	6750	18	3490	17	3060	19	2950	13	1470
2	63	18900	23	6640	18	3230	17	3050	20	3110	12	1260
3	68	23100	22	6830	17	2870	17	3020	21	3150	13	1330
4	72	27000	20	6480	17	2790	18	3060	21	2910	16	1640
5	77	31800	18	5930	16	2620	18	2960	21	2780	18	1890
6	83	36500	17	5690	17	2640	19	3110	21	2770	20	2100
7	80	35900	17	5690	17	2490	19	3140	21	2730	23	2480
8	60	26700	16	5310	16	2270	19	3060	21	2740	24	2630
9	39	17000	17	5550	15	1990	19	2860	22	2830	26	2870
10	22	9210	17	5420	14	1740	19	2640	20	2590	27	3160
11	20	7990	16	5010	13	1650	19	2520	19	2470	28	3660
12	20	7670	16	4920	13	1680	19	2490	18	2350	29	3980
13	19	7030	16	4920	14	1840	19	2460	17	2220	29	4230
14	18	6420	15	4660	15	1980	19	2420	15	1970	30	4600
15	17	5880	16	5050	15	1950	18	2300	14	1850	31	4830
16	16	5400	16	5270	15	1910	18	2380	13	1730	31	4790
17	16	5230	16	5440	15	1910	18	2440	17	2310	32	4810
18	17	5320	16	5530	14	1810	17	2340	18	2590	32	4800
19	16	4840	16	5570	14	1830	16	2290	17	2480	32	4990
20	16	4800	16	5530	15	1940	14	2060	16	2280	33	5300
21	16	4710	16	5360	16	2060	12	1840	15	2050	33	5690
22	15	4290	16	5140	16	2160	15	2350	14	1780	39	7900
23	14	3860	16	4880	16	2250	17	2640	13	1550	44	10500
24	15	4030	16	4620	16	2350	18	2710	12	1390	50	14200
25	15	3980	16	4410	19	3020	18	2700	12	1380	42	13600
26	15	3900	16	4140	19	3150	19	2830	12	1440	35	12600
27	20	5100	15	3630	18	3070	19	2850	13	1620	30	11200
28	29	7250	16	3650	18	3110	19	2890	13	1660	29	10800
29	27	6690	17	3770	18	3210	19	2880	13	1600	29	10600
30	26	6630	17	3640	18	3290	19	2890	13	1530	29	10600
31	---	---	18	3690	---	---	18	2750	13	1520	---	---
TOTAL	---	351930	---	159120	---	72300	---	82990	---	68330	---	174510
TOTAL LOAD FOR YEAR:			909180	TONS.								

TREMPEALEAU RIVER BASIN

442129091251100 BUGLE LAKE AT INDEPENDENCE, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 44°21'29", long 91°25'11", in NW 1/4 sec.25, T.22 N., R.9 W., Trempealeau County, Hydrologic Unit 07040005, at dam at Independence.

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Staff gage read by Ralph Wiersgalla. Elevation of gage is 779 ft, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 1.90 ft, Sept. 9, 30, 1985; minimum observed, 1.60 ft, many days in July and August 1985, and Apr. 15, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 1.80 ft, many days during October, November, June, August, and September; minimum observed, 1.60 ft, Apr. 15.

GAGE HEIGHT (FEET ABOVE DATUM) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.70	1.80					1.70	1.70	---	1.70	1.70	---
2	1.70	1.80					1.70	1.70	1.70	1.70	---	1.70
3	1.70	---					1.70	---	1.70	1.70	---	---
4	1.80	1.70					1.70	---	1.70	---	---	---
5	1.80	1.70					---	1.70	1.70	---	---	---
6	---	1.70					---	1.70	1.70	---	---	---
7	1.70	1.70					1.70	1.70	---	1.70	---	---
8	1.70	1.70					1.70	1.70	---	1.70	---	---
9	1.70	1.70					1.70	1.70	1.70	1.70	---	---
10	1.70	---					1.70	---	1.70	1.70	---	---
11	1.70	1.70					1.70	---	1.70	1.70	---	---
12	1.80	1.70					---	1.70	1.70	---	---	---
13	---	1.70					---	1.70	1.70	---	---	---
14	1.70	1.70					1.70	1.70	---	1.70	---	---
15	1.70	1.70					1.60	1.70	---	---	1.80	1.80
16	1.70	1.70					1.70	1.70	1.70	---	---	---
17	1.70	---					1.70	---	1.70	---	---	---
18	1.70	1.70					1.70	---	1.70	---	---	---
19	1.70	1.70					---	1.70	1.70	---	---	---
20	---	1.70					---	1.70	1.70	---	---	---
21	1.70	---					1.70	1.70	---	---	---	---
22	1.70	---					1.70	1.70	---	---	---	---
23	1.70	---					1.70	1.70	1.70	---	---	---
24	1.70	---					1.70	---	1.70	---	---	---
25	1.70	---					1.70	---	1.70	---	---	---
26	1.70	---					---	1.70	1.70	---	---	---
27	---	---					---	1.70	1.80	---	---	---
28	1.70	---					1.70	1.70	---	---	---	---
29	1.70	---					1.70	1.70	---	---	---	---
30	1.70	---					1.70	1.70	1.70	---	---	1.80
31	1.70	---					---	---	---	---	---	---

WATER-QUALITY RECORDS

LOCATION.--Lat 44°21'37", long 91°25'20", in NW 1/4 sec.25, T.22 N., R.9 W., Trempealeau County, Hydrologic Unit 07040005, near center of lake, at Independence.

PERIOD OF RECORD.--July 1985 to current year.

REMARKS.--Secchi disc readings made by Ralph Wiersgalla.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
OCT. 1	1.5	OCT. 11	1.5	OCT. 22	1.2	NOV. 1	0.9	NOV. 12	1.2	APR. 30	0.6
OCT. 2	1.5	OCT. 12	0.9	OCT. 23	1.2	NOV. 2	0.9	NOV. 13	1.2	MAY 15	1.2
OCT. 3	1.2	OCT. 14	1.2	OCT. 24	1.2	NOV. 4	1.2	NOV. 14	1.2	MAY 30	1.2
OCT. 4	0.9	OCT. 15	1.2	OCT. 25	1.2	NOV. 5	1.2	NOV. 15	1.2	JUNE 13	1.2
OCT. 5	1.2	OCT. 16	1.5	OCT. 26	1.2	NOV. 6	1.2	NOV. 16	0.9	JULY 11	0.3
OCT. 7	1.5	OCT. 17	0.9	OCT. 28	1.5	NOV. 7	1.5	NOV. 18	0.9	AUG. 1	1.2
OCT. 8	1.2	OCT. 18	1.2	OCT. 29	1.2	NOV. 8	1.2	NOV. 19	1.2	AUG. 15	0.8
OCT. 9	1.2	OCT. 20	1.2	OCT. 30	1.2	NOV. 9	1.2	NOV. 20	1.2	SEPT. 2	1.2
OCT. 10	1.5	OCT. 21	1.2	OCT. 31	1.2	NOV. 11	1.2	APR. 2	1.2	SEPT. 15	0.6
								APR. 16	1.2	SEPT. 30	0.6

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 above 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.--Estimated daily discharges: None, except for ice period listed in rating table below. Records are good except those for ice-affected period, which is fair. Gage-height telemeter and data-collection platform at station.

AVERAGE DISCHARGE.--57 years (1915-19, 1935-86), 429 ft³/s, 9.06 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 discharges greater than base discharge 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)
Mar. 21	0600	1,930	7.81	Sept. 24	1000	*4,920	*10.83
July 1	1100	1,830	7.82				

Minimum daily discharge, 300 ft³/s Feb. 9-15, Mar. 8.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used June 17 to Sept. 30; stage-discharge relation affected by ice Nov. 23 to Mar. 16.)

3.0	294	7.0	1,520
3.6	383	8.0	2,040
4.0	483	9.0	2,750
5.0	777	10.0	4,200
6.0	1,120	10.5	5,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	916	522	470	340	310	310	798	661	395	1780	532	331
2	746	780	460	340	310	320	757	588	382	1050	459	327
3	614	732	450	340	310	330	717	540	373	675	420	327
4	562	642	450	330	320	340	776	517	369	567	396	354
5	670	548	440	330	330	350	837	507	398	512	376	373
6	724	507	440	330	330	340	887	491	386	517	363	349
7	613	493	430	330	320	320	814	472	383	603	365	332
8	566	482	430	330	310	300	716	459	378	499	541	325
9	551	485	430	330	300	310	650	465	370	454	590	322
10	529	487	420	350	300	310	609	500	370	429	483	452
11	503	478	420	350	300	320	584	481	393	416	455	955
12	500	471	410	360	300	320	565	475	402	428	404	1110
13	518	475	410	350	300	330	552	530	409	477	376	929
14	516	487	410	350	300	340	591	586	397	466	384	673
15	493	491	400	350	300	370	765	611	379	449	455	655
16	491	522	400	360	310	450	791	722	367	497	455	673
17	495	597	400	370	310	697	706	735	355	502	428	577
18	484	608	390	370	310	936	627	643	352	444	490	565
19	470	594	390	360	310	1430	588	550	353	461	413	729
20	460	590	390	340	310	1750	582	504	347	493	369	854
21	433	574	380	330	310	1820	575	476	359	446	348	1120
22	435	563	380	320	310	1420	564	457	452	392	339	1580
23	433	560	380	320	310	1310	539	443	482	367	341	2500
24	436	540	370	320	310	1400	517	435	414	364	336	4420
25	436	540	370	320	310	1490	512	480	376	486	336	3890
26	427	520	360	320	310	1420	650	463	368	511	350	3110
27	416	500	360	310	310	1470	755	448	638	515	383	2380
28	410	500	360	310	310	1440	819	426	1170	866	371	1820
29	406	490	350	310	---	1170	851	413	1420	966	342	1350
30	402	480	350	310	---	984	745	407	1700	820	334	1080
31	403	---	350	310	---	869	---	403	---	677	334	---
TOTAL	16058	16258	12450	10390	8670	24966	20439	15888	14937	18129	12568	34462
MEAN	518	542	402	335	310	805	681	513	498	585	405	1149
MAX	916	780	470	370	330	1820	887	735	1700	1780	590	4420
MIN	402	471	350	310	300	300	512	403	347	364	334	322
CFSM	.81	.84	.63	.52	.48	1.25	1.06	.80	.77	.91	.63	1.79
IN.	.93	.94	.72	.60	.50	1.44	1.18	.92	.86	1.05	.73	1.99
CAL YR 1985	TOTAL	208822	MEAN 572	MAX 6070	MIN 290	CFSM .89	IN 12.08					
WTR YR 1986	TOTAL	205215	MEAN 562	MAX 4420	MIN 300	CFSM .87	IN 11.87					

BLACK RIVER BASIN

05380806 BLACK RIVER AT MEDFORD, WI

LOCATION.--Lat 45°08'09", long 90°20'45", in SE 1/4 SW 1/4 sec.27, T.31 N., R.1 E., Taylor County, Hydrologic Unit 07040007, on right bank 0.2 mi downstream from dam at outlet of Medford Flowage in Medford, and 2.1 mi upstream from Little Black River.

DRAINAGE AREA.--47.9 mi².

PERIOD OF RECORD.--September 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,395.22 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: None, except for ice period listed in rating tables below. Records good except those for ice-affected period, which is fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 867 ft³/s Apr. 1, 1986, gage height, 5.08 ft; minimum, 0.88 ft³/s June 6, 1986, gage height, 1.29 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 867 ft³/s, Apr. 1, gage height, 5.08 ft; minimum, 0.88 ft³/s, June 6, gage height, 1.29 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 26 to Mar. 23.)

Oct. 1 to Aug. 4

Aug. 5 to Sept. 30

1.5	3.3	2.8	109	1.7	5.4	3.0	144
1.6	5.1	3.4	228	1.8	8.1	3.5	253
1.7	7.9	4.0	400	1.9	11.5	4.0	400
1.9	16	4.5	590	2.0	18	4.5	590
2.1	28	5.0	825	2.2	32	5.0	825
2.4	55			2.5	62		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	270	127	27	17	17	14	812	105	8.5	12	13	9.3
2	261	200	26	17	17	15	730	79	8.9	11	13	8.7
3	178	190	25	17	16	15	502	57	6.4	9.4	11	8.8
4	194	135	25	16	17	15	335	45	6.6	11	9.5	9.8
5	302	87	24	16	18	15	279	39	5.5	11	10	9.9
6	320	71	23	16	17	16	257	34	5.0	14	17	9.2
7	274	63	23	16	17	16	229	29	6.1	14	113	8.4
8	217	52	23	16	17	16	178	26	5.4	11	119	7.9
9	173	46	22	16	17	17	126	24	5.5	9.4	61	14
10	151	40	22	17	16	17	91	22	8.5	7.8	35	146
11	118	39	21	18	16	17	72	22	42	11	26	242
12	120	36	21	17	16	18	60	25	34	15	19	223
13	131	36	21	17	15	19	52	25	26	20	14	168
14	113	41	21	17	15	20	60	25	19	19	43	84
15	87	38	20	17	15	21	123	24	15	20	57	103
16	70	36	20	18	16	22	118	23	12	20	41	120
17	59	38	20	18	17	23	90	22	10	22	31	101
18	52	45	19	17	18	29	67	20	8.1	19	23	90
19	47	87	19	17	18	34	56	18	14	36	18	79
20	42	77	19	17	17	39	52	17	10	48	14	77
21	40	73	19	16	16	38	50	16	14	33	13	128
22	37	57	18	16	16	41	45	15	15	23	10	471
23	38	49	18	16	15	49	40	14	15	17	11	391
24	40	43	18	16	15	51	37	13	13	22	11	313
25	38	37	18	16	15	83	36	13	12	32	10	260
26	36	34	18	16	14	154	44	13	13	29	10	262
27	34	32	18	16	14	159	52	12	53	23	9.7	613
28	31	31	17	16	14	204	52	11	38	23	8.7	545
29	31	29	17	16	---	383	63	11	22	20	7.8	412
30	29	28	17	16	---	637	97	10	16	17	7.8	244
31	28	---	17	16	---	688	---	9.8	---	14	9.0	---
TOTAL	3561	1897	636	513	451	2885	4805	818.8	467.5	593.6	795.5	5158.0
MEAN	115	63.2	20.5	16.5	16.1	93.1	160	26.4	15.6	19.1	25.7	172
MAX	320	200	27	18	18	688	812	105	53	48	119	613
MIN	28	28	17	16	14	14	36	9.8	5.0	7.8	7.8	7.9
CFSM	2.40	1.32	.43	.34	.34	1.94	3.34	.55	.33	.40	.54	3.59
IN.	2.77	1.47	.49	.40	.35	2.24	3.73	.64	.36	.46	.62	4.01
CAL YR 1985	TOTAL	22666.4	MEAN	62.1	MAX	468	MIN	1.6	CFSM	1.30	IN	17.60
WTR YR 1986	TOTAL	22581.4	MEAN	61.9	MAX	812	MIN	5.0	CFSM	1.29	IN	17.54

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 above 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.--Estimated daily discharges: None, except for ice period listed in rating table below. Records good except those for ice-affected period, which is fair.

AVERAGE DISCHARGE.--76 years (1906-8, 1914-86), 602 ft³/s, 10.91 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 greater than base discharge of 5,000 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Mar. 26	----	A 8,000	ice jam	Sept. 22	0600	*28,100	*18.65
Mar. 29	2300	10,300	12.21	Sept. 25	1300	11,000	12.54
Sept. 11	0645	6,490	10.16	Sept. 28	0330	13,000	13.43

A Estimated, daily mean discharge (ice affected).

Minimum, 55 ft³/s June 6.

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

2.7	55	6.0	1,500
3.0	104	7.0	2,370
3.5	224	9.0	4,740
4.0	392	11.0	7,940
5.0	850	14.0	14,300
		17.0	22,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4410	1660	230	180	180	200	7030	911	75	224	309	175
2	3350	3960	220	180	180	200	5560	995	70	170	300	157
3	2320	3110	220	180	180	210	4580	804	66	137	273	154
4	1720	2210	210	180	190	210	3520	583	62	123	224	158
5	3800	1460	210	180	190	200	2760	447	59	126	189	161
6	3800	1020	200	180	190	200	2500	358	56	139	163	153
7	3140	797	200	180	190	200	2130	293	59	147	163	138
8	2430	668	190	180	180	200	1680	251	61	155	1360	131
9	1970	583	190	180	180	210	1250	222	61	135	2150	135
10	1610	506	190	190	180	210	942	204	56	115	1710	1710
11	1380	449	190	190	180	220	728	189	71	108	1020	5840
12	1160	399	190	190	180	220	586	188	68	134	601	4250
13	1320	405	190	190	180	220	501	193	201	249	420	2800
14	1310	415	190	190	170	220	590	208	360	272	922	1720
15	1080	412	190	190	170	230	1340	211	258	248	3440	1950
16	870	480	190	200	170	240	1700	237	182	559	2390	2070
17	689	591	190	200	180	250	1400	218	137	427	1430	1720
18	576	790	190	190	180	280	996	203	111	368	837	1810
19	511	1900	190	190	180	3000	754	185	97	320	574	1960
20	456	1600	190	180	180	2600	610	170	85	392	419	1920
21	418	1100	190	180	180	2000	521	151	82	462	333	3640
22	392	800	190	180	180	1700	448	136	91	391	274	20200
23	359	580	180	180	180	2500	392	128	132	290	240	13900
24	356	420	180	180	180	3500	347	121	171	432	213	7020
25	350	320	180	180	190	5400	310	111	153	3350	202	8640
26	336	280	180	180	190	9580	306	104	163	1860	223	5890
27	324	260	180	180	190	5200	330	102	822	1370	245	9890
28	299	250	180	180	190	6270	485	96	333	2620	217	11300
29	279	240	180	180	---	9010	463	91	296	798	189	7180
30	261	230	180	180	---	9190	561	86	309	516	167	4500
31	246	---	180	180	---	8370	---	82	---	398	154	---
TOTAL	41522	27895	5960	5700	5090	72240	45220	8278	4747	17035	21351	121272
MEAN	1339	930	192	184	182	2330	1507	267	158	550	689	4042
MAX	4410	3960	230	200	190	9580	7030	995	822	3350	3440	20200
MIN	246	230	180	180	170	200	306	82	56	108	154	131
CFSM	1.79	1.24	.26	.25	.24	3.11	2.01	.36	.21	.73	.92	5.40
IN.	2.06	1.39	.30	.28	.25	3.59	2.25	.41	.24	.85	1.06	6.02

CAL YR 1985	TOTAL	273863	MEAN	750	MAX	5380	MIN	56	CFSM	1.00	IN	13.60
WTR YR 1986	TOTAL	376310	MEAN	1031	MAX	20200	MIN	56	CFSM	1.38	IN	18.69

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 above 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.--Estimated daily discharges: Oct. 1, June 28 to Aug. 19, and Sept. 9-30, and ice period listed in rating tables below. Records good except for estimated daily discharges, 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.--54 years, 1,761 ft³/s, 11.50 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 greater than base discharge 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)
Mar. 28	0400	24,200	13.55	Sept. 24	----	*43,600	*15.14
Apr. 1	0500	15,100	11.99				

Minimum discharge, 458 ft³/s, June 10, gage height, 2.13 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Nov. 4, May 13 to June 27; stage-discharge relation affected by ice Nov. 22 to Mar. 21.)

Oct. 1 to Nov. 4

3.0	840
4.0	1,540
6.0	3,550
8.0	6,260

Nov. 5 to Sept. 30

2.0	480	10.0	9,700
3.0	1,040	12.0	15,100
4.0	1,840	13.0	20,100
6.0	3,900	14.0	28,100
8.0	6,500	15.0	41,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3300	1220	1200	940	960	1200	14500	2020	627	3500	3000	904
2	4850	1870	1100	940	960	1200	12700	2080	554	2000	2300	865
3	5870	4250	1100	920	960	1300	10800	2200	520	1500	1700	792
4	5340	5800	1100	920	960	1200	8700	2120	562	1100	1500	769
5	4160	6110	1100	920	960	1100	7830	1950	563	860	1400	863
6	3980	5080	1100	920	940	1000	7380	1800	584	700	1400	867
7	4960	3780	1000	920	920	980	6280	1620	539	720	1200	812
8	5320	2860	1000	920	900	960	6060	1190	563	840	1300	672
9	4630	2430	1000	920	880	940	5230	1230	520	900	1200	600
10	3830	2330	980	920	880	960	4090	1210	540	920	1500	900
11	3080	2180	980	920	880	980	3170	1130	568	860	3100	960
12	2770	2010	980	920	860	980	2680	1030	584	820	2900	1500
13	2520	1740	980	920	860	1000	2450	1020	682	780	2300	9400
14	2230	1800	980	900	860	1100	2170	1040	659	600	2000	8800
15	2300	1850	960	900	860	1100	2290	1050	647	800	1800	6000
16	2260	1930	960	900	840	1100	3310	1080	580	1400	1600	4200
17	2080	2060	960	900	840	1200	4060	1120	558	1600	5200	3800
18	1860	2630	960	900	840	1200	4220	1240	679	1400	4600	4500
19	1550	2970	940	900	840	1300	3680	1190	654	1700	3900	3900
20	1530	3640	940	900	840	2500	2920	1010	582	1600	2470	3800
21	1480	4320	940	940	840	5000	2570	1110	576	1300	1700	4200
22	1390	3700	940	960	820	7530	2280	985	592	1400	1230	5200
23	1220	3000	940	960	820	7670	1900	949	526	1700	1120	7000
24	1280	2300	940	960	820	6850	1860	901	515	1500	1030	32000
25	1270	1900	940	960	960	7830	1850	888	537	1400	998	31000
26	1270	1500	940	960	920	9890	1880	815	561	1300	996	21000
27	1250	1200	940	960	940	16800	1730	688	1050	3000	1010	18000
28	1210	700	940	960	1100	21200	1740	694	2700	3800	978	17000
29	1180	1200	940	960	---	15900	1850	805	8600	2800	949	16000
30	1170	1300	940	960	---	14100	1910	711	5800	9000	931	19000
31	1120	---	940	960	---	14400	---	666	---	5600	922	---
TOTAL	82260	79660	30660	28840	25060	150470	134090	37542	33222	57400	58234	225304
MEAN	2654	2655	989	930	895	4854	4470	1211	1107	1852	1879	7510
MAX	5870	6110	1200	960	1100	21200	14500	2200	8600	9000	5200	32000
MIN	1120	700	940	900	820	940	1730	666	515	600	922	600
CFSM	1.28	1.28	.48	.45	.43	2.33	2.15	.58	.53	.89	.90	3.61
IN.	1.47	1.42	.55	.52	.45	2.69	2.40	.67	.59	1.03	1.04	4.03

CAL YR 1985	TOTAL	743053	MEAN	2036	MAX	10900	MIN	440	CFSM	.98	IN	13.29
WTR YR 1986	TOTAL	942742	MEAN	2583	MAX	32000	MIN	515	CFSM	1.24	IN	16.86

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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT , 1985										
02...	1550	5040	--	112	7.00	10.0	5.0	10.5	754	94
JAN , 1986										
06...	1300	--	920	78	7.30	.0	5.0	11.6	769	79
MAR										
06...	1200	--	1000	150	7.50	.0	4.9	12.8	742	90
APR										
29...	1400	1860	--	100	6.80	14.0	3.5	9.7	743	97
JUN										
24...	1200	485	--	250	7.90	19.5	10	9.2	748	102
SEP										
03...	1030	778	--	130	6.20	20.0	6.0	8.5	745	96
DATE		COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CA) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
OCT , 1985										
02...	K3700	K2700	41	11	9.5	4.1	3.3	14	.2	4.1
JAN , 1986										
06...	24	37	54	3	13	5.3	3.3	11	.2	2.1
MAR										
06...	25	43	60	14	14	6.0	4.0	12	.2	2.0
APR										
29...	500	250	40	11	9.4	3.9	2.8	13	.2	2.1
JUN										
24...	--	K2610	75	13	18	7.4	3.1	8	.2	2.0
SEP										
03...	300	K57	59	11	14	5.9	3.1	10	.2	2.4
DATE		BICAR- BONATE IT-FLD (MG/L AS HC03) (99440)	CAR- BONATE IT-FLD (MG/L AS C03) (99445)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CAC03) (99430)	CARBON DIOXIDE DIS- SOLVED (MG/L AS C02) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
OCT , 1985										
02...	36	--	29	5.7	7.9	7.2	<.10	8.9		89
JAN , 1986										
06...	63	--	51	5.0	11	6.6	<.10	13		82
MAR										
06...	56	--	45	2.8	11	6.3	<.10	14		86
APR										
29...	35	--	28	8.8	12	5.2	<.10	6.6		74
JUN										
24...	76	--	61	1.5	11	5.4	<.10	7.3		100
SEP										
03...	59	--	48	59	13	5.3	.10	8.3		82
DATE		SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT , 1985										
02...	64	.12	1210	.43	.060	.30	.230	.130		.120
JAN , 1986										
06...	89	.11	204	.84	.160	.80	.110	.060		.060
MAR										
06...	90	.12	232	.97	.170	.50	.140	.070		.040
APR										
29...	61	.10	372	.41	.030	.70	.110	.060		.040
JUN										
24...	92	.14	131	.42	<.010	.80	.180	.050		.030
SEP										
03...	81	.11	172	.24	.020	.80	.170	.060		.040

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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	ALUM- INUM, DIS- SOLVED (UG/L) AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L) AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L) AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L) AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L) AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L) AS CR) (01030)	COBALT, DIS- SOLVED (UG/L) AS CO) (01035)	COPPER, DIS- SOLVED (UG/L) AS CU) (01040)
OCT , 1985											
02...	1550	5040	--	60	<1	27	<.5	2	4	<3	5
MAR , 1986											
06...	1200	--	1000	50	<1	23	<.5	<1	<1	<3	4
JUN											
24...	1200	485	--	10	<1	23	<.5	<1	<1	<3	2

DATE	IRON, DIS- SOLVED (UG/L) AS FE) (01046)	LEAD, DIS- SOLVED (UG/L) AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L) AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)	MERCURY DIS- SOLVED (UG/L) AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L) AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L) AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L) AS SE) (01145)	STRON- TIUM, DIS- SOLVED (UG/L) AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L) AS V) (01085)	ZINC, DIS- SOLVED (UG/L) AS ZN) (01090)
OCT , 1985											
02...	440	2	<4	65	<.1	<10	5	<1	31	<6	5
MAR , 1986											
06...	700	<1	<4	53	<.1	<10	1	<1	36	<6	17
JUN											
24...	24	<5	<4	33	<.1	<10	2	<1	42	<6	9

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT , 1985								
02...	1550	5040	--	112	10.0	106	1440	63
NOV								
20...	1125	3670	--	95	1.5	--	--	--
JAN , 1986								
06...	1300	--	920	78	0.0	6	15	72
FEB								
18...	1305	816	--	160	0.0	--	--	--
MAR								
06...	1200	--	1000	150	0.0	10	27	79
APR								
01	1030	14860	--	90	8.5	--	--	--
29...	1400	1860	--	100	14.0	18	90	93
JUN								
03	1000	488	--	150	18.0	--	--	--
24...	1200	485	--	250	19.5	48	63	95
JUL								
28	1200	3760	--	--	22.5	--	--	--
SEP								
03...	1030	778	--	130	20.0	67	141	33

435447091042600 NESHONOC LAKE AT WEST SALEM, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 43°54'47", long 91°04'26", in NE 1/4 sec.34, T.17 N., R.6 W., LaCrosse County, Hydrologic Unit 07040006, at U.S. Highway 16 over Neshonoc Lake, at West Salem.

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Staff gage read by Gary Willinger. Elevation of gage is 699 ft, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 8.30 ft, Aug. 3, 1986; minimum observed, 7.74 ft, Nov. 8, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 8.30 ft, Aug. 3; minimum observed, 7.78 ft, May 3.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
APR. 7	8.08	APR. 27	7.95	JUNE 14	7.93	JUNE 29	8.05	AUG. 3	8.30	AUG. 31	8.10
APR. 10	8.08	MAY 3	7.78	JUNE 18	7.98	JULY 13	8.13	AUG. 18	8.08	SEPT. 14	8.10
APR. 16	8.08	MAY 14	7.90	JUNE 22	8.05						

WATER-QUALITY RECORDS

LOCATION.--Lat 43°54'47", long 91°04'26", in NE 1/4 sec.34, T.17 N., R.6 W., LaCrosse County, Hydrologic Unit 07040006, at U.S. Highway 16 over Neshonoc Lake, at West Salem.

PERIOD OF RECORD.--April 1985 to current year.

REMARKS.--Secchi disc readings made by Gary Willinger.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
APR. 7	0.4	APR. 27	0.5	JUNE 14	0.4	JUNE 29	0.6	AUG. 3	0.4	AUG. 31	0.5
APR. 10	0.4	MAY 3	0.4	JUNE 18	0.4	JULY 13	0.6	AUG. 18	0.6	SEPT. 14	0.3
APR. 16	0.4	MAY 14	0.4	JUNE 22	0.4						

MISSISSIPPI RIVER MAIN STEM

05389500 MISSISSIPPI RIVER AT MCGREGOR, 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 McGregor, 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 above National Geodetic Vertical Datum. 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.--Estimated daily discharge: Nov. 29 to Mar. 19. Records good except those for periods of estimated daily discharge, 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 U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--50 years, 35,670 ft³/s, 7.18 in/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 PERIOD OF RECORD.--Maximum stage since at least 1828, that of Apr. 24, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 168,000 ft³/s Apr. 11; maximum gage height, 20.10 ft Apr. 10; minimum daily discharge, 19,000 ft³/s Dec. 1; minimum gage height, 7.7 ft Nov. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68300	55100	19000	30000	22000	23000	104000	105000	91000	72900	67400	46700
2	70700	54600	19500	30000	22000	23000	105000	104000	87300	75300	68700	45100
3	69800	55100	20000	30000	22000	23000	110000	106000	83000	76200	68600	43000
4	69500	55100	23000	30000	24000	23000	116000	109000	78100	76200	67200	42200
5	70800	53700	28000	30000	25000	23000	126000	113000	71200	74800	63900	41500
6	72800	52500	30000	30000	26000	24000	137000	118000	65700	73400	59600	40600
7	75900	53200	30000	30000	27000	24000	148000	121000	65000	71300	54200	40400
8	79900	57800	29000	30000	27000	23000	157000	124000	63700	67200	52200	40600
9	83400	62700	30000	30000	27000	23000	163000	125000	60400	65000	51200	40800
10	87300	63800	32000	28000	27000	23000	167000	125000	56200	62900	50800	42400
11	92200	62400	34000	27000	27000	24000	168000	125000	53700	60600	50700	46500
12	97900	56700	35000	25000	27000	24000	163000	124000	51200	57500	50300	50000
13	101000	49000	35000	25000	27000	25000	160000	122000	48700	54300	50100	55100
14	103000	46500	35000	26000	23000	27000	156000	121000	48700	51100	50900	59400
15	102000	44500	35000	27000	23000	29000	151000	118000	49500	49100	51900	64100
16	99500	43800	35000	28000	22000	31000	145000	121000	50400	50000	52300	68200
17	96700	43400	34000	28000	21000	32000	140000	123000	50500	50400	52300	70900
18	94900	42800	33000	28000	21000	33000	136000	124000	50500	50900	52800	72200
19	93700	42600	32000	28000	21000	45000	133000	126000	50200	52400	54200	71900
20	91600	43000	32000	28000	22000	64400	129000	129000	49500	54200	54900	71400
21	89200	43900	31000	28000	23000	69200	125000	130000	48700	56100	55700	72000
22	85900	45400	30000	28000	23000	70400	122000	129000	49900	57100	55800	75100
23	83100	46100	31000	28000	23000	71000	119000	128000	51400	59200	55000	81600
24	80500	39900	31000	28000	23000	72300	117000	125000	52700	62400	51100	91000
25	77100	37900	31000	27000	23000	76600	114000	122000	55000	65500	47400	103000
26	74300	36300	31000	27000	23000	81900	112000	118000	57600	65200	47700	120000
27	71300	33100	31000	27000	23000	85400	109000	114000	61300	64100	54100	136000
28	67800	27900	30000	25000	23000	87400	108000	110000	65000	64100	56500	145000
29	61500	24000	30000	24000	---	91200	106000	104000	68000	63600	55200	153000
30	58800	21000	30000	24000	---	98300	105000	98700	69700	63900	51200	157000
31	55900	---	30000	23000	---	102000	---	94400	---	65500	49600	---
TOTAL	2526300	1393800	936500	857000	667000	1472100	3951000	3656100	1803800	1932400	1703500	2186700
MEAN	81490	46460	30210	27650	23820	47490	131700	117900	60130	62340	54950	72890
MAX	103000	63800	35000	30000	27000	102000	168000	130000	91000	76200	68700	157000
MIN	55900	21000	19000	23000	21000	23000	104000	94400	48700	49100	47400	40400
CFSM	1.21	.69	.45	.41	.35	.70	1.95	1.75	.89	.92	.81	1.08
IN.	1.39	.77	.52	.47	.37	.81	2.18	2.01	.99	1.06	.94	1.21
CAL YR 1985	TOTAL	18849500	MEAN	51640	MAX	110000	MIN	19000	CFSM	.77	IN.	10.39
WTR YR 1986	TOTAL	23086200	MEAN	63250	MAX	168000	MIN	19000	CFSM	.94	IN.	12.72

MISSISSIPPI RIVER MAIN STEM

05389500 MISSISSIPPI RIVER AT MCGREGOR, IA--Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected by 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.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1975 to current year.

WATER TEMPERATURES: July 1975 to current year.

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.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2350 mg/L Mar. 19, 1986; minimum daily mean, 1 mg/L Dec. 23-25, 1976; Dec. 20, 28, 1977; Feb. 13-17, 23, Mar. 5-9, 1986.

SEDIMENT LOADS: Maximum daily, 363,000 tons Mar. 19, 1986; minimum daily, 31 tons Dec. 25, 1976.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2350 mg/L Mar. 19; minimum daily mean, 1 mg/L Feb. 13-17, 23, Mar. 5-9.

SEDIMENT LOADS: Maximum daily, 363,000 tons Mar. 19; minimum daily, 92 tons Feb. 17.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	TEMPER- ATURE (DEG C) (00010)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT , 1985 22...	16:00	12.0	76100	34	6990	96
APR , 1986 02...	14:30	11.0	98300	46	12200	86
MAY 13...	15:00	18.0	120000	22	7130	93

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NUMBER OF SAM- PLING POINTS (00063)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)
OCT , 1985 22...	16:00	76100	6	2	7	40	87
APR , 1986 02...	14:30	98300	6	15	24	66	93
MAY 13...	15:00	120000	6	0	2	25	78

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
OCT , 1985 22...	94	96	96	97	98	100
APR , 1986 02...	97	98	99	100	--	--
MAY 13...	88	96	99	100	--	--

MISSISSIPPI RIVER MAIN STEM

05389500 MISSISSIPPI RIVER AT MCGREGOR, IA--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C.), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
RANDOM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	390	440	420	---	425	---	---	---	---	---	---	---
2	---	---	---	---	---	400	---	---	---	---	---	350
3	---	---	---	---	---	---	360	---	380	400	---	---
4	---	440	---	440	---	---	---	---	---	---	---	---
5	400	---	405	---	440	400	---	410	380	---	---	360
6	---	---	---	---	---	---	320	---	---	---	360	---
7	---	---	---	440	---	---	---	---	---	382	---	---
8	360	440	440	---	---	---	---	395	---	---	---	360
9	---	---	---	---	450	400	320	---	400	---	370	---
10	---	---	---	---	---	---	---	---	---	390	---	---
11	---	---	---	440	---	---	340	---	---	---	375	350
12	340	400	440	---	425	380	340	385	410	---	---	---
13	---	---	---	---	---	---	335	---	---	---	---	---
14	350	---	---	425	---	---	---	---	---	408	370	---
15	---	405	---	---	---	375	330	385	---	---	---	---
16	---	---	440	---	420	---	---	---	420	---	---	340
17	---	---	---	---	---	---	340	---	---	418	---	---
18	360	420	---	425	---	---	---	---	---	---	---	320
19	---	---	430	---	420	360	340	390	420	---	360	---
20	400	---	---	---	---	---	---	---	---	---	---	---
21	420	425	---	420	---	---	370	---	---	400	---	---
22	420	---	---	---	---	420	---	380	---	---	350	310
23	---	---	460	---	420	---	---	---	420	---	---	---
24	---	---	---	---	---	---	380	---	---	390	---	300
25	---	430	---	420	---	---	---	---	410	---	355	300
26	---	---	---	---	400	440	---	350	---	---	---	300
27	---	---	---	---	---	---	---	---	410	---	350	---
28	440	420	460	420	---	---	400	340	---	372	---	280
29	---	---	---	---	---	---	---	---	---	---	---	290
30	---	---	---	---	---	430	400	---	390	---	---	295
31	---	---	440	---	---	---	---	---	---	375	---	---

TEMPERATURE, WATER (DEG. C.), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
RANDOM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	8.0	.0	---	.0	---	---	---	---	---	---	---
2	---	---	---	---	---	2.0	---	---	---	---	---	20.0
3	---	---	---	---	---	---	5.0	---	20.0	26.0	---	---
4	---	8.0	---	.0	---	---	---	---	---	---	---	---
5	13.0	---	.0	---	---	2.0	---	15.0	22.0	---	---	20.0
6	---	---	---	---	---	---	10.0	---	---	---	26.0	---
7	---	---	---	.0	---	---	---	---	---	27.0	---	---
8	16.0	7.0	.0	---	---	---	---	16.0	---	---	---	16.0
9	---	---	---	---	---	2.0	11.0	---	20.0	---	26.0	---
10	---	---	---	---	---	---	---	---	---	27.0	---	---
11	---	---	---	.0	---	---	12.0	---	---	---	26.0	22.0
12	12.0	8.0	.0	---	.0	2.0	11.0	18.0	22.0	---	---	---
13	---	---	---	---	---	---	9.0	---	---	---	---	---
14	11.0	---	---	1.0	---	---	---	---	---	27.0	26.0	---
15	---	6.0	---	---	---	2.0	9.0	18.0	---	---	---	---
16	---	---	.0	---	.0	---	---	---	24.0	---	---	20.0
17	---	---	---	---	---	---	11.0	---	---	28.0	---	---
18	12.0	6.0	---	1.0	---	---	---	---	---	---	---	16.0
19	---	---	.0	---	.0	4.0	11.0	16.0	26.0	---	24.0	---
20	11.0	---	---	---	---	---	---	---	---	---	---	---
21	12.0	6.0	---	1.0	---	---	9.0	---	---	29.0	---	---
22	12.0	---	---	---	---	5.0	---	18.0	---	---	24.0	18.0
23	---	---	.0	---	.0	---	---	---	26.0	---	---	---
24	---	---	---	---	---	---	12.0	---	---	27.0	---	18.0
25	---	.0	---	.0	---	---	---	---	24.0	---	24.0	18.0
26	---	---	---	---	.0	6.0	---	18.0	---	---	---	18.0
27	---	---	---	---	---	---	---	---	26.0	---	20.0	---
28	10.0	.0	.0	.0	---	---	15.0	18.0	---	28.0	---	15.0
29	---	---	---	---	---	---	---	---	---	---	---	18.0
30	---	---	---	---	---	9.0	12.0	---	24.0	---	---	18.0
31	---	---	.0	---	---	---	---	---	---	26.0	---	---

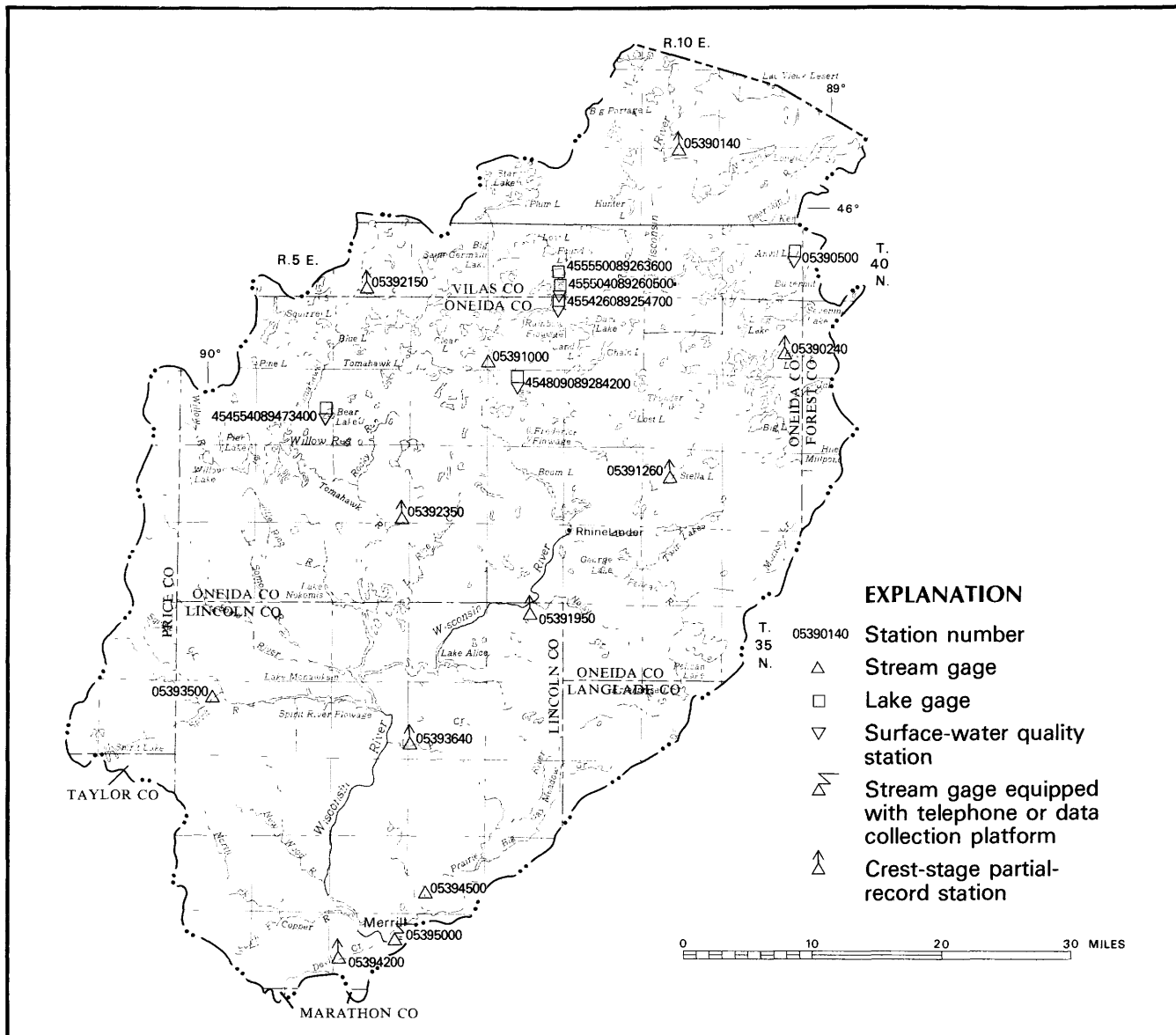
05389500 MISSISSIPPI RIVER AT MCGREGOR, IA--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	22	4060	22	3270	5	521	4	496	5	475	8	814
2	21	4010	20	2950	5	540	4	497	5	487	3	318
3	20	3770	24	3570	4	432	4	500	4	415	3	318
4	20	3750	33	4910	4	461	4	504	4	444	2	187
5	20	3820	42	6090	4	545	4	486	4	480	1	112
6	25	4910	50	7090	4	567	5	583	4	497	1	114
7	34	6970	77	11100	4	564	5	610	5	626	1	108
8	45	9710	190	28300	5	691	5	598	5	629	1	100
9	55	12400	204	34500	5	701	5	613	5	622	1	105
10	53	12500	135	23300	4	580	5	579	4	484	2	216
11	39	9710	81	13600	4	607	5	558	3	356	4	442
12	17	4490	56	8570	4	620	5	551	2	225	7	803
13	11	3000	42	5560	4	620	5	560	1	103	7	852
14	8	2220	28	3520	4	618	5	574	1	98	5	648
15	13	3580	16	1920	4	617	5	591	1	96	12	1660
16	13	3490	14	1660	5	749	5	601	1	93	174	24500
17	13	3390	18	2110	4	571	5	612	1	92	480	63900
18	12	3070	20	2310	5	688	4	498	6	559	1020	134000
19	15	3790	22	2530	5	655	4	499	18	1730	2350	363000
20	18	4450	24	2790	4	488	3	375	18	1840	1460	254000
21	23	5540	26	3080	4	471	3	375	15	1560	490	91600
22	33	7650	29	3550	4	481	3	374	8	836	94	17900
23	51	11400	30	3730	4	509	3	368	1	105	56	10700
24	38	8260	22	2280	4	511	4	487	3	318	53	10300
25	28	5830	13	1330	4	514	5	607	5	485	48	9930
26	27	5420	12	1180	4	518	5	602	7	750	46	10200
27	26	5010	11	983	4	516	5	562	8	864	43	9910
28	25	4580	11	829	4	512	5	505	10	1070	40	9440
29	24	3820	9	603	4	507	5	513	---	---	38	9360
30	24	3810	7	548	4	501	5	486	---	---	35	9290
31	23	3470	---	---	4	497	5	471	---	---	35	9640
TOTAL	---	171880	---	187763	---	17372	---	16235	---	16339	---	1044467

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	38	10700	20	5670	26	6390	27	5310	62	11300	41	5170
2	40	11300	17	4770	26	6130	26	5290	65	12100	32	3900
3	52	15400	14	4010	26	5830	27	5550	60	11100	32	3720
4	95	29800	15	4410	30	6330	27	5550	56	10200	45	5130
5	162	55100	19	5800	38	7310	26	5250	49	8450	39	4370
6	97	35900	23	7330	51	9050	26	5150	38	6110	35	3840
7	49	19600	20	6530	33	5790	26	5010	33	4830	33	3600
8	33	14000	17	5690	23	3960	28	5080	29	4090	30	3290
9	26	11400	17	5740	17	2770	30	5260	25	3320	28	3080
10	26	11700	16	5400	16	2430	31	5260	27	3400	25	2860
11	27	12200	15	5060	15	2170	30	4910	37	4650	37	4650
12	26	11100	15	5020	14	1940	28	4350	35	4550	72	9720
13	14	6050	17	5600	13	1710	25	3670	30	4060	84	12500
14	19	8000	24	7840	15	1970	22	3040	24	3300	66	10600
15	36	14700	23	7330	26	3470	22	2920	22	3080	36	6230
16	35	13700	20	6530	35	4760	23	3110	22	3110	22	4050
17	19	7180	22	7310	37	5040	29	3950	24	3390	18	3450
18	17	6240	29	9710	39	5320	30	3610	31	4420	18	3510
19	20	7180	34	11600	39	5290	29	4100	70	10200	17	3300
20	22	7660	40	13900	36	4810	27	3950	96	14200	16	3080
21	20	6750	37	13000	32	4210	25	3790	88	13200	33	6420
22	22	7250	22	7660	35	4520	26	4010	76	11500	102	20700
23	25	8030	20	6910	45	6250	27	4320	66	9800	85	18700
24	30	9480	20	6750	53	7540	27	4550	57	7860	39	9580
25	31	9540	18	5930	63	9360	29	5130	72	9210	42	11700
26	30	9070	19	6050	59	9180	30	5280	64	8160	37	12000
27	26	7650	23	7080	38	6020	30	5190	40	5840	40	14700
28	22	6420	27	8020	34	5970	31	5370	62	9460	42	16400
29	21	6010	26	7300	30	5510	28	4810	84	12500	48	19800
30	23	6520	26	6930	27	5080	26	4490	76	10500	37	15700
31	---	---	26	6630	---	---	34	6010	56	7500	---	---
TOTAL	---	385630	---	217510	---	156110	---	143270	---	235390	---	245750

TOTAL LOAD FOR YEAR: 2837716 TONS.



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

UPPER WISCONSIN RIVER BASIN

05390500 ANVIL LAKE NEAR EAGLE RIVER, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 45°57'07", long 89°03'26", in NW 1/4 NE 1/4 sec.13, T.40 N., R.11 E., Vilas County, Hydrologic Unit 07070001, 9.6 mi east of Eagle River.

DRAINAGE AREA.--4.11 mi². Area of Anvil Lake, 380 acres.

PERIOD OF RECORD.--August 1936 to September 1981 (fragmentary), June 1985 to current year.

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

GAGE.--Nonrecording gage. Datum of gage is 90.00 ft above datum assumed by Wisconsin Department of Natural Resources: gage readings have been reduced to elevations above this datum. Prior to Aug. 13, 1950, staff gage 0.3 mi southeast at same datum; Aug. 14 to Sept. 30, 1981, staff gage 0.2 mi east at same datum. Gage read by James Sachse.

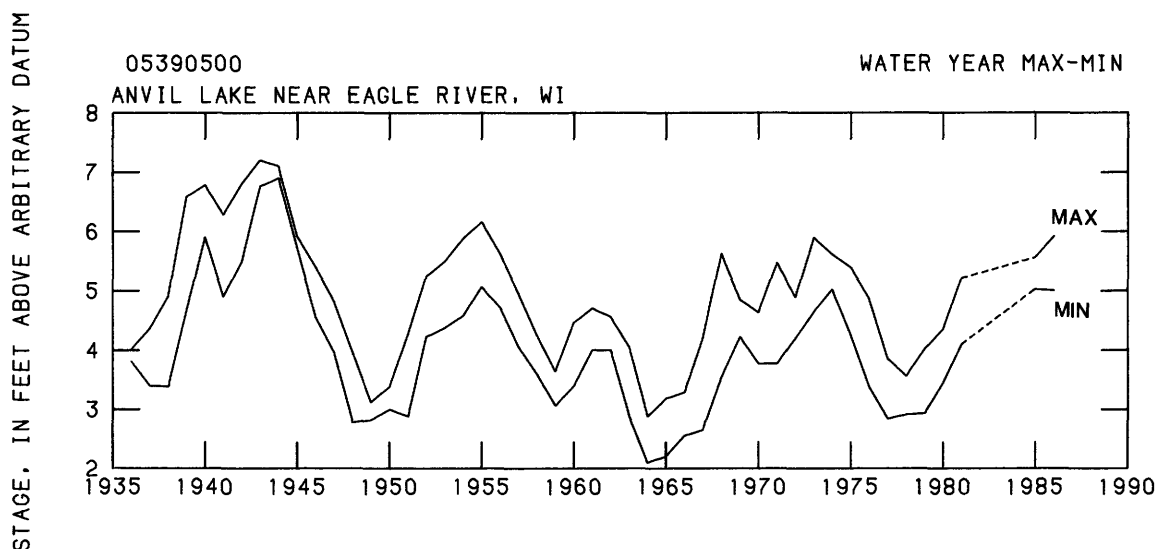
REMARKS.--Add 90 ft to obtain elevation above datum assumed for this lake by Wisconsin Department of Natural Resources. Lake has no surface outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 7.20 ft, May 3, 7, 17, 21, 24, 28, June 20 and 24, 1943; minimum observed, 2.10 ft July 31, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 5.91 ft, Apr. 28; minimum observed, 5.00 ft, Sept. 1.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
OCT. 5	5.33	APR. 20	5.87	JUNE 8	5.42	JULY 16	5.35	AUG. 9	5.21	SEPT. 1	5.00
OCT. 10	5.32	APR. 28	5.91	JUNE 16	5.35	JULY 22	5.37	AUG. 15	5.14	SEPT. 7	5.08
OCT. 19	5.32	MAY 10	5.83	JUNE 24	5.31	JULY 28	5.31	AUG. 17	5.14	SEPT. 18	5.17
OCT. 26	5.29	MAY 22	5.62	JULY 6	5.26	AUG. 3	5.23	AUG. 24	5.16	SEPT. 24	5.20
NOV. 9	5.41	MAY 31	5.57	JULY 13	5.37						



WATER-QUALITY RECORDS

LOCATION.--Lat 45°56'39", long 89°03'44", in NE 1/4 SW 1/4 sec.13, T.40 N., R.11 E., Vilas County, Hydrologic Unit 07070001, near center of lake, and 9.2 mi east of Eagle River.

PERIOD OF RECORD.--June 1985 to current year.

REMARKS.--Secchi disc readings made by James Sachse.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
MAY 31	7.0	JUNE 24	5.0	AUG. 3	3.0	AUG. 17	2.8	SEPT. 1	2.9	SEPT. 24	4.7
JUNE 8	5.5	JULY 22	3.7	AUG. 9	2.8	AUG. 24	3.1	SEPT. 7	2.9		

LOCATION.--Lat 45°54'26", long 89°25'47", in NE 1/4 sec.36, T.40 N., R.8 E., Vilas County, Hydrologic Unit 07070001, 3 mi east of St. Germain.

GAGE.--Staff gage read by John P. Seibel. Elevation of gage is 1,617 ft, from topographic map.

REMARKS.--Lake ice-covered Nov. 18 to Apr. 10.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 12.35 ft, Apr. 11, 12, 1986; minimum observed, 11.45 ft, Sept. 2, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 12.35 ft, Apr. 11, 12; minimum observed, 11.55 ft, Sept. 9.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.69	11.83					---	12.17	11.87	11.75	11.79	11.57
2	11.69	11.85					---	12.18	11.85	11.73	11.77	11.57
3	11.73	11.89					---	12.19	11.83	11.73	11.75	11.55
4	11.77	11.99					---	12.14	11.80	11.74	11.73	11.55
5	11.91	11.99					---	12.13	11.78	11.77	11.77	11.63
6	11.89	11.99					---	12.13	11.77	11.76	11.75	11.62
7	11.89	11.99					---	12.11	11.76	11.75	11.73	11.60
8	11.91	11.97					---	12.09	11.76	11.74	11.75	11.59
9	11.91	11.95					---	12.07	11.75	11.73	11.77	11.55
10	11.91	11.95					---	12.07	11.77	11.71	11.77	11.63
11	11.90	11.95					12.35	12.06	11.78	11.69	11.77	11.63
12	11.95	11.94					12.35	12.06	11.78	11.71	11.76	11.62
13	11.94	11.94					12.15	12.05	11.77	11.81	11.76	11.61
14	11.93	11.94					12.15	12.05	11.76	11.80	11.77	11.63
15	11.91	11.94					12.15	12.05	11.75	11.81	11.75	11.73
16	11.91	11.94					12.14	12.05	11.73	11.79	11.75	11.67
17	11.90	11.94					12.13	12.03	11.71	11.79	11.73	11.67
18	11.86	---					12.14	12.01	11.69	11.77	11.71	11.66
19	11.89	---					12.14	11.99	11.74	11.83	11.69	11.66
20	11.89	---					12.15	11.97	11.69	11.82	11.67	11.67
21	11.88	---					12.15	11.96	11.72	11.80	11.67	11.67
22	11.87	---					12.13	11.95	11.72	11.78	11.68	11.67
23	11.87	---					12.12	11.94	11.75	11.81	11.71	11.67
24	11.87	---					12.13	11.93	11.72	11.79	11.69	11.67
25	11.86	---					12.13	11.93	11.72	11.77	11.67	11.77
26	11.85	---					12.18	11.93	11.72	11.77	11.67	11.79
27	11.85	---					12.17	---	11.82	11.78	11.65	11.83
28	11.85	---					12.18	---	11.81	11.77	11.65	11.84
29	11.84	---					12.19	---	11.79	11.75	11.63	11.83
30	11.83	---					12.18	---	11.77	11.73	11.61	11.83
31	11.82	---					---	---	---	11.73	11.59	---
MEAN	11.86	---					---	---	11.76	11.76	11.71	11.67
MAX	11.95	---					---	---	11.87	11.83	11.79	11.84
MIN	11.69	---					---	---	11.69	11.69	11.59	11.55

LOCATION.--Lat 45°54'36", long 89°25'43", in NE 1/4 sec.36, T.40 N., R.8 E., Vilas County, Hydrologic Unit 07070001, near center of lake and 3 mi east of St. Germain.

REMARKS.--Secchi disc readings made by John P. Seibel.

[illegible]

455504089260500 MOON LAKE NEAR ST. GERMAIN, WI

WATER-QUALITY RECORDS

LOCATION.--Lat 45°55'04", long 89°26'05", in SE 1/4 SE 1/4 sec.25, T.40 N., R.8 E., Vilas County, Hydrologic Unit 07070001, near center of lake, and 3 mi east of St. Germain.

PERIOD OF RECORD.--May 1985 to current year.

REMARKS.--Secchi disc readings made by John P. Seibel.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986											
DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
OCT. 4	3.0	NOV. 6	3.0	MAY 12	5.2	JUNE 27	3.4	AUG. 1	4.3	AUG. 29	3.4
OCT. 11	3.0	APR. 15	4.3	MAY 23	4.9	JULY 7	4.6	AUG. 8	4.3	SEPT. 5	3.4
OCT. 19	3.0	APR. 22	4.6	JUNE 8	4.0	JULY 15	4.6	AUG. 15	4.0	SEPT. 12	3.0
OCT. 30	3.0	APR. 30	4.9	JUNE 20	4.6	JULY 22	4.6	AUG. 22	3.7	SEPT. 19	3.0
										SEPT. 25	3.0

WISCONSIN RIVER BASIN

455550089263600 LITTLE ST. GERMAIN LAKE NEAR ST. GERMAIN, WI

LOCATION.--Lat 45°55'50", long 89°26'36", in NW 1/4 SW 1/4 sec.24, T.40 N., R.8 E., Vilas County, Hydrologic Unit 07070001, 3.1 mi northeast of St. Germain.

PERIOD OF RECORD.--October 1985 to September 1986.

GAGE.--Staff gage read by Boyd Best. Elevation of gage is 1614 ft, from topographic map.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 11.83 ft, Sept. 22; minimum observed, 10.52 ft, Mar. 27 and 28.

GAGE HEIGHT (FEET ABOVE DATUM) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.69	11.61				---	10.54	11.63	11.59	11.69	11.69	11.61
2	11.69	11.67				---	10.53	11.63	11.59	11.69	11.69	11.61
3	11.69	11.67				---	10.53	11.61	11.59	11.65	11.69	11.59
4	11.83	11.67				---	10.65	11.61	11.59	11.65	11.69	11.63
5	11.85	11.65				---	10.73	11.61	11.59	11.65	11.69	11.65
6	11.79	11.65				---	10.85	11.61	11.59	11.65	11.69	11.65
7	11.75	11.63				---	10.91	11.61	11.59	11.65	11.69	11.65
8	11.71	11.63				---	10.97	11.61	11.59	11.65	11.69	11.65
9	11.69	11.63				---	11.01	11.61	11.59	11.65	11.71	11.61
10	11.67	11.63				---	11.05	11.61	11.59	11.65	11.71	11.65
11	11.67	11.63				---	11.08	11.61	11.59	11.67	11.71	11.65
12	11.69	11.63				---	11.15	11.61	11.59	11.69	11.69	11.63
13	11.69	11.63				---	11.18	11.61	11.59	11.69	11.69	11.63
14	11.67	11.63				---	11.18	11.61	11.59	11.69	11.69	11.63
15	11.65	11.63				---	11.23	11.61	11.59	11.69	11.69	11.65
16	11.65	11.61				---	11.25	11.61	11.55	11.67	11.69	11.65
17	11.65	11.59				---	11.31	11.61	11.55	11.67	11.69	11.63
18	11.67	11.63				---	11.31	11.61	11.53	11.67	11.69	11.63
19	11.65	11.61				---	11.38	11.61	11.57	11.69	11.69	11.65
20	11.65	11.61				---	11.41	11.61	11.55	11.69	11.69	11.73
21	11.65	11.59				---	11.41	11.59	11.59	11.69	11.69	11.79
22	11.65	11.59				---	11.43	11.59	11.59	11.69	11.67	11.83
23	11.65	11.59				---	11.41	11.59	11.61	11.69	11.67	11.81
24	11.63	11.59				---	11.41	11.59	11.59	11.69	11.65	11.81
25	11.63	11.59				---	11.43	11.59	11.59	11.69	11.63	11.81
26	11.63	11.59				---	11.49	11.59	11.63	11.69	11.63	11.77
27	11.63	11.61				---	10.52	11.55	11.59	11.69	11.63	11.77
28	11.61	11.61				---	10.52	11.55	11.59	11.69	11.63	11.77
29	11.61	---				---	10.53	11.61	11.59	11.69	11.63	11.75
30	11.61	11.61				---	10.53	11.63	11.59	11.69	11.61	11.73
31	11.61	---				---	10.54	---	11.59	---	11.69	---
MEAN	11.67	---				---	11.17	11.60	11.60	11.68	11.67	11.69
MAX	11.85	---				---	11.63	11.63	11.69	11.69	11.71	11.83
MIN	11.61	---				---	10.53	11.59	11.53	11.65	11.61	11.59

454809089284200 MUSKELLUNGE LAKE NEAR LAKE TOMAHAWK, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 45°48'09", long 89°28'42", in NE 1/4 sec.10, T.38 N., R.8 E., Oneida County, Hydrologic Unit 07070001, 5.7 mi east of Lake Tomahawk.

PERIOD OF RECORD.-- October 1984 to current year.

GAGE.--Staff gage read by Kenard Kenworthy. Elevation of gage is 1622 ft, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 9.68 ft, Sept. 27, 1985; minimum observed, 8.38 ft, Aug. 6, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 8.83 ft, June 21 and July 22; minimum observed, 8.50 ft, June 13.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
JUNE 13	8.50	JUNE 29	8.78	JULY 14	8.65	JULY 28	8.69	AUG. 12	8.59	AUG. 24	8.69
JUNE 21	8.83	JULY 7	8.69	JULY 22	8.83	AUG. 6	8.60	AUG. 18	8.59		

WATER-QUALITY RECORDS

LOCATION.--Lat 45°47'55", long 89°28'48", in NW 1/4 sec.10, T.38 N., R.8 E., Oneida County, Hydrologic Unit 07070001, near center of lake, and 5.7 mi east of Lake Tomahawk.

PERIOD OF RECORD.--May 1985 to current year.

REMARKS.--Secchi disc readings made by Kenard Kenworthy.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
MAY 31	3.3	JUNE 21	2.8	JULY 7	2.9	JULY 22	2.6	AUG. 6	1.2	AUG. 18	1.0
JUNE 13	2.8	JUNE 29	2.7	JULY 14	2.7	JULY 28	2.1	AUG. 12	1.0	AUG. 24	1.1

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.

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-83-1: Drainage area. WDR WI-80-1: Datum.

GAGE.--Water-stage recorder. Datum of gage is 1,569.05 ft above National Geodetic Vertical Datum of 1929 (levels by Wisconsin Valley Improvement Co.).

REMARKS.--No estimated daily discharges. Record good. Flow regulated by Rainbow Lake and 12 smaller reservoirs upstream from station.

AVERAGE DISCHARGE.--50 years, 706 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, 2,040 ft³/s Oct. 8, gage height, 5.14 ft; minimum daily, 228 ft³/s Apr. 4.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Apr. 2-7.)

0.7	224	3.0	923
1.3	340	4.0	1,400
2.0	545	6.0	2,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	543	929	1090	1070	1050	908	399	1070	575	507	421	600
2	596	1500	1090	1070	1040	896	233	1050	517	515	426	600
3	763	1590	1090	1070	1040	884	229	905	476	493	435	608
4	1220	1630	1090	1070	1030	875	228	826	471	450	462	550
5	1770	1650	1090	1070	1030	873	229	827	471	363	494	497
6	1760	1720	1090	1060	1030	861	229	826	480	305	491	537
7	1820	1660	1090	1060	1020	850	231	826	490	364	485	595
8	1960	1570	1090	1050	1020	840	280	798	485	445	484	609
9	2020	1530	1090	1050	1010	828	315	862	482	467	489	609
10	2010	1570	1120	1040	1010	816	310	835	476	439	490	491
11	2010	1390	1140	1050	1000	828	311	780	475	421	487	346
12	2010	1050	1130	1040	997	854	308	781	431	433	490	406
13	1820	940	1140	1040	992	868	350	779	384	380	492	553
14	1620	924	1140	1040	983	885	391	775	376	349	488	600
15	1500	907	1130	1040	978	885	405	720	402	382	490	480
16	1370	921	1130	1040	969	886	610	686	420	371	495	460
17	1240	929	1110	1030	998	892	751	659	427	350	487	489
18	1200	1050	1100	1020	1020	905	734	635	514	345	516	503
19	1280	1150	1100	1020	1010	903	690	630	486	340	537	498
20	1320	1140	1090	1010	1000	916	667	625	457	328	536	498
21	1250	1110	1090	1050	993	902	658	630	507	311	531	503
22	1030	1080	1090	1080	986	887	686	630	503	310	562	616
23	899	1050	1090	1080	978	880	694	634	503	401	579	723
24	889	1040	1070	1080	968	880	693	636	480	457	600	743
25	846	1040	1070	1080	957	868	687	638	434	417	611	733
26	784	1070	1080	1070	942	782	701	640	437	389	590	1010
27	757	1100	1080	1070	929	647	742	636	350	385	607	1290
28	735	1100	1080	1070	918	604	767	606	284	316	609	1230
29	713	1100	1080	1060	---	640	831	586	348	337	608	1030
30	715	1090	1080	1060	---	663	992	581	439	384	605	955
31	714	---	1070	1050	---	658	---	581	---	402	600	---
TOTAL	39164	36530	34020	32690	27898	25864	15351	22693	13580	12156	16197	19362
MEAN	1263	1218	1097	1055	996	834	512	732	453	392	522	645
MAX	2020	1720	1140	1080	1050	916	992	1070	575	515	611	1290
MIN	543	907	1070	1010	918	604	228	581	284	305	421	346

CAL YR 1985 TOTAL 301224 MEAN 825 MAX 2020 MIN 255
WTR YR 1986 TOTAL 295505 MEAN 810 MAX 2020 MIN 228

LAKE-STAGE RECORDS

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 8.67 ft, Oct. 7, 9; minimum observed, 7.99 ft, June 8.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE		GAGE HEIGHT		DATE		GAGE HEIGHT		DATE		GAGE HEIGHT		DATE		GAGE HEIGHT			
OCT.	2	8.53	NOV.	12	8.43	APR.	28	8.21	JUNE	8	7.99	AUG.	1	8.19	SEPT.	13	8.10
OCT.	7	8.67	NOV.	14	8.41	APR.	30	8.15	JUNE	15	8.07	AUG.	15	8.17	SEPT.	21	8.17
OCT.	9	8.67	NOV.	19	8.49	MAY	2	8.13	JUNE	17	8.05	AUG.	17	8.17	SEPT.	26	8.27
OCT.	16	8.59	NOV.	25	8.49	MAY	11	8.07	JUNE	27	8.27	AUG.	27	8.09	SEPT.	29	8.31
OCT.	20	8.54	JAN.	31	8.63	MAY	31	8.03									

WATER-QUALITY RECORDS

REMARKS.--Secchi disc readings made by Dale Jalinski.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
OCT. 1	3.4	APR. 20	3.1	MAY 30	4.3	JUNE 18	3.2	AUG. 3	2.3	SEPT. 4	2.7
OCT. 5	3.4	APR. 26	2.6	JUNE 1	4.3	JUNE 29	3.2	AUG. 16	2.4	SEPT. 7	2.7
OCT. 12	3.1	MAY 9	3.1	JUNE 7	3.7	JULY 3	3.1	AUG. 24	2.4	SEPT. 19	3.1
OCT. 20	2.7	MAY 16	3.2	JUNE 15	3.1	JULY 12	2.6	AUG. 29	2.4	SEPT. 25	3.7
OCT. 27	2.9	MAY 23	3.4	JUNE 17	3.2	JULY 25	2.4	SEPT. 3	2.7	SEPT. 26	3.7
NOV. 5	2.7	MAY 28	4.3								

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 above National Geodetic Vertical Datum of 1929. Prior to Oct. 4, 1982, nonrecording gage 40 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Mar. 31, Apr. 1, and ice period listed in table below. Records good except those for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--44 years, 87.6 ft³/s, 14.58 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.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 5	1400	1,800	6.55	Sept. 27	1700	*2,970	*7.87
Apr. 1	unknown	2,830	7.73				

Minimum discharge, 6.6 ft³/s June 18, gage height, 1.18 ft.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 21 to Mar. 30.)

Oct. 1 to Mar. 30

Mar. 31 to Sept. 30

1.6	22	2.5	112	1.1	4.8	3.0	215
1.8	36	3.0	200	1.2	7.0	4.0	480
2.1	64	4.0	470	1.4	14	5.0	870
				1.7	31	6.0	1,400
				2.0	58	8.0	3,100
				2.5	122		

Note.--Same as following table
above 4.2 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1010	207	49	37	31	31	2460	239	9.8	15	31	11
2	571	599	49	36	30	32	1570	169	9.2	13	36	9.9
3	354	445	50	35	30	33	924	119	9.8	11	30	10
4	482	264	50	34	31	33	659	99	10	14	24	52
5	1570	184	50	33	32	34	606	82	10	28	21	45
6	1170	150	49	32	31	33	707	67	9.6	27	25	33
7	608	135	47	31	31	32	565	55	10	22	22	24
8	479	113	46	30	31	32	422	46	12	16	37	21
9	452	97	47	32	31	33	333	40	9.6	13	26	19
10	350	98	48	33	30	34	244	40	9.3	11	25	269
11	260	88	48	34	30	35	184	34	11	11	30	610
12	243	74	46	34	31	38	131	37	14	35	24	442
13	286	68	45	33	31	40	110	36	13	51	19	240
14	234	66	45	33	31	45	110	36	10	37	35	153
15	180	61	46	32	30	50	217	33	10	36	62	262
16	144	90	46	32	31	50	216	31	11	261	47	340
17	121	82	45	33	31	56	167	30	7.9	175	37	231
18	107	69	44	33	32	64	133	27	6.9	101	29	203
19	96	107	42	33	32	76	118	24	35	192	24	167
20	85	158	41	33	32	70	110	22	49	230	20	151
21	77	130	42	32	31	68	104	20	36	129	18	158
22	71	110	43	31	30	72	90	18	35	82	17	399
23	70	96	44	30	30	78	79	17	28	57	20	456
24	75	82	44	30	29	82	71	16	25	48	27	286
25	68	72	43	30	30	90	66	15	20	88	19	246
26	62	66	42	29	30	96	77	15	16	62	15	338
27	57	62	41	28	30	150	90	14	33	55	15	2190
28	52	58	40	28	30	250	86	16	40	73	12	1700
29	49	54	39	29	---	400	110	13	28	58	12	714
30	47	52	38	30	---	1000	171	11	19	42	11	432
31	45	---	38	31	---	1860	---	10	---	36	9.7	---
TOTAL	9475	3937	1387	991	859	4997	10930	1431	547.1	2029	779.7	10211.9
MEAN	306	131	44.7	32.0	30.7	161	364	46.2	18.2	65.5	25.2	340
MAX	1570	599	50	37	32	1860	2460	239	49	261	62	2190
MIN	45	52	38	28	29	31	66	10	6.9	11	9.7	9.9
CFSM	3.75	1.61	.55	.39	.38	1.97	4.46	.57	.22	.80	.31	4.17
IN.	4.32	1.79	.63	.45	.39	2.28	4.98	.65	.25	.92	.36	4.66

CAL YR 1985 TOTAL 48566.9 MEAN 133 MAX 1580 MIN 7.2 CFSM 1.63 IN 22.14
WTR YR 1986 TOTAL 47574.7 MEAN 130 MAX 2460 MIN 6.9 CFSM 1.59 IN 21.69

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 above National Geodetic Vertical Datum of 1929. Prior to Oct. 9, 1968, nonrecording gage 40 ft downstream at same datum.

REMARKS.--Estimated daily discharges: None, except for ice periods listed in table below. Records good except those for ice-affected periods, which are fair.

AVERAGE DISCHARGE.--64 years (1914-31, 1939-86), 181 ft³/s, 13.36 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 greater than base discharge of 710 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 5	1900	1,230	5.30	June 19	1800	718	4.22
Nov. 2	1500	975	4.81	July 19	0900	1,480	5.72
Apr. 2	0200	*1,850	*6.29	Sept. 28	0200	1,640	5.99

Minimum daily, 91 ft³/s Sept. 9.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 26 to Dec. 18, Dec. 21 to Jan. 25, Jan. 29-31, Mar. 2, 13, 18-24.)

2.1	90	5.0	1,070
2.4	141	6.0	1,650
3.0	285	7.0	2,400
4.0	630		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	946	371	150	140	135	136	1710	275	103	150	153	99
2	804	905	140	140	136	140	1720	284	102	129	181	95
3	593	888	140	140	138	130	1240	239	99	115	178	99
4	575	690	150	140	141	135	910	200	100	115	157	112
5	1130	520	160	140	140	129	772	182	100	133	143	116
6	1180	437	160	140	143	128	880	170	98	126	153	113
7	906	359	160	130	131	129	905	149	99	117	151	105
8	707	299	160	130	138	133	752	144	102	111	141	93
9	610	262	160	140	128	128	591	136	101	110	129	91
10	536	226	160	140	129	132	473	129	96	104	138	211
11	463	210	150	140	127	127	387	125	146	117	136	390
12	424	228	150	140	137	132	326	127	169	172	126	376
13	415	207	140	140	121	130	280	124	158	329	111	286
14	387	192	140	140	133	131	264	126	136	305	132	225
15	347	170	140	140	131	134	329	128	116	253	172	276
16	273	173	140	140	137	136	337	145	106	364	163	328
17	242	174	130	140	142	129	296	141	100	341	189	292
18	225	194	130	140	135	140	259	136	102	323	180	242
19	213	355	125	140	136	170	237	126	505	1350	158	220
20	201	364	130	140	142	160	229	121	543	975	137	223
21	189	320	130	140	122	150	217	118	358	610	120	239
22	173	283	130	140	129	170	195	112	258	386	116	560
23	191	236	140	130	136	180	181	113	183	276	136	624
24	217	210	140	130	131	190	171	112	151	227	134	502
25	222	198	140	130	134	204	166	114	128	290	118	516
26	211	180	140	131	133	268	196	113	120	264	116	576
27	187	160	140	128	135	325	240	115	346	215	115	1330
28	168	150	140	129	130	433	239	110	379	202	112	1520
29	159	150	140	130	---	712	221	110	301	210	109	1100
30	155	160	140	130	---	1120	230	106	211	178	106	734
31	156	---	140	130	---	1350	---	102	---	168	104	---
TOTAL	13205	9271	4435	4228	3750	7811	14953	4432	5516	8765	4314	11693
MEAN	426	309	143	136	134	252	498	143	184	283	139	390
MAX	1180	905	160	140	143	1350	1720	284	543	1350	189	1520
MIN	155	150	125	128	121	127	166	102	96	104	104	91
CFSM	2.32	1.68	.78	.74	.73	1.37	2.71	.78	1.00	1.54	.76	2.12
IN.	2.67	1.87	.90	.85	.76	1.58	3.02	.90	1.12	1.77	.87	2.36
CAL YR 1985	TOTAL	83381	MEAN 228	MAX 1180	MIN 77	CFSM 1.24	IN 16.86					
WTR YR 1986	TOTAL	92373	MEAN 253	MAX 1720	MIN 91	CFSM 1.38	IN 18.68					

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 above National Geodetic Vertical Datum of 1929.

Prior to June 18, 1903, nonrecording gage at different datum. June 18, 1903, to Sept. 10, 1914, non-recording gage at present datum.

REMARKS.--Estimated daily discharges: May 2-14, and ice period listed in rating table below. Records good. Flow regulated by 20 reservoirs and 9 powerplants upstream from station. Gage-height telemeter at station.

AVERAGE DISCHARGE.--83 years, 2,695 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.

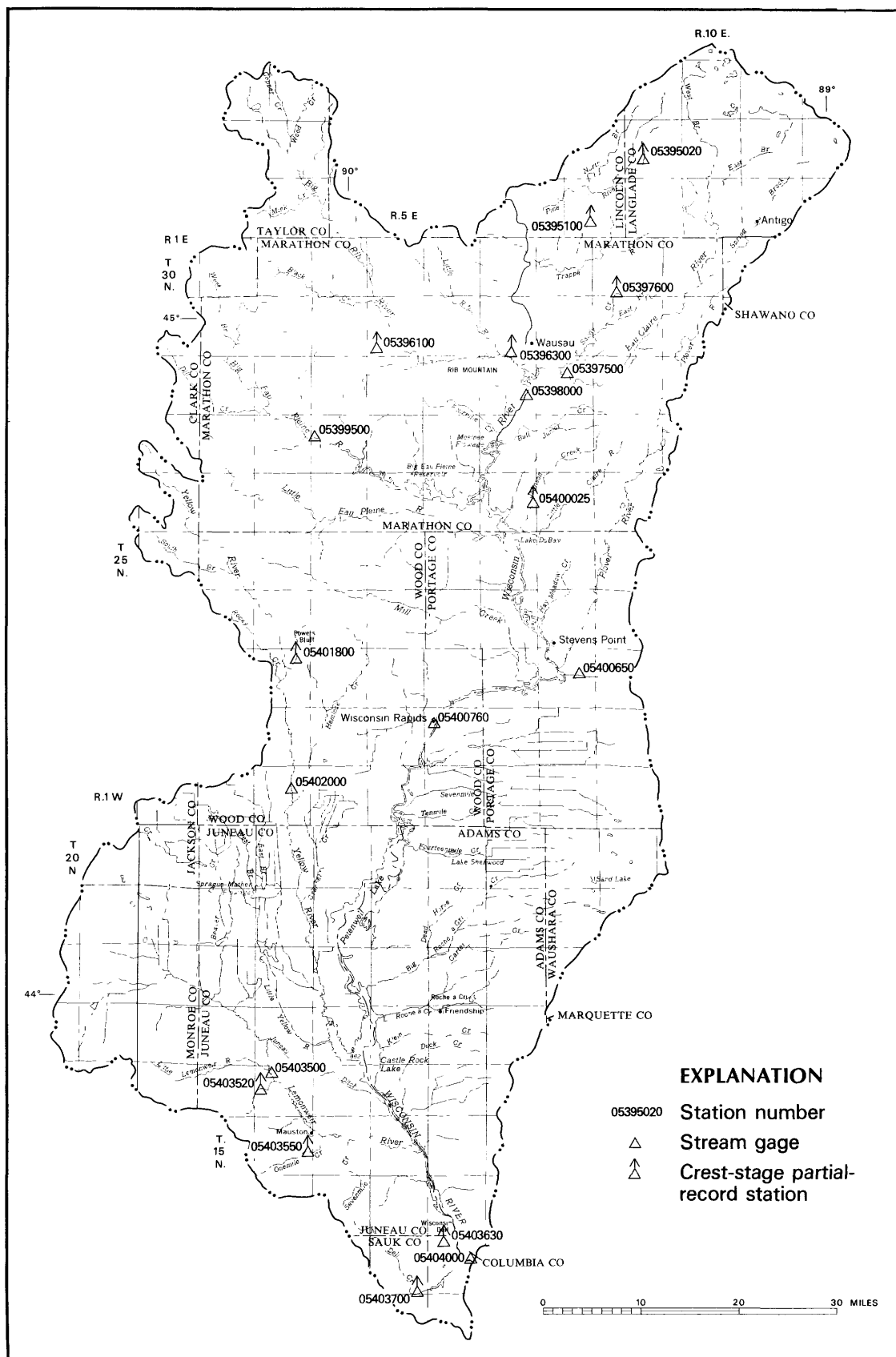
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,900 ft³/s Apr. 1, gage height, 12.57 ft; minimum daily, 1,150 ft³/s June 3.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 3 to Mar. 27.)

4.1	1,140	8.0	7,640
5.0	2,120	10.0	12,900
6.0	3,640	13.0	23,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11300	4930	3830	2900	2700	2900	20000	3400	1410	1570	2400	1950
2	10300	9340	2640	3000	2800	2700	19900	4000	1430	1560	2880	1840
3	7650	9850	3300	2900	2900	2700	14200	3400	1150	1730	2060	1870
4	9020	7910	3500	2900	2900	2600	10400	3000	1330	1850	2120	2080
5	16200	6190	3600	2800	2900	2900	8420	2600	1270	1810	2080	2140
6	16500	5910	3500	3100	2800	2700	7960	2600	1430	1700	1940	1770
7	12800	6240	3600	3100	2800	2700	7810	2200	1370	1600	2150	1980
8	11800	5260	3800	2800	2800	2700	6180	2000	1380	1460	2360	1960
9	10700	5390	4000	3000	2900	2700	5460	2000	1390	1660	2030	1900
10	10400	4750	3800	3000	2900	2600	4670	1900	1310	1720	2150	3090
11	9290	3800	3300	2900	2700	2600	4340	2000	1740	1780	2250	4390
12	9240	3460	3200	3000	2700	3000	3680	2100	1910	1980	2180	4040
13	8940	4340	3300	3000	2700	3100	3460	2100	1350	2240	1990	3930
14	7410	3310	3300	2900	2600	3200	2140	1900	1300	2360	2140	2770
15	6360	2810	3300	3000	2800	3200	4290	2000	1260	1830	2420	2920
16	5740	3400	3400	2900	2700	3000	3960	1970	1620	2750	2280	3840
17	4670	3450	3400	2900	2600	2900	3650	2050	1400	2390	2390	3590
18	3950	3080	3300	2700	2900	3300	3760	2050	1250	2840	2460	3410
19	3840	3740	3000	2800	2900	3300	3190	2040	4290	9280	1950	3140
20	3940	4250	2900	2900	2800	3200	2880	2040	3420	6730	2030	2560
21	3510	4400	2900	2800	2800	3000	3290	2200	3170	4680	2010	3090
22	3920	3910	2800	2900	2700	3000	2780	1630	2900	2890	2240	5650
23	3520	3910	3100	2900	2800	3200	2030	1850	2010	2460	2020	6600
24	3780	3630	3300	2800	2800	3200	2500	1630	1920	1800	1920	6120
25	3430	3420	3200	2800	2700	3200	2450	1680	1880	2610	2110	5370
26	2720	3240	3100	2800	2800	3500	2610	1590	1660	2440	2170	6670
27	2750	3150	3000	2700	3000	4300	3140	1660	2420	2040	2110	16600
28	2680	3010	2900	2800	3300	4930	3000	1700	2480	2380	1820	18500
29	2560	3430	2900	2900	---	6960	3140	1850	2210	2860	1960	13200
30	2640	3770	3100	2700	---	9680	3520	1930	1790	3340	2020	8550
31	2480	---	3200	2700	---	12400	---	1530	---	3200	1950	---
TOTAL	214040	137280	101470	89300	78700	115370	168810	66600	55450	81540	66590	145520
MEAN	6905	4576	3273	2881	2811	3722	5627	2148	1848	2630	2148	4851
MAX	16500	9850	4000	3100	3300	12400	20000	4000	4290	9280	2880	18500
MIN	2480	2810	2640	2700	2600	2600	2030	1530	1150	1460	1820	1770
CAL YR 1985	TOTAL	1271160	MEAN	3483	MAX	16500	MIN	1430				
WTR YR 1986	TOTAL	1320670	MEAN	3618	MAX	20000	MIN	1150				



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

CENTRAL WISCONSIN RIVER BASIN

WISCONSIN RIVER BASIN

05397500 EAU CLAIRE RIVER AT KELLY, WI

LOCATION.--Lat 44°55'06", long 89°33'00", on line between secs.9 and 10, T.28 N., R.8 E., Marathon County, Hydrologic Unit 07070002, on right bank 50 ft 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 above National Geodetic Vertical Datum of 1929. Prior to Sept. 17, 1953, nonrecording gage at same site at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: None, except for ice period listed in table below. Records good except for ice-affected period, which is fair.

AVERAGE DISCHARGE.--59 years, 254 ft³/s, 9.20 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 ft/s July 17, 1944, gage height, 0.17 ft, probably result of temporary regulation.

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

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 5	1000	2,010	5.02	Apr. 7	2100	1,590	4.31
Nov. 2	1100	2,220	5.32	Sept. 27	1800	2,920	6.22
Mar. 31	2100	*3,730	*7.13	Sept. 29	0800	3,040	6.38

Minimum daily discharge, 93 ft³/s Sept. 9.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 21 to Mar. 28.)

1.0	87	3.0	900
1.1	100	5.0	2,000
1.5	207	7.0	3,600
2.0	405	8.0	4,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1530	768	260	200	180	130	3430	310	109	172	173	96
2	1530	2040	260	200	180	140	2740	309	105	145	180	95
3	1140	1840	250	190	180	140	1870	268	103	130	194	95
4	850	1770	260	190	190	140	1260	237	107	127	184	97
5	1830	1080	270	190	190	150	1110	217	108	124	147	97
6	1600	728	280	190	190	150	1350	201	108	122	128	100
7	1570	593	270	180	180	140	1480	185	109	113	156	98
8	1050	508	270	180	180	140	1360	167	104	107	156	94
9	728	438	270	190	170	150	963	151	102	101	130	93
10	604	390	270	190	170	160	716	152	101	102	124	129
11	524	343	270	200	160	160	566	148	124	100	120	267
12	491	326	260	200	160	170	478	150	139	113	115	317
13	488	324	260	200	160	190	413	148	135	120	109	309
14	457	320	260	190	150	190	387	150	119	164	111	233
15	408	315	260	200	150	200	581	153	110	172	139	253
16	357	325	260	200	150	210	627	213	105	256	173	312
17	324	317	250	210	150	230	528	246	100	244	194	307
18	306	389	240	220	160	280	431	238	98	218	196	265
19	295	1210	230	220	160	340	376	213	286	419	198	265
20	278	1020	230	210	160	320	345	180	420	452	156	340
21	260	940	220	210	150	280	322	160	248	375	135	335
22	247	660	210	200	140	310	294	148	195	266	122	698
23	283	540	220	190	140	340	268	142	168	190	117	732
24	553	420	220	180	140	400	248	140	143	159	115	603
25	455	350	210	180	140	470	234	134	129	224	115	584
26	371	320	210	180	140	940	241	130	123	223	113	761
27	317	290	200	170	140	1000	271	126	466	193	111	2300
28	293	270	200	170	140	1400	300	120	635	180	107	2370
29	260	260	200	180	---	2330	281	118	368	153	103	2790
30	246	260	200	180	---	3080	279	115	230	133	100	1590
31	236	---	200	180	---	3690	---	112	---	127	98	---
TOTAL	19881	19354	7470	5970	4500	17970	23749	5481	5397	5724	4319	16625
MEAN	641	645	241	193	161	580	792	177	180	185	139	554
MAX	1830	2040	280	220	190	3690	3430	310	635	452	198	2790
MIN	236	260	200	170	140	130	234	112	98	100	98	93
CFSM	1.71	1.72	.64	.52	.43	1.55	2.11	.47	.48	.49	.37	1.48
IN.	1.97	1.92	.74	.59	.45	1.78	2.36	.54	.54	.57	.43	1.65

CAL YR 1985	TOTAL	131064	MEAN	359	MAX	2040	MIN	78	CFSM	.96	IN	13.00
WTR YR 1986	TOTAL	136440	MEAN	374	MAX	3690	MIN	93	CFSM	1.00	IN	13.53

05398000 WISCONSIN RIVER AT ROTHSCCHILD, 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 above 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.--Estimated daily discharges: None, except for ice-affected period, Dec. 1 to Mar. 10. Records good. Flow regulated by 20 reservoirs and 12 powerplants upstream from station.

AVERAGE DISCHARGE.--42 years, 3,584 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, 46,700 ft³/s Sept. 28, gage height, 27.96 ft; minimum daily, 1,420 ft³/s June 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21700	6740	4500	3500	3100	3400	34000	5540	1640	2290	3410	2150
2	17300	20000	3700	3300	3300	3200	35400	5870	1710	2210	3570	2120
3	12100	18400	3100	3300	3400	3000	24900	4720	1680	1890	3090	1720
4	11100	14000	3800	3400	3500	3000	17100	4610	1420	2070	2560	2380
5	24400	9990	4200	3400	3400	3000	13800	3610	1580	2220	2640	2520
6	26500	8560	4400	3300	3300	3400	15100	3650	1610	2200	2570	2430
7	20100	8390	4300	3500	3300	3100	13800	3040	1810	2270	2520	1950
8	15800	7800	4300	3300	3300	3200	11300	2370	1720	1620	2860	2350
9	14700	7050	4400	3100	3300	3100	9170	2700	1580	1760	3150	2240
10	13200	6960	4400	3300	3300	3100	7810	2680	1760	1790	2560	3370
11	11600	5410	4100	3400	3100	3030	6750	2640	2260	2120	2800	6670
12	11600	4670	3900	3300	2900	2940	5990	2760	2140	2410	2830	7030
13	11200	5310	3900	3400	2900	3180	5510	2670	2290	3110	2440	5990
14	10500	4230	3900	3400	2900	3360	4370	2500	1780	2780	2540	4590
15	8540	4270	3700	3300	3000	3410	6410	2640	1690	2760	3330	3830
16	7430	4750	3900	3500	3000	3350	7110	2820	1860	3560	3810	6400
17	6550	4990	4000	3500	3000	3330	6430	2910	1810	3450	3360	5190
18	6050	4870	3800	3500	3200	3790	5730	2920	1460	3600	3080	4900
19	5220	8710	3700	3400	3200	3940	5370	2820	3240	10400	3150	4760
20	5590	9700	3500	3300	3200	4200	4620	2560	6640	11000	2500	4570
21	4920	6870	3500	3300	3200	5130	4660	2750	4000	7420	2540	4970
22	5080	7050	3300	3300	3000	4830	4240	2440	4090	4540	2490	10400
23	5120	5790	3600	3300	3100	5050	3680	2290	2890	3620	2880	15900
24	5860	5770	3800	3400	3200	5250	3090	2390	2600	3020	2550	11700
25	5610	5070	3700	3300	3100	6180	3640	2000	2280	2960	2310	9630
26	4050	4780	3500	3400	3200	8900	3800	1980	2350	3870	2760	13100
27	4190	4620	3400	3400	3100	12000	4890	1970	4520	3080	2500	30600
28	3860	4330	3400	3200	3200	13000	4690	2010	5210	2970	2290	41100
29	3660	4260	3300	3300	---	20300	4760	2250	3540	3190	2150	26400
30	3550	4520	3300	3200	---	29700	4930	2330	2960	4080	2400	15700
31	3630	---	3400	3000	---	30800	---	2220	---	3900	2490	---
TOTAL	310710	217860	117700	103500	88700	207170	283050	90660	76120	108160	86130	256660
MEAN	10020	7262	3797	3339	3168	6683	9435	2925	2537	3489	2778	8555
MAX	26500	20000	4500	3500	3500	30800	35400	5870	6640	11000	3810	41100
MIN	3550	4230	3100	3000	2900	2940	3090	1970	1420	1620	2150	1720
CAL YR 1985	TOTAL	1839120	MEAN	5039	MAX	26500	MIN	1510				
WTR YR 1986	TOTAL	1946420	MEAN	5333	MAX	41100	MIN	1420				

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 above 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.--Estimated daily discharges: None, except for ice periods listed in rating table below. Records good except those for ice-affected periods, which are fair.

AVERAGE DISCHARGE.--60 years (1914-25, 1937-86), 178 ft³/s, 10.79 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 greater than base discharge 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. 5	0300	2,820	9.91	July 24	2215	3,980	---
Nov. 1	2215	4,230	11.57	July 25	0100	---	10.88
Mar. 26	----	3,000	ice jam	Sept. 22	0530	8,890	15.39
Mar. 28	2300	8,950	15.45	Sept. 25	1330	3,930	11.28
				Sept. 27	0530	*10,400	*16.34

Minimum discharge, 5.0 ft³/s, June 6.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Rate of change in stage used as factor Oct. 1, 2, 4, 6-9, Nov. 1-4, 18, 20, Apr. 2, 5, 6, 16, July 24-26, Aug. 14, 16, Sept. 10, 12, 13, 15, 16, 19-21, 23-25, 28-30; stage-discharge relation affected by ice Nov. 11-15, Nov. 25 to Mar. 28.)

2.3	5.0	3.0	48	6.0	670
2.4	8.0	3.5	104	8.0	1,540
2.6	17	4.0	175	10.0	2,850
2.8	30	5.0	375	13.0	5,710
				16.0	9,780

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1590	2280	60	26	35	39	1360	304	8.3	18	39	17
2	646	2430	56	26	36	41	732	195	7.6	14	35	15
3	357	806	54	26	36	42	422	134	7.0	11	31	17
4	527	416	50	26	36	43	340	92	6.8	11	25	18
5	2340	252	48	27	36	44	630	69	6.8	11	33	32
6	952	191	45	26	35	43	724	90	6.2	11	59	24
7	446	177	43	26	36	42	436	61	6.7	9.7	48	18
8	662	144	42	26	37	42	271	38	6.8	8.7	76	15
9	524	119	42	27	36	45	185	32	6.8	8.1	125	15
10	351	101	42	28	35	48	138	28	6.7	7.8	100	928
11	269	86	40	29	34	48	108	27	27	8.4	70	1930
12	283	80	37	30	33	49	91	27	61	13	57	862
13	478	76	34	31	34	52	84	27	21	17	38	363
14	304	84	33	31	36	52	142	28	15	19	210	205
15	206	94	31	30	37	54	890	27	11	83	1040	687
16	153	107	31	30	37	58	459	42	11	178	462	641
17	120	121	30	32	37	70	267	37	8.8	60	226	342
18	105	486	28	33	38	150	172	36	8.0	32	135	437
19	100	1960	26	33	39	700	129	28	8.1	450	90	741
20	86	695	25	32	40	540	108	24	7.7	238	62	840
21	74	347	25	32	39	430	102	19	7.6	105	54	1350
22	66	233	26	33	39	370	90	17	9.7	61	43	7080
23	67	169	26	32	39	430	70	15	10	36	35	2160
24	112	134	26	32	40	760	59	14	12	391	32	611
25	98	110	25	34	38	1500	49	14	10	1770	31	2660
26	75	90	25	33	39	2500	70	13	9.0	388	35	2260
27	62	80	25	32	39	1700	140	13	41	184	57	8480
28	55	74	26	32	37	4500	108	11	45	154	47	2530
29	53	66	26	33	---	6090	97	10	41	107	31	955
30	47	60	26	34	---	4500	151	9.3	25	71	24	485
31	45	---	26	34	---	2120	---	8.6	---	52	20	---
TOTAL	11253	12068	1079	936	1033	27102	8624	1489.9	458.6	4527.7	3370	36718
MEAN	363	402	34.8	30.2	36.9	874	287	48.1	15.3	146	109	1224
MAX	2340	2430	60	34	40	6090	1360	304	61	1770	1040	8480
MIN	45	60	25	26	33	39	49	8.6	6.2	7.8	20	15
CFSM	1.62	1.80	.16	.14	.17	3.90	1.28	.22	.07	.65	.49	5.46
IN.	1.87	2.00	.18	.16	.17	4.50	1.43	.25	.08	.75	.56	6.10

CAL YR 1985 TOTAL 73831.5 MEAN 202 MAX 3890 MIN 3.9 CFSM .90 IN 12.26
WTR YR 1986 TOTAL 108659.2 MEAN 298 MAX 8480 MIN 6.2 CFSM 1.33 IN 18.05

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 above National Geodetic Vertical Datum of 1929. Prior to May 1960, nonrecording gage at same site and datum 0.88 ft lower.

REMARKS.--Estimated daily discharges: None, except for ice periods listed in rating table below. Records good.

AVERAGE DISCHARGE.--27 years, 10.6 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 105 ft³/s Nov. 1, 1984, gage height, 3.19 ft; 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 greater than base discharge 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. 2	0345	35	2.10	July 25	0515	31	1.93
Mar. 26	0300	37	2.18	Sept.22	0915	*61	*2.59
May 16	0545	30	1.89	Sept.25	1630	37	2.16

NOTE.--Six additional peaks ranging from 22 to 26 ft³/s were not listed.

Minimum, 6.6 ft³/s Aug. 25, gage height, 0.73 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 3, 15, Jan. 27, and Feb. 10, 12, 14-17, 22, 23.)

0.8	7.3	2.0	32
1.0	10	2.5	54
1.5	20		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	23	13	13	11	11	20	16	14	12	11	9.2
2	13	30	13	13	11	11	19	15	13	12	13	9.1
3	13	19	13	13	11	11	19	15	13	11	12	9.2
4	13	17	14	13	11	11	20	15	13	11	11	9.4
5	16	16	14	13	11	11	21	15	13	11	11	9.0
6	14	16	14	12	11	11	21	15	13	10	11	8.9
7	13	16	14	12	11	10	19	15	13	9.9	11	8.8
8	14	15	14	11	11	11	18	15	12	10	11	8.6
9	13	15	14	12	10	11	18	14	12	9.9	10	8.9
10	13	15	14	12	10	11	17	14	12	9.7	11	14
11	12	15	14	12	10	11	17	15	14	10	10	16
12	14	15	14	12	10	11	17	15	14	11	9.8	12
13	13	15	13	11	10	11	17	15	13	11	9.7	11
14	13	15	13	12	10	11	19	16	13	10	10	11
15	13	15	13	12	10	11	21	16	13	11	10	14
16	13	17	13	12	10	11	20	27	13	12	9.7	12
17	13	18	13	12	10	11	18	21	13	11	12	12
18	13	19	13	12	11	16	18	23	11	11	11	12
19	13	20	13	12	11	22	18	19	11	10	10	13
20	12	17	13	12	11	18	17	18	12	10	9.9	14
21	12	15	12	12	10	16	17	17	11	10	9.6	16
22	12	15	13	12	10	16	16	17	11	9.5	9.5	45
23	13	15	14	11	10	18	16	17	12	9.2	9.3	26
24	14	15	13	12	11	19	16	16	12	15	9.0	20
25	13	15	13	12	11	22	16	16	11	24	9.7	30
26	13	15	13	11	11	34	17	16	12	12	10	27
27	12	15	13	10	11	27	16	16	14	12	10	21
28	12	15	13	11	10	27	16	15	12	12	9.6	19
29	12	14	13	11	---	28	16	14	12	11	9.5	23
30	12	14	12	11	---	23	16	14	12	12	9.5	21
31	12	---	13	11	---	21	---	14	---	12	9.3	---
TOTAL	403	496	411	367	295	493	536	506	374	352.2	319.1	470.1
MEAN	13.0	16.5	13.3	11.8	10.5	15.9	17.9	16.3	12.5	11.4	10.3	15.7
MAX	16	30	14	13	11	34	21	27	14	24	13	45
MIN	12	14	12	10	10	10	16	14	11	9.2	9.0	8.6
CAL YR 1985	TOTAL	5309.5	MEAN	14.5	MAX	36	MIN	7.7				
WTR YR 1986	TOTAL	5022.4	MEAN	13.8	MAX	45	MIN	8.6				

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 above 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 above National Geodetic Vertical Datum. Jan. 1, 1974, changed to present datum.

REMARKS.--No estimated daily discharges. Records good for discharges greater than 2,500 ft³/s, and fair to poor for discharges less than 2,500 ft³/s. 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 upstream from 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 1984 to September 1985, were as follows:

June 24	39	June 29	100	July 4	38	July 9	100	July 14	100
25	85	30	100	5	0	10	100	15	100
26	100	July 1	100	6	92	11	100	16	100
27	100	2	100	7	100	12	100	17	100
28	100	3	100	8	100	13	100	18	12

COOPERATION.--Figures of daily discharges were provided by Consolidated Water Power Company and Wisconsin River Improvement Company. Records were reviewed by the Geological Survey.

AVERAGE DISCHARGE.--64 years (1914-50, 1957-86), 5,028 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, 59,000 ft³/s Sept. 29; minimum daily, 1,880 ft³/s July 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28600	9980	5890	4480	4880	4510	39700	5640	2500	3260	4370	3030
2	25300	26200	5540	4400	4590	4740	40900	6140	2280	2900	4000	2850
3	17100	29000	4140	4470	4590	4780	40400	5510	2220	2480	3830	3010
4	15900	23000	4260	4500	4610	4800	26600	5060	2380	2140	3530	3090
5	24100	15500	5100	4780	4720	4590	20100	5170	2600	2230	3220	2980
6	32100	12100	5840	4240	4690	4370	20200	4630	2550	2350	3210	2810
7	27000	10400	6150	4390	4750	4330	18900	4570	2210	1880	3270	2690
8	20800	10400	6310	4200	4580	4380	16800	4020	2210	2190	3360	2570
9	18900	10400	6220	4180	4390	4380	12600	4080	2180	2340	3130	2830
10	17600	9120	6290	4250	4480	4320	8940	3790	2200	2360	3020	4970
11	16300	6990	6330	4250	4380	4380	8330	2930	2550	2290	2980	9670
12	14400	6200	5770	4420	4450	4410	7570	3030	2760	2590	3010	11400
13	14600	6230	5010	4420	4440	4370	7170	3040	2410	2730	2940	10500
14	12800	6680	4750	4240	4340	4390	5890	3440	2360	2740	3360	8300
15	10500	6090	4820	4240	4360	4520	8150	3300	2400	3480	3560	6670
16	9200	5980	5120	4210	4400	4590	9900	3390	2380	4000	3910	7000
17	8680	6640	5150	4410	4330	4680	8870	3960	2390	4370	4300	7510
18	6730	7350	4710	4800	4470	6100	8440	4050	2440	4360	3970	7490
19	6220	13700	4750	4410	4400	5760	7760	4120	3700	11700	3650	6900
20	7430	18400	4750	4200	4120	5010	6890	3780	6640	13100	3420	8110
21	6010	12000	4390	3980	4490	5030	5700	3340	3810	9070	3420	10500
22	5120	8820	4220	3830	4400	7210	5170	3280	4290	4610	3390	25700
23	6440	7780	4050	3740	4540	9370	5070	3240	3880	3830	3130	29100
24	6880	6290	4120	3660	4400	9660	4770	3080	3290	5080	3080	19500
25	6820	6150	4020	3920	4390	12600	4380	2920	2620	5440	3120	18200
26	6210	5990	4680	4140	4380	17800	4000	2830	3040	4910	3750	22000
27	5120	5820	4710	4340	4230	22000	4560	2740	5150	5850	3440	33200
28	4370	5490	4600	4250	4320	21700	5220	2750	4960	5750	3300	55100
29	4380	4680	4500	4200	---	29100	5200	2690	4340	4510	3300	42500
30	4210	4520	4480	4210	---	40300	5120	2500	3820	6290	3250	27000
31	4440	---	4500	4610	---	43800	---	2460	---	5730	3160	---
TOTAL	394260	307900	155170	132370	125120	311980	373300	115480	92560	136560	106380	397180
MEAN	12720	10260	5005	4270	4469	10060	12440	3725	3085	4405	3432	13240
MAX	32100	29000	6330	4800	4880	43800	40900	6140	6640	13100	4370	55100
MIN	4210	4520	4020	3660	4120	4320	4000	2460	2180	1880	2940	2570
CAL YR 1985	TOTAL	2433220	MEAN	6666	MAX	32100	MIN	1930				
WTR YR 1986	TOTAL	2648260	MEAN	7256	MAX	55100	MIN	1880				

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 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 28, 1948, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 1-3, and ice-affected period, Nov. 27 to Mar. 28. Records good except for estimated daily discharges, which are fair. There is a large recreation dam about 5.0 mi upstream.

AVERAGE DISCHARGE.--42 years, 161 ft³/s, 10.17 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s Apr. 2, 1952, gage height, 17.38 ft; minimum observed, 0.94 ft³/s Aug. 11, 1985, gage height, 1.84 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Oct. 30	2300	2,350	10.58	Sept. 12	0030	2,740	11.32
Nov. 16	2200	1,990	9.83	Sept. 22	2130	*8,640	---
Mar. 26	----	A 4,000	ice jam	Sept. 23	0100	---	*15.85
July 26	0215	2,070	9.93	Sept. 26	0245	3,050	11.70

A Estimated, daily mean discharge.

Minimum daily discharge, 10 ft³/s June 10-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1100	1340	80	50	40	37	871	81	14	80	173	29
2	860	754	80	50	40	38	610	71	15	54	123	25
3	620	470	78	50	40	39	352	62	14	44	103	24
4	417	306	80	49	40	40	400	59	12	36	125	27
5	322	229	80	49	40	40	440	55	11	32	119	28
6	622	189	82	48	39	39	601	49	11	27	84	27
7	589	156	94	47	39	38	671	44	11	25	62	25
8	461	130	90	45	39	38	517	38	11	22	56	23
9	320	117	98	45	38	38	327	35	11	19	50	25
10	227	115	94	45	38	38	220	33	10	17	50	49
11	178	128	92	45	38	40	164	31	10	15	70	1430
12	153	149	88	44	38	41	130	31	14	15	68	2370
13	144	166	84	43	37	42	108	31	18	16	56	1420
14	162	220	78	43	37	43	103	31	14	23	52	867
15	160	320	76	42	36	44	406	31	13	50	82	677
16	144	967	74	42	36	45	819	38	17	45	115	774
17	127	1150	72	44	36	44	727	46	20	142	119	626
18	108	1000	70	45	36	43	390	56	16	164	352	447
19	90	647	68	44	36	80	284	53	14	188	246	333
20	79	357	66	43	36	150	199	47	13	332	135	666
21	72	285	64	43	36	280	156	42	13	276	79	880
22	72	298	64	43	36	560	121	35	12	152	55	4900
23	94	138	64	43	36	1000	99	32	14	92	47	7260
24	136	121	62	43	37	1500	83	29	18	64	42	3080
25	109	99	60	43	37	1900	74	27	18	478	35	1890
26	83	93	58	42	37	4000	72	25	16	1590	35	2640
27	69	88	58	41	37	3600	68	22	50	957	43	1800
28	60	82	56	40	37	2000	75	20	233	790	62	1150
29	64	82	54	40	---	1800	93	18	250	803	52	819
30	1280	80	52	40	---	1560	88	17	140	532	42	754
31	1740	---	52	40	---	1180	---	16	---	300	34	---
TOTAL	10662	10276	2268	1371	1052	20337	9268	1205	1033	7380	2766	35065
MEAN	344	343	73.2	44.2	37.6	656	309	38.9	34.4	238	89.2	1169
MAX	1740	1340	98	50	40	4000	871	81	250	1590	352	7260
MIN	60	80	52	40	36	37	68	16	10	15	34	23
CFSM	1.60	1.60	.34	.21	.18	3.05	1.44	.18	.16	1.11	.42	5.44
IN.	1.84	1.78	.39	.24	.18	3.52	1.60	.21	.18	1.28	.48	6.07
CAL YR 1985	TOTAL	84585.3	MEAN	232	MAX	2100	MIN	1.6	CFSM	1.08	IN	14.64
WTR YR 1986	TOTAL	102683.0	MEAN	281	MAX	7260	MIN	10	CFSM	1.31	IN	17.77

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, on right bank 5 ft downstream 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.--Water-stage recorder and crest-stage gage. Datum of gage is 867.05 ft above National Geodetic Vertical Datum of 1929. Prior to May 5, 1948, nonrecording gage at site 100 ft downstream at same datum, and May 5, 1948 to Aug. 21, 1984, nonrecording gage near center of span on downstream side of bridge at same datum.

REMARKS.--Estimated daily discharge: None, except for ice-affected period, Nov. 26 to Mar. 8. Records good except those for ice-affected period, which is 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.--42 years, 381 ft³/s, 10.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,680 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, 3,710 ft³/s Sept. 26, gage height, 11.35 ft; minimum daily, 123 ft³/s Sept. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	589	467	420	330	300	280	1530	327	149	1470	763	151
2	591	710	430	330	300	280	1320	298	143	1250	727	148
3	565	803	450	330	300	270	1220	284	137	937	644	141
4	539	890	430	330	310	270	1180	286	135	699	503	138
5	502	955	410	330	330	270	1180	303	158	521	365	135
6	453	903	400	320	320	270	1250	281	190	404	286	132
7	431	821	390	310	320	270	1290	255	199	340	248	126
8	435	735	390	310	310	270	1220	229	186	303	243	123
9	404	700	390	310	300	276	1090	214	166	257	239	123
10	354	686	390	320	300	288	954	202	151	229	247	146
11	333	661	380	320	290	292	870	195	158	233	237	381
12	330	629	370	320	280	293	835	196	191	251	228	522
13	340	617	360	320	280	305	787	202	218	339	212	569
14	350	636	360	320	270	322	745	213	228	405	203	580
15	344	647	350	320	270	343	753	211	236	459	206	627
16	339	700	350	320	270	378	738	230	227	534	221	599
17	335	809	340	330	270	436	716	250	197	548	223	545
18	339	903	340	330	270	614	664	275	172	519	201	549
19	353	976	330	330	270	1010	617	281	156	471	191	576
20	363	966	330	330	270	1330	584	271	146	405	183	619
21	366	905	330	330	270	1510	551	255	141	356	176	671
22	370	867	330	330	270	1970	510	235	138	315	170	1180
23	365	822	330	330	270	2360	457	221	141	268	169	1900
24	364	725	330	330	270	2520	424	208	148	221	159	2510
25	352	641	330	330	270	2630	418	197	142	262	151	3350
26	351	580	330	320	280	2670	407	188	139	365	153	3670
27	362	500	330	300	280	2650	405	177	464	505	161	3360
28	364	470	330	300	280	2510	410	171	875	703	165	2960
29	355	440	330	300	---	2330	385	172	1060	796	164	2660
30	337	420	330	300	---	2050	345	165	1390	818	157	2350
31	321	---	330	300	---	1780	---	156	---	796	154	---
TOTAL	12196	21584	11240	9930	8020	33047	23855	7148	8181	15979	8149	31541
MEAN	393	719	363	320	286	1066	795	231	273	515	263	1051
MAX	591	976	450	330	330	2670	1530	327	1390	1470	763	3670
MIN	321	420	330	300	270	270	345	156	135	221	151	123
CFSM	.78	1.42	.72	.63	.56	2.10	1.57	.46	.54	1.02	.52	2.07
IN.	.89	1.58	.82	.73	.59	2.42	1.75	.52	.60	1.17	.60	2.31
CAL YR 1985	TOTAL	164368	MEAN 450	MAX 2230	MIN 98	CFSM .89	IN 12.06					
WTR YR 1986	TOTAL	190870	MEAN 523	MAX 3670	MIN 123	CFSM 1.03	IN 14.00					

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 above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1963, water-stage recorder at same site at datum 5.00 ft higher.

REMARKS.--Estimated daily discharges: None, except for ice period listed in rating table below. Records good, except those for ice-affected period which is 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.--52 years, 6,895 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.

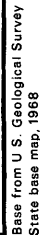
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 53,400 ft³/s Sept. 30, gage height, 17.89 ft; minimum daily, 3,370 ft³/s July 9.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used July 21 to Aug. 22, stage-discharge relation affected by ice Nov. 29 to Mar. 24.)

4.0	2,980	12.0	25,600
6.0	7,110	15.0	38,400
9.0	15,100	18.0	54,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20300	7170	6600	6400	4700	5000	40600	7070	3990	6880	9310	3910
2	26200	13700	6200	6200	4700	4900	43500	6930	3630	5460	8020	3760
3	26500	24800	6800	6000	4700	4900	43900	6920	3570	5370	7170	3640
4	18500	27000	6600	6200	4700	5000	42600	6650	3520	5310	6100	4040
5	18700	28100	7000	6200	4900	5000	39400	6310	3780	4840	5570	4020
6	25800	24500	6800	6000	4800	5200	31500	6050	3850	4310	5340	3850
7	30200	16600	7000	4800	4800	5000	22800	6010	3890	3950	5270	3500
8	29700	13900	7000	4700	4800	5000	15100	5940	3880	3410	5240	3410
9	24600	14300	7000	4600	4800	5000	12700	5560	3710	3370	5130	3440
10	18900	15800	6800	4800	4900	5000	12200	5470	3650	3590	5090	4390
11	18800	16300	7000	4700	4800	5000	10100	5490	3780	3790	5160	9010
12	17500	10800	6800	4700	5000	5000	9430	5640	4260	3820	4490	11500
13	17800	8730	6800	4700	4700	5000	9170	5500	4500	4610	4420	13200
14	17900	8960	6400	4700	4800	5000	8970	5200	4720	4650	4400	13700
15	14600	8940	6600	4700	4800	5200	9060	5450	4870	4140	4530	10100
16	11600	7990	6600	4800	4700	5600	8640	5690	5030	4590	4660	10100
17	9600	7850	6400	4800	4700	6000	8660	5550	4260	5880	5400	10300
18	8640	8410	6400	4800	4700	6400	8840	5880	4020	6500	6560	10900
19	9220	10400	6400	4800	4700	6800	8990	5320	3960	7230	5270	12300
20	8860	15400	6400	4800	4700	6800	11700	6180	4820	14600	4950	10600
21	9160	21400	6400	4800	5400	7400	10700	6610	7400	17100	4930	11200
22	8860	17000	6200	4800	6000	8600	10100	5730	5630	13900	5090	14900
23	8110	14000	6200	4800	6400	10000	8440	5980	5440	6990	4690	30900
24	9110	11400	6000	4700	6200	12000	8420	5820	5490	5760	4710	38200
25	8850	9620	6000	4800	6200	13400	8350	5180	5070	5890	4570	30000
26	8350	9180	6000	4700	5800	14400	7560	4720	4210	7390	4520	30200
27	7960	8610	6000	4400	5000	16800	7220	4680	6430	6210	4960	34200
28	7190	8430	6200	4800	4500	23100	7280	4410	11700	7300	4780	41000
29	6330	6800	6000	4700	---	24500	7250	4310	8320	8870	4490	48800
30	6280	6800	6000	4800	---	33900	7160	3600	7190	9810	4430	52700
31	6170	---	6200	4800	---	39300	---	4190	---	9880	4260	---
TOTAL	460290	402890	200800	155500	140900	310200	480340	174040	148570	205400	163510	481770
MEAN	14850	13430	6477	5016	5032	10010	16010	5614	4952	6626	5275	16060
MAX	30200	28100	7000	6400	6400	39300	43900	7070	11700	17100	9310	52700
MIN	6170	6800	6000	4400	4500	4900	7160	3600	3520	3370	4260	3410
CAL YR 1985	TOTAL	3150470	MEAN	8631	MAX	30200	MIN	3030				
WTR YR 1986	TOTAL	3324210	MEAN	9107	MAX	52700	MIN	3370				



LOWER WISCONSIN RIVER BASIN

433606090060000 REDSTONE LAKE NEAR LA VALLE, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 43°36'06", long 90°06'00", in SE 1/4 sec.14, T.13 N., R.3 E., Sauk County, Hydrologic Unit 07070004, 1.8 mi northeast of LaValle.

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Staff gage read by Tom Meronek. Elevation of gage is 916 ft, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 8.49 ft, Sept. 7, 1985; minimum observed, 7.11 ft, July 20-24, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 7.92 ft, Nov. 17; minimum observed, 7.18 ft, Aug. 10, 24, Sept. 7.

GAGE HEIGHT (FEET ABOVE DATUM) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.63	7.43					7.78	7.36	---	---	7.26	---
2	7.59	7.85					7.78	7.34	---	---	---	---
3	7.51	7.47					7.78	7.34	---	---	---	---
4	7.53	7.45					7.68	7.32	---	---	---	---
5	7.53	7.43					7.66	7.28	---	---	---	---
6	7.51	7.41					7.68	7.28	7.24	7.30	---	---
7	7.43	7.41					---	7.28	---	---	---	7.18
8	7.43	7.47					---	7.28	---	---	---	---
9	7.41	7.47					7.58	7.28	---	---	---	---
10	7.41	7.43					7.48	7.28	---	---	7.18	7.78
11	7.39	7.53					7.46	7.34	---	---	---	---
12	7.39	7.53					7.42	7.34	7.24	7.30	---	---
13	7.39	7.63					7.38	7.34	---	---	---	7.70
14	7.39	7.73					7.50	7.34	---	---	---	---
15	7.37	7.73					7.50	7.46	---	---	---	---
16	7.35	7.73					7.48	7.46	---	---	---	---
17	7.35	7.92					7.46	7.48	---	---	7.26	---
18	7.35	---					7.46	7.54	7.20	7.40	---	---
19	7.35	---					7.44	---	---	---	---	---
20	7.35	---					7.38	---	---	---	---	---
21	7.33	---					7.34	---	---	---	---	7.52
22	7.33	---					7.34	---	---	---	---	7.64
23	7.31	---					7.34	---	---	---	---	---
24	7.49	---					7.34	7.34	7.30	7.26	7.18	---
25	7.43	---					7.34	7.34	---	---	---	---
26	7.33	---					7.34	7.34	---	---	---	---
27	7.33	---					7.36	7.30	---	---	---	---
28	7.31	---					7.38	7.30	---	---	---	---
29	7.31	---					7.36	7.30	---	---	---	7.58
30	7.43	---					7.34	7.28	7.32	---	7.32	---
31	7.43	---					---	7.28	---	---	---	---
MEAN	7.41	---					---	---	---	---	---	---
MAX	7.63	---					---	---	---	---	---	---
MIN	7.31	---					---	---	---	---	---	---

WATER-QUALITY RECORDS

LOCATION.--Lat 43°36'27", long 90°05'25", in NE 1/4 sec.14, T.13 N., R.3 E., Sauk County, Hydrologic Unit 07070004, near center of lake, and 2.3 mi northeast of LaValle.

PERIOD OF RECORD.--April 1985 to current year.

REMARKS.--Secchi disc readings made by Tom Meronek.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
OCT. 6	1.1	NOV. 12	1.2	APR. 30	0.9	JUNE 6	1.5	JULY 12	0.8	AUG. 24	0.9
OCT. 12	1.1	NOV. 18	1.2	MAY 6	0.8	JUNE 12	0.9	JULY 18	0.8	AUG. 30	0.9
OCT. 18	1.1	APR. 6	0.3	MAY 12	1.1	JUNE 18	0.9	JULY 24	0.8	SEPT. 7	0.9
OCT. 24	1.1	APR. 12	0.8	MAY 18	1.5	JUNE 24	0.8	AUG. 1	0.8	SEPT. 13	0.9
OCT. 30	1.1	APR. 18	0.8	MAY 24	1.5	JUNE 30	0.8	AUG. 10	0.8	SEPT. 21	0.7
NOV. 6	1.2	APR. 24	0.9	MAY 30	1.5	JULY 6	0.8	AUG. 17	0.8	SEPT. 29	1.0

WISCONSIN RIVER BASIN

05404500 DEVILS LAKE NEAR BARABOO, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 43°25'18", long 89°43'38", in NW 1/4 NE 1/4 sec.24, T.11 N., R.6 E., Sauk County, Hydrologic Unit 07070004, in Devils Lake State Park, 3.5 mi south of Baraboo.

DRAINAGE AREA.--4.79 mi². Area of Devils Lake, 361 acres.

PERIOD OF RECORD.--June 1922 to August 1930, June to August 1932, June 1934 to September 1981 (fragmentary). October 1981 to September 1984, data unpublished in district files. October 1984 to current year.

REVISED RECORDS.--WDR WI-78-1: Drainage area.

GAGE.--Nonrecording gage. Elevation of lake from reference mark read about twice a week except in winter. Datum of gage is 955.00 ft, National Geodetic Vertical Datum of 1929.

REMARKS.--Lake has no surface outlet. Lake was ice covered Dec. 3 to Apr. 1.

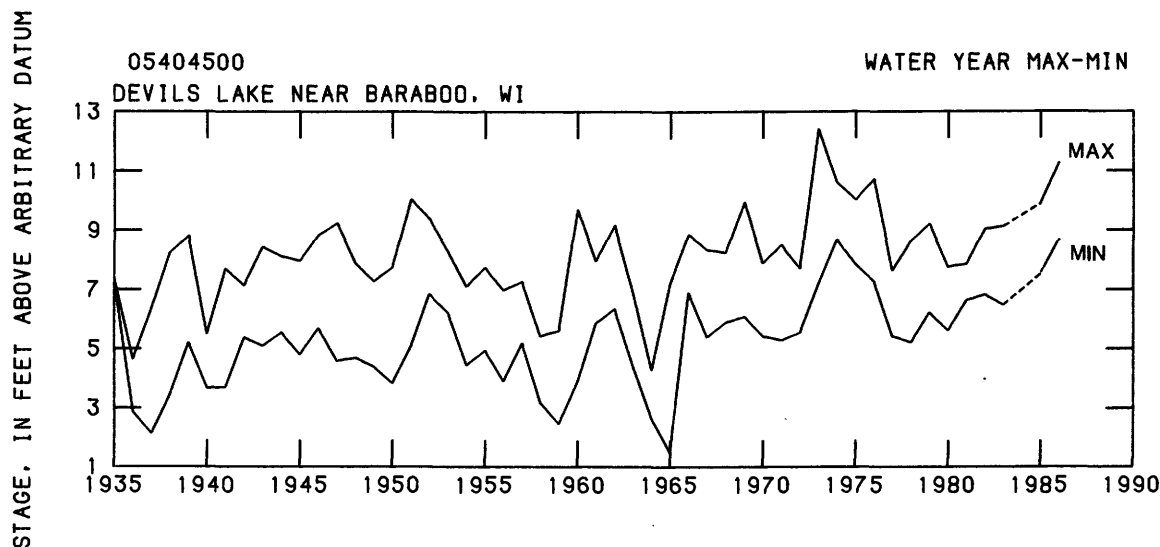
COOPERATION.--Gage readings furnished by Kenneth Lange of Devils Lake State Park.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 12.40 ft, May 31, June 1, 1973; minimum observed, 1.49 ft Feb. 8, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 11.26 ft, June 27; minimum observed, 8.67 ft, Oct. 9.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
OCT. 3	8.68	NOV. 5	9.32	APR. 4	11.12	MAY 7	10.84	JUNE 30	9.92	AUG. 11	9.44
OCT. 9	8.67	NOV. 11	9.47	APR. 10	11.14	MAY 13	10.72	JULY 9	9.74	AUG. 18	9.30
OCT. 18	8.75	NOV. 19	9.89	APR. 15	11.13	MAY 19	9.90	JULY 14	9.78	AUG. 28	9.30
OCT. 24	8.81	NOV. 25	10.98	APR. 22	11.05	JUNE 17	10.33	JULY 21	9.70	SEPT. 4	9.14
NOV. 1	8.94	MAR. 31	11.04	MAY 2	10.92	JUNE 27	11.26	JULY 28	9.74	SEPT. 18	9.23
								AUG. 6	9.52	SEPT. 28	9.74



WATER-QUALITY RECORDS

LOCATION.--43°25'00", long 89°44'00", in NW 1/4 sec.24, T.11 N., R.6 E., Sauk County, Hydrologic Unit 07070004, near center of lake, and 3.6 mi south of Baraboo.

PERIOD OF RECORD.--July 1982 to current year; July 1982 to September 1984 data at Devils Lake State Park office files.

REMARKS.--Secchi disc readings made by Sandy Engel.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
OCT. 9	3.1	APR. 29	7.6	MAY 27	6.8	JULY 2	7.8	JULY 29	7.4	AUG. 27	3.6
OCT. 24	3.1	MAY 6	7.0	JUNE 3	8.8	JULY 8	9.4	JULY 31	6.9	SEPT. 3	3.9
NOV. 11	2.9	MAY 13	9.5	JUNE 10	11.1	JULY 14	8.7	AUG. 5	6.9	SEPT. 8	4.7
APR. 3	4.4	MAY 14	9.3	JUNE 17	10.4	JULY 16	8.1	AUG. 13	4.8	SEPT. 16	4.5
APR. 15	4.7	MAY 19	5.2	JUNE 24	9.8	JULY 22	7.0	AUG. 19	4.6	SEPT. 24	4.5

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 above 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.--Estimated daily discharge: None, except for ice period listed in rating table below. Records good except those for ice-affected period, which is fair.

AVERAGE DISCHARGE.--51 (water years 1915-21, 1943-86), 382 ft³/s, 8.52 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, 3,110 ft³/s Mar. 23, gage height, 17.65 ft; minimum, 212 ft³/s Aug. 24, 25, gage height, 6.97 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Sept. 3-10, 18-20; stage-discharge relation affected by ice Nov. 26 to Mar. 8.)

6.9	212	13.0	1,650
7.0	235	15.0	2,230
9.0	697	18.0	3,230
11.0	1,170		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	794	866	480	450	380	340	964	398	309	358	368	263
2	867	1590	520	450	370	340	796	383	296	321	318	251
3	874	1590	560	450	370	340	698	367	290	317	293	243
4	819	1360	540	440	370	350	681	352	282	320	276	250
5	666	1240	520	430	380	360	716	341	272	301	262	243
6	555	1110	500	420	400	360	738	343	279	278	256	244
7	530	886	500	410	450	370	733	348	289	268	253	241
8	522	698	490	410	450	380	687	343	304	262	265	231
9	470	647	490	410	440	387	618	331	294	264	263	222
10	433	627	480	400	430	474	545	318	292	261	268	293
11	413	627	470	400	420	599	497	314	295	273	261	892
12	471	653	480	400	410	701	469	315	304	288	250	929
13	520	736	500	400	400	734	453	330	315	336	243	937
14	516	878	500	400	390	752	489	384	326	415	240	910
15	497	952	500	400	380	808	583	397	336	463	239	895
16	462	1170	520	400	370	872	625	505	317	414	245	843
17	426	1390	500	400	360	1050	645	614	297	390	250	603
18	430	1460	490	400	350	1580	613	689	289	397	255	414
19	517	1580	480	400	350	2590	531	673	278	366	268	365
20	552	1510	470	400	350	3010	476	602	269	318	245	387
21	507	1280	460	400	350	3010	448	515	265	294	228	539
22	466	1110	450	400	350	3060	432	419	272	279	222	853
23	447	909	450	400	340	3090	417	373	275	267	220	986
24	506	687	450	400	340	2970	400	358	308	258	215	925
25	581	505	450	400	340	2570	388	346	330	300	214	970
26	556	470	450	390	340	2100	388	336	326	425	349	1170
27	503	450	450	390	340	1770	393	337	361	638	460	1360
28	444	430	450	390	340	1590	404	332	325	869	594	1160
29	406	420	450	390	---	1470	407	329	343	713	600	1340
30	388	430	450	390	---	1350	405	325	392	467	452	1300
31	380	---	450	390	---	1170	---	321	---	417	307	---
TOTAL	16518	28261	14950	12610	10560	40547	16639	12338	9130	11537	9179	20259
MEAN	533	942	482	407	377	1308	555	398	304	372	296	675
MAX	874	1590	560	450	450	3090	964	689	392	869	600	1360
MIN	380	420	450	390	340	340	388	314	265	258	214	222
CFSM	.88	1.55	.79	.67	.62	2.15	.91	.65	.50	.61	.49	1.11
IN.	1.01	1.73	.91	.67	.65	2.48	1.02	.75	.56	.70	.56	1.24

CAL YR 1985 TOTAL 211992 MEAN 581 MAX 3040 MIN 200 CFSM .95 IN 12.95
WTR YR 1986 TOTAL 202528 MEAN 555 MAX 3090 MIN 214 CFSM .91 IN 12.37

WISCONSIN RIVER BASIN

05406050 FISH LAKE NEAR SAUK CITY, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 43°17'02", long 89°39'15", in NE 1/4 SW 1/4 sec.3, T.9 N., R.7 E., Dane County, Hydrologic Unit 07070005, on south side of lake near Ganser's Tavern and Dance Hall, 0.4 mi southwest of Crystal Lake, and 3.1 mi east of Sauk City.

DRAINAGE AREA.--8.97 mi², includes 7.11 mi² without surface drainage. Area of Fish Lake, 252 acres.

PERIOD OF RECORD.--November 1966 to September 1981 (fragmentary). April 1985 to current year.

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

GAGE.--Nonrecording gage in lake bed. Datum of gage is 848.07 ft above National Geodetic Vertical Datum of 1919. Staff gage read by Marie Ganser.

REMARKS.--Lake has no surface outlet.

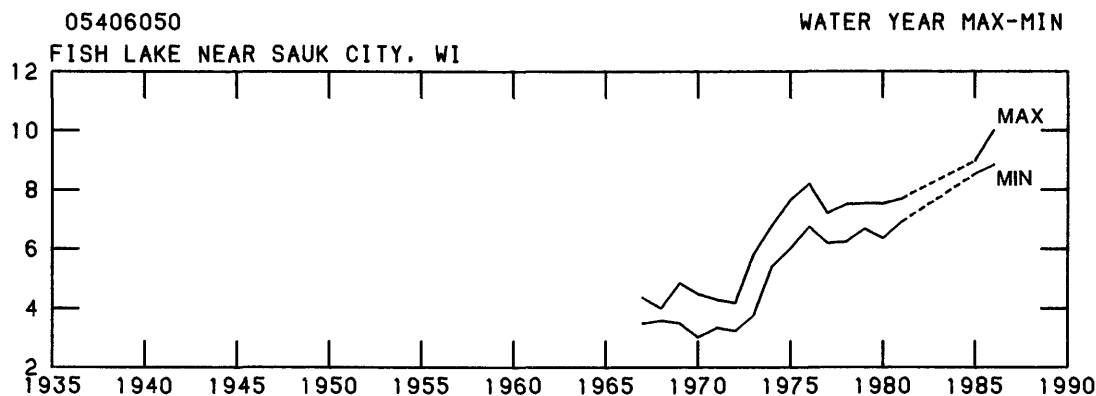
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 10.00 ft, Sept. 17, 1986; minimum observed, 3.02 ft, Aug. 29, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 10.00 ft, Sept. 17; minimum observed, 8.84 ft, Oct. 3.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
OCT. 3	8.84	OCT. 25	8.96	NOV. 5	8.98	JUNE 4	9.86	JUNE 11	9.88	JUNE 21	9.80
OCT. 14	8.92	OCT. 27	8.96	NOV. 14	8.92	JUNE 6	9.81	JUNE 18	9.80	SEPT. 17	10.00
OCT. 21	8.94	NOV. 1	8.96	NOV. 21	8.96						

STAGE, IN FEET ABOVE ARBITRARY DATUM



WATER-QUALITY RECORDS

LOCATION.--Lat 43°17'14", long 89°39'08", in NW 1/4 sec.3, T.9 N., R.7 E., Dane County, Hydrologic Unit 07070005, near center of lake, and 3.6 mi east of Sauk City.

PERIOD OF RECORD.--May 1985 to current year.

REMARKS.--Secchi disc readings made by Marie Ganser.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
OCT. 14	4.3	OCT. 23	4.9	NOV. 5	1.8

05406460 BLACK EARTH CREEK AT CROSS PLAINS, WI

LOCATION.--Lat 43°06'38", long 89°38'44", in NW 1/4 SE 1/4 sec.3, T.7 N., R.7 E., Dane County, Hydrologic Unit 07070005, on left bank at bridge at County Trunk KP at Cross Plains.

DRAINAGE AREA.--14.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1984 to September 1986 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 880 ft, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 28 to Feb. 6 and July 31 to Aug. 4. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 122 ft³/s July 25, 1985, gage height, 12.80 ft; minimum, 8.9 ft³/s Dec. 6, 1984, gage height, 9.27 ft; minimum gage height, 9.20 ft Oct. 3, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 45 ft³/s Nov. 1, gage height, 9.84 ft; maximum gage height, 10.06 ft, Aug. 26 (backwater from vegetation); minimum 11 ft³/s Sept. 2, 3, 5; minimum gage height, 9.20 ft, Oct. 3.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used June 7 to Sept. 25; stage-discharge relation affected by aquatic vegetation Jan. 28 to Feb. 6 and July 31 to Aug. 4.)

9.2	12	10.3	81
9.3	15	10.5	107
9.5	23	10.7	138
9.9	45	10.9	175
10.1	59		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	34	20	16	16	15	21	20	17	15	15	13
2	14	32	19	16	16	15	20	20	16	14	15	11
3	12	22	19	16	17	15	22	20	16	14	15	11
4	14	21	19	16	20	15	20	19	16	14	15	12
5	15	21	19	16	25	16	20	20	16	14	15	12
6	14	21	19	16	23	16	20	19	14	14	15	13
7	15	22	19	15	23	16	20	18	16	15	15	14
8	13	19	18	15	23	16	19	18	18	17	12	13
9	14	20	18	16	21	16	20	18	17	16	15	14
10	16	20	18	16	19	23	19	18	17	17	18	19
11	16	20	18	16	18	23	20	18	15	28	16	28
12	18	20	18	16	17	20	20	18	17	27	15	22
13	17	22	18	16	17	19	20	18	16	22	15	17
14	16	23	17	16	17	20	22	21	16	19	16	16
15	16	22	17	15	16	20	22	22	17	17	15	15
16	15	24	17	16	16	21	22	20	17	14	14	15
17	15	21	17	16	16	23	20	25	16	16	14	14
18	15	24	17	16	16	30	21	27	15	18	14	14
19	16	27	16	17	15	36	20	22	15	16	13	14
20	18	23	16	17	15	25	20	19	13	15	13	15
21	17	22	16	17	15	21	19	18	16	15	13	17
22	15	22	17	18	16	21	19	18	17	14	13	17
23	16	21	17	17	15	21	19	17	15	14	13	17
24	20	21	16	17	15	21	19	17	15	14	13	19
25	18	21	16	15	15	21	18	17	15	17	13	28
26	17	21	17	15	15	20	21	17	15	15	24	23
27	17	20	17	14	15	20	20	16	14	16	21	19
28	16	20	17	15	15	21	19	16	14	17	17	18
29	15	19	16	15	---	22	19	17	16	15	15	19
30	15	19	16	15	---	21	19	18	17	15	14	20
31	16	---	17	15	---	20	---	17	---	15	14	---
TOTAL	485	664	541	492	487	629	600	588	474	509	465	499
MEAN	15.6	22.1	17.5	15.9	17.4	20.3	20.0	19.0	15.8	16.4	15.0	16.6
MAX	20	34	20	18	25	36	22	27	18	28	24	28
MIN	12	19	16	14	15	15	18	16	13	14	12	11
CFSM	1.07	1.51	1.20	1.09	1.19	1.39	1.37	1.30	1.08	1.12	1.03	1.14
IN.	1.24	1.69	1.38	1.25	1.24	1.60	1.53	1.50	1.21	1.30	1.18	1.27
CAL YR 1985	TOTAL	6282.2	MEAN	17.2	MAX	79	MIN	9.2	CFSM	1.18	IN	16.01
WTR YR 1986	TOTAL	6433.0	MEAN	17.6	MAX	36	MIN	11	CFSM	1.21	IN	16.39

05406460 BLACK EARTH CREEK AT CROSS PLAINS, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1984 to September 1986 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1984 to June 1986.
TOTAL PHOSPHORUS DISCHARGE: October 1984 to June 1986.
TOTAL NITROGEN DISCHARGE: October 1984 to June 1986.
WATER TEMPERATURE: January 1985 to September 1986.
DISSOLVED OXYGEN: April 1984 to September 1986.

INSTRUMENTATION.--Water-quality sampler since December 1984. Continuous water temperature recorder since December 1984. Water-quality monitor since April 1984.

COOPERATION.--Water-sediment samples were collected by the U.S. Geological Survey; chemical analysis was performed by the Wisconsin State Laboratory of Hygiene; and suspended-sediment concentrations were determined by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED SEDIMENT DISCHARGE: Maximum daily, 60 tons July 25, 1985; minimum daily, 0.48 ton June 20, 1985.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 377 lb July 25, 1985; minimum daily, 0.93 lb Feb. 19, 1986.
TOTAL NITROGEN DISCHARGE: Maximum daily, 1,340 lb July 25, 1985; minimum daily, 109 lb Dec. 7, 1984.
WATER TEMPERATURE: Maximum observed, 23°C July 25, 1985; minimum observed, 2.0°C Feb. 24, Dec. 17, 1985, Jan. 26, Mar. 19-20, 1986.
DISSOLVED OXYGEN: Maximum observed, 16.1 mg/L Feb. 21, 1986; minimum observed, 3.0 mg/L July 25, 1985.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 20 tons Nov. 1; minimum daily, 0.50 ton Mar. 27.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 110 lb Mar. 19; minimum daily, 0.93 lb Feb. 19.
TOTAL NITROGEN DISCHARGE: Maximum daily, 805 lb Mar. 19; minimum daily, 160 lb June 20.
WATER TEMPERATURE: Maximum observed, 19.5°C July 13; minimum observed, 2.0°C Dec. 17, Jan. 26, Mar. 19, 20.
DISSOLVED OXYGEN: Maximum observed, 16.1 mg/L Feb. 21; minimum observed, 4.9 mg/L June 22.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

[illegible]

PHOSPHORUS, TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

NITROGEN, TOTAL, LOAD POUNDS PER DAY, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

[illegible]

WISCONSIN RIVER BASIN

05406460 BLACK EARTH CREEK AT CROSS PLAINS, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	11.5	9.5	10.5	10.5	9.5	10.0	6.0	3.5	4.5	6.0	4.0	5.0
2	13.0	9.0	10.5	9.5	8.5	9.0	4.0	2.5	3.5	6.0	4.0	5.0
3	13.0	10.0	11.0	8.5	8.0	8.5	5.0	3.0	4.0	6.5	4.5	5.5
4	15.5	9.5	11.0	10.0	8.0	9.0	6.0	4.5	5.0	5.5	4.0	5.0
5	11.0	9.5	10.5	9.0	7.5	8.5	6.0	4.5	5.5	5.0	3.5	4.0
6	12.0	8.5	10.0	9.5	8.5	9.0	6.0	4.0	4.5	5.0	3.0	3.5
7	12.0	9.0	10.5	10.0	8.0	8.5	6.0	5.0	5.0	4.5	2.5	3.5
8	12.0	10.5	11.5	9.5	7.0	8.0	6.0	4.5	5.5	5.0	3.0	3.5
9	11.5	9.5	10.0	7.5	6.5	7.0	6.5	5.0	5.5	5.5	3.5	4.5
10	10.5	9.0	9.5	7.5	6.5	6.5	6.5	5.5	5.5	6.5	4.5	5.5
11	11.0	8.0	9.5	7.5	6.0	7.0	5.5	4.0	5.0	7.0	5.0	6.0
12	12.0	10.0	11.0	8.0	7.5	8.0	5.0	3.0	4.0	5.5	3.0	4.0
13	13.0	10.0	11.0	8.0	7.0	7.5	4.5	3.0	3.5	5.5	3.0	4.5
14	11.5	9.5	10.5	7.0	6.5	7.0	5.0	3.5	4.5	6.0	4.0	5.0
15	12.0	9.5	10.5	7.5	6.5	7.0	4.5	4.0	4.0	6.0	4.0	4.5
16	11.5	8.0	10.0	7.0	6.5	6.5	4.0	3.0	3.5	7.0	4.5	5.5
17	11.5	8.0	10.0	9.0	6.5	7.5	4.5	2.0	3.0	7.5	5.5	6.5
18	11.5	10.5	11.0	10.0	8.0	9.0	4.0	3.0	3.5	7.0	6.0	6.5
19	11.5	10.0	11.0	10.0	6.5	8.5	---	---	---	7.0	5.5	6.0
20	11.0	10.5	11.0	6.5	5.0	5.5	---	---	---	6.5	5.5	6.0
21	11.5	10.5	11.0	7.0	5.0	6.0	---	---	---	7.0	5.5	6.0
22	12.0	10.5	11.0	7.0	6.0	6.5	---	---	---	6.5	4.5	5.5
23	12.0	11.0	11.5	7.0	5.0	6.0	---	---	---	6.5	4.0	5.0
24	13.0	10.0	11.5	6.0	4.5	5.0	---	---	---	6.0	5.0	5.5
25	12.0	9.0	10.0	6.5	5.0	6.0	---	---	---	6.5	4.5	5.5
26	12.5	9.5	11.0	7.0	5.5	6.5	---	---	---	5.0	2.0	3.5
27	11.5	9.0	10.5	6.0	5.5	5.5	---	---	---	5.5	2.5	3.5
28	11.0	8.5	9.5	6.5	5.0	6.0	---	---	---	4.5	3.0	4.0
29	11.0	9.0	10.0	5.5	4.5	5.0	---	---	---	4.5	3.5	3.5
30	11.5	8.5	9.5	6.5	5.0	6.0	---	---	---	5.5	3.5	4.5
31	11.0	8.5	9.5	---	---	---	---	---	---	5.5	4.5	5.0
MONTH	15.5	8.0	10.5	10.5	4.5	7.0	6.5	2.0	4.5	7.5	2.0	5.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	6.5	5.0	6.0	8.5	4.5	6.0	13.0	9.0	11.0	12.0	10.5	11.5
2	7.0	6.0	6.5	8.5	5.5	6.5	13.0	8.0	10.0	13.0	10.0	11.0
3	6.5	6.0	6.5	9.0	5.5	7.0	9.0	8.5	8.5	13.5	9.5	11.5
4	6.5	4.5	5.5	8.0	4.0	6.5	11.0	8.5	9.5	14.0	10.5	12.0
5	5.5	4.5	5.0	7.0	5.0	5.5	13.0	9.0	10.5	14.5	11.0	12.5
6	5.5	4.0	5.0	7.0	3.0	5.0	10.5	9.5	10.0	15.5	11.5	13.5
7	6.0	4.0	4.5	7.0	2.5	4.5	14.0	8.5	10.5	14.0	10.5	12.5
8	5.5	3.0	4.5	6.5	4.5	5.5	10.5	8.0	9.5	14.5	10.5	12.0
9	5.0	2.5	3.5	7.5	5.5	7.0	12.0	7.5	9.5	14.5	10.5	12.5
10	5.0	3.0	3.5	7.0	2.5	4.5	12.5	7.5	9.5	14.5	11.0	12.5
11	6.0	3.0	4.0	6.5	3.0	4.5	12.0	7.5	10.0	12.5	11.5	12.0
12	5.5	3.0	4.0	6.0	3.5	4.5	9.5	9.0	9.0	13.5	11.5	12.5
13	5.0	2.5	4.0	6.5	5.0	5.5	11.0	8.5	9.5	13.0	11.0	12.0
14	6.5	3.5	5.0	6.0	5.0	5.5	9.0	8.0	8.5	14.0	10.5	12.0
15	6.0	3.5	4.5	6.5	5.0	5.5	9.5	8.0	8.5	13.0	12.0	12.5
16	6.0	4.5	5.5	8.0	5.0	6.0	11.0	8.5	9.5	14.5	12.0	13.0
17	7.0	5.5	6.0	7.0	4.5	5.5	11.5	8.5	9.5	13.5	12.5	13.0
18	7.0	6.0	6.5	4.5	3.5	4.0	11.5	8.5	10.0	15.5	11.5	13.5
19	7.0	6.0	6.5	6.0	2.0	4.0	11.5	10.0	10.5	13.0	11.0	12.0
20	6.5	4.0	5.5	6.5	2.0	4.0	12.0	9.5	10.5	15.0	9.5	12.0
21	7.0	3.5	5.0	8.5	4.0	6.0	10.5	9.0	9.5	15.0	10.0	12.5
22	6.0	4.5	5.0	9.0	5.0	7.0	11.5	8.5	10.0	12.5	10.5	11.5
23	7.0	4.0	5.5	10.5	5.5	7.5	12.0	9.0	10.5	14.5	10.0	12.0
24	8.0	4.0	6.0	9.0	5.0	7.0	13.5	10.0	11.5	13.5	11.0	12.0
25	7.5	4.0	5.5	12.0	7.0	9.5	14.0	11.0	12.0	15.5	11.0	13.0
26	7.0	5.0	6.0	11.5	7.5	9.5	15.0	11.5	13.0	14.5	12.0	13.0
27	8.0	4.0	6.0	11.5	6.5	8.5	15.5	12.0	13.5	13.5	12.0	13.0
28	7.0	3.5	5.0	13.0	7.5	10.0	13.5	11.0	12.0	15.0	12.5	13.5
29	---	---	---	14.0	9.0	11.5	13.5	10.0	12.0	15.5	12.5	14.0
30	---	---	---	13.0	9.5	11.0	13.0	11.5	12.0	18.0	13.5	15.5
31	---	---	---	14.0	9.0	11.5	---	---	---	18.0	14.0	15.5
MONTH	8.0	2.5	5.0	14.0	2.0	6.5	15.5	7.5	10.5	18.0	9.5	12.5

05406460 BLACK EARTH CREEK AT CROSS PLAINS, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	16.0	13.5	15.0	13.5	12.5	13.0	17.5	15.0	16.0	14.5	11.5	12.5
2	15.5	12.0	13.5	15.0	12.5	14.0	17.5	14.5	16.0	14.5	10.5	12.0
3	16.0	11.5	13.5	15.5	12.5	14.0	17.0	13.5	15.5	13.0	11.0	11.5
4	16.5	12.5	14.5	16.5	13.5	15.0	17.0	13.5	15.0	15.0	11.0	12.5
5	14.5	12.5	13.5	18.0	15.0	16.5	15.5	13.5	14.5	13.5	10.0	11.5
6	13.0	11.5	12.0	17.0	15.5	16.5	14.5	14.0	14.0	12.5	10.0	11.0
7	15.5	11.5	13.0	16.0	14.5	15.0	16.0	13.5	14.5	14.0	10.0	11.5
8	16.5	13.0	14.5	17.5	13.5	15.5	16.5	12.0	14.0	14.5	10.0	12.0
9	16.0	12.5	14.0	18.0	15.5	16.5	17.0	12.0	14.5	12.5	11.0	11.5
10	14.5	12.5	13.5	16.0	14.0	15.0	17.0	14.5	15.5	14.0	12.0	13.0
11	15.5	12.0	13.5	18.0	15.5	16.5	16.0	13.5	14.5	15.5	14.0	15.0
12	14.5	12.5	13.0	19.0	16.0	17.5	16.0	12.5	14.0	15.5	13.0	14.0
13	14.0	11.5	12.5	19.5	16.0	17.5	14.0	13.0	13.5	14.5	12.0	13.0
14	12.0	11.0	11.5	18.0	15.0	16.5	16.0	13.5	14.5	12.5	12.0	12.5
15	12.5	11.0	11.5	17.0	15.0	16.0	17.0	14.0	15.5	12.5	11.5	12.0
16	15.5	11.5	13.5	17.0	14.0	15.5	17.5	13.5	15.5	14.0	10.5	12.0
17	14.5	11.5	13.0	19.0	14.5	16.5	17.0	14.0	15.5	12.0	11.0	11.5
18	15.0	12.0	13.5	19.0	16.5	17.5	16.0	13.5	15.0	14.0	12.0	12.5
19	16.0	13.0	14.5	18.0	16.0	17.0	16.0	13.0	14.5	13.5	12.5	13.0
20	14.5	12.5	13.5	17.0	15.0	16.0	15.5	12.5	14.0	13.0	12.5	12.5
21	17.0	12.5	14.5	16.0	14.0	15.0	17.0	13.5	15.0	14.5	12.5	13.5
22	16.0	14.5	15.0	16.5	13.5	15.0	16.0	12.5	14.0	15.5	13.0	14.0
23	16.5	13.0	15.0	16.5	13.5	15.0	16.0	13.5	14.5	16.0	14.0	14.5
24	15.0	13.5	14.0	17.5	14.5	15.5	16.0	12.0	13.5	15.5	13.5	14.5
25	15.0	12.0	13.5	17.0	15.0	16.0	16.5	12.5	14.5	18.5	15.5	17.0
26	17.0	13.0	15.0	16.5	14.5	15.5	17.0	13.5	15.0	18.5	16.0	17.0
27	16.0	14.5	15.5	16.5	14.0	15.5	15.0	12.5	14.0	18.5	16.0	17.0
28	15.5	12.5	14.0	17.5	15.0	16.0	15.0	11.0	13.0	17.0	15.0	15.5
29	16.5	14.0	15.0	18.0	14.0	16.0	14.5	11.0	12.5	16.0	15.0	15.5
30	15.0	13.5	14.0	17.0	14.5	15.5	14.0	11.5	12.5	15.0	13.5	14.5
31	---	---	---	19.0	14.0	16.5	15.5	11.5	13.0	---	---	---
MONTH	17.0	11.0	14.0	19.5	12.5	16.0	17.5	11.0	14.5	18.5	10.0	13.5
YEAR	19.5	2.0	10.0									

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	10.0	8.8	9.2						
2	---	---	---	10.8	9.5	10.1						
3	---	---	---	---	---	---						
4	---	---	---	---	---	---						
5	10.0	7.7	8.7	---	---	---						
6	11.1	8.4	9.4	11.2	8.2	9.5						
7	12.3	8.2	9.6	10.6	8.3	9.1						
8	10.4	8.1	9.1	10.6	8.6	9.2						
9	9.8	8.6	9.2	10.2	8.8	9.4						
10	10.9	8.2	9.0	11.5	9.5	10.1						
11	11.2	8.1	9.4	11.5	8.9	9.9						
12	8.6	7.2	7.9	10.2	8.6	9.2						
13	10.6	7.8	8.9	10.7	8.7	9.2						
14	10.5	8.2	9.0	10.4	8.7	9.4						
15	11.5	8.6	9.7	10.9	9.0	9.6						
16	12.0	9.0	10.1	9.6	8.4	9.0						
17	12.8	9.1	10.3	10.8	8.5	9.4						
18	10.8	9.0	9.9	8.8	7.9	8.4						
19	12.3	9.0	10.0	9.7	8.1	8.8						
20	11.5	9.0	9.9	11.5	9.1	10.2						
21	11.4	8.7	9.7	11.7	9.7	10.4						
22	11.9	8.7	9.7	11.0	9.7	10.1						
23	11.0	7.9	9.2	11.5	9.9	10.5						
24	11.0	8.0	9.2	12.4	10.4	11.0						
25	12.0	8.6	9.9	11.4	10.0	10.6						
26	11.7	8.3	9.6	11.7	9.9	10.5						
27	11.8	8.4	9.6	---	---	---						
28	12.2	8.8	10.0	---	---	---						
29	12.0	8.8	9.9	---	---	---						
30	---	---	---	---	---	---						
31	12.4	8.9	9.9	---	---	---						
MONTH	12.8	7.2	9.5	12.4	7.9	9.7						

05406460 BLACK EARTH CREEK AT CROSS PLAINS, WI--CONTINUED

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
FEBRUARY												
1	---	---	---	14.5	9.0	11.0	13.9	7.9	10.0	13.3	7.6	10.1
2	---	---	---	14.9	9.0	10.8	14.1	8.4	10.5	14.3	8.3	10.7
3	---	---	---	14.9	9.0	10.8	10.0	8.5	9.1	14.6	7.9	10.8
4	---	---	---	14.6	9.0	10.8	14.0	8.5	10.2	14.8	7.3	10.5
5	---	---	---	13.8	9.2	10.7	14.0	8.1	10.0	14.1	7.2	9.6
6	---	---	---	15.3	9.7	11.7	12.3	8.1	9.6	14.8	7.2	10.2
7	---	---	---	15.7	10.4	12.6	13.9	8.1	10.5	14.5	7.3	10.3
8	---	---	---	---	---	---	12.4	8.2	10.0	14.8	7.3	10.5
9	---	---	---	---	---	---	13.6	8.4	10.6	14.7	7.2	10.3
10	---	---	---	---	---	---	13.5	8.1	10.4	14.7	7.0	10.2
11	---	---	---	12.6	10.2	11.2	13.7	8.2	10.2	12.4	7.1	8.9
12	---	---	---	12.8	10.2	11.1	12.4	8.4	9.8	13.1	7.3	9.4
13	---	---	---	12.9	9.8	10.8	14.2	8.5	10.6	13.3	6.8	8.8
14	14.8	9.3	10.9	12.8	9.8	10.7	10.0	8.6	9.2	11.3	6.6	8.7
15	13.4	9.1	10.4	13.3	9.6	10.7	13.8	8.9	10.7	10.2	7.0	8.3
16	13.3	8.9	10.3	13.8	9.5	10.7	14.3	8.8	10.6	13.0	7.1	9.3
17	13.6	8.7	10.2	12.8	9.4	10.6	14.6	8.5	11.0	8.3	6.4	7.3
18	13.7	8.7	10.3	10.3	9.5	9.9	14.7	8.4	10.6	10.5	7.3	8.5
19	14.4	9.0	10.7	10.7	9.5	10.1	14.5	8.3	10.7	11.2	7.5	9.1
20	15.1	9.2	11.1	12.0	9.6	10.7	14.6	8.2	10.6	12.9	7.7	10.0
21	16.1	10.1	12.0	12.8	9.6	10.8	14.4	8.3	10.9	13.0	7.5	9.8
22	14.9	10.1	11.6	13.1	8.9	10.7	15.1	8.3	11.3	11.8	7.5	9.3
23	16.1	9.8	11.9	13.3	9.0	10.6	15.5	7.9	11.1	12.7	7.5	9.8
24	15.7	9.7	11.6	13.6	9.1	10.8	15.8	7.4	10.8	12.2	7.5	9.4
25	16.0	9.7	11.8	13.9	8.1	10.3	14.9	7.2	10.0	13.0	7.0	9.6
26	14.4	9.5	11.0	14.0	8.2	10.3	13.7	7.0	9.5	12.4	7.0	8.8
27	15.8	9.6	11.8	14.2	8.7	10.7	14.9	7.1	10.1	11.6	7.0	8.9
28	14.7	9.3	11.4	14.1	8.2	10.5	13.0	7.1	9.3	12.8	7.3	9.3
29	---	---	---	14.1	7.8	10.2	14.4	7.4	10.4	13.4	6.7	9.4
30	---	---	---	14.2	7.8	10.3	12.6	7.4	9.4	13.0	6.5	9.3
31	---	---	---	14.0	7.8	10.3	---	---	---	12.9	6.2	9.1
MONTH	16.1	8.7	11.1	15.7	7.8	10.7	15.8	7.0	10.3	14.8	6.2	9.5
Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
JUNE												
1	11.5	6.1	8.7	10.4	6.6	8.2	10.5	6.7	8.3	9.7	8.3	8.9
2	13.2	6.8	9.6	11.8	6.7	8.8	10.3	6.8	8.3	9.7	8.1	8.7
3	13.1	6.8	9.6	12.3	6.5	8.9	11.0	7.1	8.6	8.7	7.0	8.1
4	12.8	6.3	9.1	11.9	5.9	8.5	10.6	7.0	8.5	9.6	6.9	7.9
5	11.3	6.3	8.2	11.6	5.6	8.2	10.4	7.0	8.2	9.9	7.2	8.3
6	11.4	6.7	8.6	11.3	5.3	7.8	9.0	6.9	7.8	10.0	7.5	8.4
7	11.6	6.4	8.6	9.5	6.0	7.6	10.3	7.0	8.4	10.5	7.8	8.8
8	12.5	6.1	8.9	10.1	5.6	7.4	10.4	7.0	8.6	10.7	8.0	9.0
9	12.8	6.1	9.0	10.8	5.6	7.9	10.1	6.8	8.2	9.4	6.9	8.3
10	11.4	6.2	7.7	9.1	5.4	7.0	9.8	6.7	7.8	8.3	6.8	7.7
11	11.6	6.0	8.3	7.5	5.4	6.2	10.3	7.3	8.5	7.6	6.0	7.1
12	11.2	5.9	8.1	8.6	5.4	6.7	10.1	7.2	8.4	9.7	7.4	8.4
13	12.4	6.5	8.6	9.9	5.4	7.3	8.9	7.3	8.0	10.3	8.1	8.9
14	10.5	6.4	7.9	10.5	6.0	7.9	9.3	7.1	7.9	9.7	8.4	8.9
15	10.6	6.5	8.2	10.5	6.1	7.6	9.5	7.2	8.2	9.9	8.6	9.1
16	12.3	6.2	8.7	10.9	6.2	8.2	11.7	7.4	9.3	11.1	8.9	9.7
17	12.6	6.3	9.0	10.2	5.5	7.6	12.4	8.1	9.8	10.3	8.9	9.4
18	12.0	6.2	8.5	10.2	5.5	7.4	9.6	7.0	8.6	10.8	8.9	9.6
19	11.9	5.9	8.4	10.2	5.6	7.4	8.1	6.9	7.4	10.2	9.0	9.3
20	12.5	5.6	8.6	10.6	5.9	7.8	7.7	6.8	7.1	10.2	9.1	9.6
21	11.5	5.3	7.9	10.7	6.2	8.1	8.3	6.8	7.4	10.7	8.2	9.4
22	10.1	4.9	6.8	10.8	6.4	8.3	8.6	7.0	7.6	10.2	8.5	9.3
23	11.0	5.5	7.8	10.9	6.5	8.3	8.8	7.5	8.1	11.0	8.8	9.6
24	11.1	5.6	8.1	10.8	6.3	8.1	9.6	7.9	8.6	10.8	7.5	9.4
25	11.8	6.2	8.6	10.3	5.7	7.6	10.0	7.1	8.6	9.0	6.7	8.1
26	11.9	5.7	8.3	10.2	6.3	7.9	8.2	6.5	7.7	9.2	7.9	8.3
27	11.4	5.1	7.6	10.3	6.5	8.1	8.9	7.8	8.3	9.7	8.0	8.6
28	12.0	6.0	8.6	10.1	5.6	7.8	9.3	7.9	8.5	9.7	8.0	8.6
29	12.2	6.1	8.5	10.7	6.6	8.3	9.4	8.2	8.7	8.5	7.3	8.0
30	9.9	6.2	7.8	10.4	6.6	8.1	9.3	8.2	8.6	8.3	7.8	8.0
31	---	---	---	10.2	6.7	8.2	10.2	8.3	9.1	---	---	---
MONTH	13.2	4.9	8.4	12.3	5.3	7.9	12.4	6.5	8.3	11.1	6.0	8.7
YEAR	16.1	4.9	9.3									

WISCONSIN RIVER BASIN

05406460 BLACK EARTH CREEK AT CROSS PLAINS, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)
DEC , 1985									
11...	1440	18	--	--	--	--	<3.0	73	39
FEB , 1986									
19...	1105	15	--	8.00	6.5	--	--	--	--
MAY									
07...	1130	18	580	7.90	12.5	--	3.1	69	40

DATE	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	ALKA- LITY LAB (MG/L AS CAC03) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE (MG/L AS SO4) (00946)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)	IRON (UG/L AS FE) (71885)	MANGA- NESE (UG/L AS MN) (71883)
DEC , 1985									
11...	5.0	1.0	294	--	14	.1	14	400	60
FEB , 1986									
19...	--	--	--	--	--	--	--	--	--
MAY									
07...	6.0	1.0	290	7.0	14	.1	13	200	80

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT , 1985							
31...	2215	20	2.0	.050	.80	.160	--
NOV							
01...	1015	31	1.4	.080	1.8	.460	--
01...	1152	33	1.3	.080	1.6	.420	--
01...	1154	33	1.3	.080	1.6	.440	--
02...	0415	35	1.5	.050	1.4	.350	--
02...	1615	30	1.2	.140	2.5	.750	--
03...	0415	24	1.6	.040	1.0	.240	--
18...	2145	29	1.7	.140	1.4	.380	--
DEC							
11...	1440	18	2.5	.030	.20	.030	.018
JAN , 1986							
14...	1145	16	2.5	<.020	.20	.020	.013
FEB							
19...	1105	15	2.5	<.020	.20	.020	.012
MAR							
10...	1145	23	1.8	.350	1.4	.280	--
10...	2345	24	1.8	.310	1.4	.280	--
11...	0744	23	1.9	.240	1.5	.160	--
18...	0530	27	1.7	.430	2.1	.440	--
18...	1730	32	1.5	.470	2.3	.480	--
18...	2330	39	1.5	1.10	4.6	1.07	--
19...	0530	41	1.5	.570	2.6	.640	--
19...	0924	35	1.6	.390	1.8	.440	.210
20...	0900	24	2.0	.170	.90	.200	--
MAY							
07...	1130	18	2.3	<.020	.30	.040	.015
17...	1630	28	1.9	.210	1.6	.420	--
17...	2230	29	1.8	.170	1.4	.360	--
18...	0430	28	1.8	.110	1.0	.190	--
18...	1040	27	1.8	.110	1.0	.160	--
JUN							
24...	0915	15	2.1	.030	.20	.060	--

WISCONSIN RIVER BASIN

05406460 BLACK EARTH CREEK AT CROSS PLAINS, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
OCT , 1985				MAR , 1986			
04...	1448	15	107	07...	0740	15	19
11...	1504	15	39	10...	1145	23	59
18...	0912	16	122	10...	1745	25	91
18...	1800	19	97	11...	0545	23	60
27...	0816	16	107	13...	1608	20	540
31...	1636	15	50	18...	0530	27	88
NOV				18...	1730	32	103
01...	0415	27	179	18...	2330	39	168
01...	1150	33	140	19...	0530	41	115
01...	1152	33	201	19...	0924	35	65
01...	1333	36	253	19...	0925	35	56
01...	1334	36	243	20...	1100	24	14
01...	2215	29	193	20...	1627	23	17
02...	0015	38	97	21...	1015	21	11
02...	1615	30	62	27...	1454	18	9
03...	0415	24	31	APR			
07...	1402	21	23	02...	1635	20	27
14...	0806	23	29	11...	0733	18	12
18...	1545	26	101	18...	0826	20	13
19...	0345	29	91	24...	1033	18	19
22...	0732	22	30	MAY			
DEC				02...	0737	20	31
06...	1553	19	108	07...	1125	18	26
13...	0753	17	35	08...	1839	18	27
22...	1628	17	31	14...	0747	18	33
29...	0810	16	26	17...	1630	28	54
JAN , 1986				17...	2230	29	63
05...	1601	17	15	18...	0430	28	49
12...	0855	16	39	18...	1040	27	35
19...	1638	17	17	25...	0725	17	32
24...	0809	17	41	31...	0754	17	25
30...	1446	19	25	JUN			
FEB				07...	0754	14	20
06...	1223	21	25	13...	0734	16	49
14...	0748	15	17	22...	0809	18	42
19...	1105	15	25	26...	0746	15	68
20...	1001	15	14	JUL			
28...	0740	14	45	07...	1858	15	28

05406470 BREWERY CREEK AT CROSS PLAINS, WI

LOCATION.--Lat 43°38'40", long 89°38'44", in SW 1/4 SW 1/4 sec.35, T.8 N., R.7 E., Dane County, Hydrologic Unit 07070005, on left bank at culvert on Brewery Road, 0.75 mi upstream from Black Earth Creek.

DRAINAGE AREA.--10.5 mi², of which 2.80 mi² is non-contributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1984 to September 1986 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 900 ft, from topographic map.

REMARKS.--Estimated daily discharges: May 6-12 and ice periods listed in rating table below. Records good except for estimated daily discharges, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 231 ft³/s July 25, 1985, gage height, 13.51 ft; minimum discharge, 0.79 ft³/s May 23, 24, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33 ft³/s Nov. 1, gage height, 10.26 ft; maximum gage height, 10.35 ft, Jan. 10 (backwater from ice); minimum discharge, 1.5 ft³/s Jan. 26, result of freezeup.

RATING TABLE (gage height in feet, and discharge, in cubic feet per second).
(Shifting-control method used Apr. 20 to Aug. 25, Sept. 28-30; stage-discharge relation affected by ice Nov. 29 to Mar. 1, Mar. 7, 8.)

8.5	1.6	9.0	5.3
8.6	2.0	9.4	11
8.8	2.3	10.0	25

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	21	3.0	2.5	2.0	2.4	3.2	3.2	2.4	4.6	3.0	3.4
2	2.3	10	2.9	2.4	1.9	2.5	3.0	3.1	2.4	4.7	3.0	3.2
3	2.3	4.1	2.8	2.3	2.0	2.6	3.6	3.2	2.4	4.3	3.0	3.4
4	2.4	3.5	2.8	2.2	2.1	2.9	3.5	3.0	2.6	4.0	3.1	3.4
5	2.6	3.2	2.8	2.1	2.7	3.0	4.0	3.2	2.5	4.4	3.1	3.3
6	2.4	3.4	2.7	2.0	2.4	2.9	3.3	3.2	2.6	4.6	3.5	3.4
7	2.3	3.7	2.7	1.9	2.2	2.8	3.1	3.1	2.7	4.7	3.6	3.7
8	2.3	3.2	2.7	1.8	2.1	2.7	3.0	3.1	2.6	6.7	3.8	3.9
9	2.6	3.3	2.7	1.8	2.1	2.7	3.0	3.0	2.7	4.4	3.4	4.1
10	3.2	3.4	2.7	1.8	2.0	6.8	3.0	3.0	3.3	5.0	4.1	8.7
11	2.7	3.5	2.7	1.9	1.9	5.5	3.0	3.1	3.5	7.3	3.4	15
12	5.8	3.8	2.6	2.0	2.0	3.9	3.3	3.5	3.2	4.3	3.1	5.2
13	3.4	5.8	2.5	2.0	2.1	4.1	3.1	4.1	3.1	3.6	3.2	4.1
14	2.8	5.4	2.5	2.0	2.1	4.6	4.6	4.3	3.3	3.3	3.5	4.0
15	2.6	3.9	2.4	1.9	2.0	4.5	3.7	4.0	3.4	3.3	3.4	4.0
16	2.5	8.9	2.5	1.9	1.9	5.5	3.2	4.0	3.3	3.3	3.3	3.8
17	2.4	4.5	2.5	1.9	2.1	6.7	3.0	6.8	3.1	3.2	3.2	3.7
18	2.9	7.3	2.5	1.9	2.3	15	2.9	4.7	3.1	3.1	3.1	3.8
19	3.8	6.4	2.4	1.9	2.6	15	2.9	3.0	3.2	2.9	3.1	4.1
20	3.0	3.8	2.3	2.0	2.6	5.7	2.8	2.7	3.3	3.0	3.2	3.9
21	2.8	3.2	2.3	2.1	2.6	4.2	2.8	2.6	3.3	2.8	3.3	5.8
22	2.6	3.1	2.4	2.0	2.6	4.9	2.8	2.4	5.6	2.8	3.3	5.2
23	3.0	3.1	2.6	2.1	2.6	4.9	2.8	2.4	3.4	2.7	3.4	4.5
24	4.6	3.0	2.5	2.0	2.6	3.8	2.8	2.4	3.4	2.6	3.3	4.3
25	3.0	3.0	2.4	2.0	2.5	3.9	2.9	2.4	3.3	3.1	3.4	11
26	2.8	3.0	2.4	1.9	2.5	3.6	3.8	2.4	3.5	2.9	14	4.9
27	2.7	2.9	2.4	1.9	2.4	3.3	3.2	2.6	4.8	3.0	5.6	4.2
28	2.6	2.9	2.4	1.9	2.3	3.3	3.1	2.5	4.1	4.4	3.8	3.9
29	2.6	2.8	2.4	1.9	---	3.2	3.1	2.5	4.0	3.0	3.5	6.7
30	2.6	2.8	2.5	1.9	---	3.0	3.5	2.5	4.7	2.9	3.5	5.7
31	2.8	---	2.4	1.9	---	3.0	---	2.5	---	3.0	3.3	---
TOTAL	88.9	141.9	79.4	61.8	63.2	142.9	96.0	98.5	98.8	117.9	116.5	148.3
MEAN	2.87	4.73	2.56	1.99	2.26	4.61	3.20	3.18	3.29	3.80	3.76	4.94
MAX	5.8	21	3.0	2.5	2.7	15	4.6	6.8	5.6	7.3	14	15
MIN	2.3	2.8	2.3	1.8	1.9	2.4	2.8	2.4	2.4	2.6	3.0	3.2
CAL YR 1985	TOTAL	1097.74	MEAN	3.01	MAX	142	MIN	.88				
WTR YR 1986	TOTAL	1254.10	MEAN	3.44	MAX	21	MIN	1.8				

05406470 BREWERY CREEK AT CROSS PLAINS, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1984 to September 1986 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1984 to June 1986.

TOTAL PHOSPHORUS DISCHARGE: October 1984 to June 1986.

TOTAL NITROGEN DISCHARGE: October 1984 to June 1986.

WATER TEMPERATURE: November 1984 to September 1986.

INSTRUMENTATION.--Water-quality sampler since December 1984. Continuous water temperature recorder since November 1984.

COOPERATION.--Water-sediment samples were collected by the U.S. Geological Survey; chemical analysis was performed by the Wisconsin State Laboratory of Hygiene; and suspended-sediment concentrations were determined by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 493 tons July 25, 1985; minimum daily, 0.06 ton May 10, 1985.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 1,830 lb July 25, 1985; minimum daily, 0.48 lb Feb. 1, 2, 1985.

TOTAL NITROGEN DISCHARGE: Maximum daily, 4,550 lb July 25, 1985; minimum daily, 10 lb May 24, 25, 1985.

WATER TEMPERATURE: Maximum observed, 27.0°C July 17, 1986; minimum observed, 0°C on several days during the winter period.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 35 tons Mar. 19; minimum daily, 0.12 ton May 8.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 163 lb Nov. 1; minimum daily, 1.02 lb May 25.

TOTAL NITROGEN DISCHARGE: Maximum daily, 682 lb Mar. 18; minimum daily, 25 lb Oct. 2-3, 7-8.

WATER TEMPERATURE: Maximum observed, 27.0°C July 17; minimum observed, 0°C on several days during the winter period.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

[illegible]

PHOSPHORUS, TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

NITROGEN, TOTAL, LOAD POUNDS PER DAY, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

[illegible]

WISCONSIN RIVER BASIN

05406470 BREWERY CREEK AT CROSS PLAINS, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	12.0	9.0	10.5	10.5	9.0	9.5	.5	.0	.0	.0	.0	.0
2	13.5	7.5	10.0	9.0	8.0	8.5	.0	.0	.0	.0	.0	.0
3	14.0	9.0	11.5	8.5	7.0	7.5	.0	.0	.0	.0	.0	.0
4	13.0	11.0	12.0	9.5	6.5	7.5	.0	.0	.0	.0	.0	.0
5	11.5	9.0	10.5	7.0	5.0	6.0	.0	.0	.0	.0	.0	.0
6	12.5	7.5	9.5	7.5	7.0	7.0	.0	.0	.0	.0	.0	.0
7	12.5	8.0	10.5	8.5	5.5	7.0	.5	.0	.0	.0	.0	.0
8	13.5	9.5	12.5	7.0	3.0	5.5	1.5	.0	.5	.0	.0	.0
9	13.0	9.0	10.5	3.5	.5	2.0	2.5	1.5	2.0	.0	.0	.0
10	12.0	9.0	9.5	2.5	.5	1.5	3.0	1.5	2.0	.0	.0	.0
11	12.0	7.5	10.0	4.0	.5	2.5	2.0	.0	1.5	.0	.0	.0
12	13.0	11.0	12.0	5.5	4.0	4.5	.0	.0	.0	.0	.0	.0
13	15.5	11.0	13.0	5.5	4.0	4.5	.0	.0	.0	.0	.0	.0
14	13.0	11.0	12.0	5.0	4.0	4.5	.0	.0	.0	.0	.0	.0
15	13.0	9.5	11.0	5.5	3.5	4.5	.0	.0	.0	.0	.0	.0
16	12.0	7.5	9.5	5.0	4.0	4.5	.0	.0	.0	.0	.0	.0
17	12.0	8.5	10.5	7.0	4.0	5.5	.0	.0	.0	3.0	.0	1.5
18	12.5	11.5	12.0	10.0	7.0	8.0	.0	.0	.0	3.5	.5	2.5
19	12.5	11.0	11.5	10.0	4.0	8.0	.0	.0	.0	4.0	2.0	3.0
20	12.0	10.5	11.0	3.0	.0	.5	.0	.0	.0	3.5	2.0	2.5
21	12.5	10.5	11.5	2.0	.0	1.0	.0	.0	.0	4.0	1.5	2.5
22	13.5	10.5	12.0	3.0	1.0	2.0	.0	.0	.0	3.0	.0	1.5
23	13.0	12.0	12.5	2.0	.0	1.5	.0	.0	.0	2.5	.0	.5
24	14.0	10.0	12.0	.0	.0	.0	.0	.0	.0	2.5	.5	1.5
25	12.0	7.5	9.5	2.0	.0	.5	.0	.0	.0	2.0	.0	1.0
26	13.5	8.5	11.0	4.0	1.5	3.0	.0	.0	.0	.0	.0	.0
27	12.0	8.0	10.0	1.5	.0	.5	.0	.0	.0	.0	.0	.0
28	10.5	6.5	8.5	2.0	.0	1.0	.0	.0	.0	.0	.0	.0
29	10.5	7.0	8.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
30	11.0	6.5	8.5	1.0	.0	.0	.0	.0	.0	.0	.0	.0
31	9.5	7.0	8.5	---	---	---	.0	.0	.0	1.5	.0	.5
MONTH	15.5	6.5	10.5	10.5	.0	4.0	3.0	.0	.0	4.0	.0	.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3.0	.0	2.0	7.5	1.5	3.5	17.0	7.5	11.5	14.5	8.5	11.5
2	4.0	2.5	3.0	8.0	2.0	4.5	16.5	4.5	9.0	18.0	7.0	11.5
3	3.5	2.5	3.0	7.0	1.0	3.5	7.5	6.0	6.5	20.5	6.0	12.5
4	2.5	.0	1.0	4.5	.0	2.0	12.0	6.5	8.5	21.0	9.0	14.5
5	2.0	.0	1.0	5.5	.0	1.0	15.5	7.5	10.5	20.5	11.5	15.0
6	2.0	.0	1.0	.0	.0	.0	11.0	8.0	9.5	25.0	13.5	17.5
7	4.0	.0	1.5	2.5	.0	.5	18.5	6.0	10.5	20.0	9.5	15.0
8	5.0	.5	2.5	4.5	.0	2.0	11.0	5.5	8.0	22.5	9.0	15.0
9	.0	.0	.0	5.5	2.0	4.0	15.0	3.5	8.5	22.5	9.0	15.0
10	.0	.0	.0	4.0	1.0	1.0	18.0	3.0	9.0	21.5	11.0	15.5
11	.0	.0	.0	8.5	.0	3.5	19.5	3.5	10.0	16.5	11.5	13.5
12	.0	.0	.0	5.0	1.0	3.0	8.5	5.0	7.0	18.5	12.5	15.0
13	.0	.0	.0	5.5	3.0	4.0	14.5	5.5	9.0	17.0	10.5	13.0
14	.0	.0	.0	5.5	3.0	3.5	7.0	4.5	6.0	19.5	11.5	14.0
15	2.0	.0	.5	6.0	3.0	4.0	10.5	3.5	6.5	15.0	11.0	13.0
16	3.5	1.5	2.5	9.5	2.5	4.5	15.0	5.5	9.0	20.0	12.5	15.5
17	4.5	3.0	3.5	7.5	2.0	4.0	18.5	5.0	10.0	14.5	12.0	13.5
18	4.0	3.0	3.0	2.5	1.5	2.0	16.0	6.0	10.5	19.5	9.5	14.0
19	5.0	3.5	4.5	5.0	.0	2.0	15.5	8.5	11.0	15.0	9.0	12.0
20	3.5	.0	2.0	7.0	.0	2.0	18.0	6.5	10.5	20.0	8.0	13.0
21	4.0	.0	.5	9.5	.0	3.5	12.0	4.5	8.0	21.0	8.5	14.0
22	3.0	.0	1.0	9.5	1.0	4.5	16.0	2.0	8.5	14.5	9.0	12.0
23	4.5	.0	1.5	11.5	2.0	5.5	15.5	3.5	9.5	20.5	8.0	13.5
24	6.5	.0	2.0	9.5	1.0	5.0	21.0	7.0	13.0	18.0	9.0	13.0
25	5.0	.0	2.5	16.0	5.0	9.5	22.0	9.5	14.5	23.5	10.0	16.0
26	4.0	.0	2.0	14.0	4.5	9.0	22.0	12.0	16.0	19.0	12.5	15.0
27	5.0	.0	1.0	14.0	2.0	7.0	25.5	11.5	17.0	18.0	12.5	14.5
28	7.0	.0	2.0	18.0	4.5	10.5	16.5	9.0	12.5	22.0	13.0	16.0
29	---	---	---	21.0	7.5	13.0	21.0	7.5	13.5	23.5	12.5	17.0
30	---	---	---	18.0	8.0	12.0	18.0	11.5	13.5	27.0	12.5	19.0
31	---	---	---	19.0	7.0	12.0	---	---	---	25.5	13.5	19.0
MONTH	7.0	.0	1.5	21.0	.0	4.5	25.5	2.0	10.0	27.0	6.0	14.5

WISCONSIN RIVER BASIN

05406470 BREWERY CREEK AT CROSS PLAINS, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS	SPE- CIFIC CON- DUC- TANCE	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY	CALCIUM TOTAL RECOV- ERABLE	MAGNE- SIUM, TOTAL RECOV- ERABLE	
		(CFS) (00061)	(US/CM) (00095)	(00400)	(00010)	(MG/L) (00300)	(MG/L) (00310)	(MG/L AS CA) (00916)	(MG/L AS MG) (00927)	
DEC , 1985										
11...	1336	2.7	--	--	--	--	<3.0	88	43	
FEB , 1986										
19...	1140	2.6	--	8.20	3.5	--	--	--	--	
MAY										
07...	1325	3.9	600	8.50	16.0	--	2.5	76	43	
DATE	TIME	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE (MG/L AS SO4) (00946)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	IRON (UG/L AS FE) (71885)	MANGA- NESE (UG/L AS MN) (71883)
DEC , 1985										
11...	7.0	2.0	322	--	16		.1	16	2300	410
FEB , 1986										
19...	--	--	--	--	--	--	--	--	--	--
MAY										
07...	7.0	1.0	310	1.9	16		.1	9.0	300	100
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)			
OCT , 1985										
23...	2245	4.6	1.7	1.60	6.0	1.89	--			
24...	0345	6.1	1.6	.290	1.8	.580	--			
24...	0745	5.5	1.7	.520	2.2	.540	--			
24...	1145	4.5	1.9	.630	2.3	1.14	--			
25...	0840	3.0	2.3	.150	.90	.260	--			
NOV										
01...	0100	6.5	1.9	2.50	7.8	2.20	--			
01...	0800	21	1.4	.810	3.9	1.16	--			
01...	1308	20	1.5	.920	4.9	1.66	--			
01...	1312	20	1.5	.940	5.0	1.71	--			
01...	1600	26	1.5	.790	5.4	2.00	--			
01...	1900	33	1.4	.470	3.5	1.31	--			
02...	0100	22	1.5	.380	2.6	.980	--			
02...	0900	10	2.0	.270	1.8	.620	--			
02...	2230	5.2	2.5	.180	1.1	.350	--			
18...	1300	7.0	1.9	2.30	7.3	1.86	--			
18...	2100	11	1.6	.910	3.5	1.10	--			
19...	0700	7.3	1.9	.800	2.5	.690	--			
DEC										
11...	1336	2.7	2.5	.200	1.2	.300	.049			
JAN , 1986										
14...	1300	21	2.5	.200	.70	.140	.039			
FEB										
19...	1140	2.6	2.5	.180	.70	.180	.044			
MAR										
10...	1122	6.8	2.0	1.60	4.6	1.10	--			
10...	1500	9.9	2.0	2.20	--	--	--			
10...	1800	9.6	2.2	2.30	7.0	1.78	--			
10...	2100	8.0	2.3	2.10	--	--	--			
16...	2000	8.2	2.1	1.90	5.4	1.41	--			
17...	1945	9.3	2.1	1.80	5.0	1.40	--			
18...	0445	11	2.2	2.20	6.1	1.61	--			
18...	1145	15	2.2	1.70	5.6	1.72	--			
18...	1345	17	2.1	1.80	6.7	1.91	--			
19...	0905	14	2.1	1.00	4.4	1.76	.510			
19...	2115	9.6	2.2	.730	2.8	.940	--			
MAY										
07...	1325	3.9	1.5	.020	.40	.080	.039			
15...	1830	4.7	1.5	1.70	6.5	1.79	--			
15...	2130	6.3	1.7	.640	2.9	.890	--			
16...	0130	5.2	1.7	.670	3.7	1.06	--			
16...	0900	4.1	1.7	.370	1.4	.410	--			
17...	1530	6.6	1.5	1.40	6.0	1.89	--			
17...	1730	9.8	1.7	.960	6.4	2.20	--			
17...	1930	13	1.9	.830	4.8	1.76	--			
17...	2130	12	2.1	.520	3.7	1.41	--			
18...	0230	6.7	2.3	.320	2.4	.900	--			
18...	1015	4.6	2.1	.190	1.2	.460	--			
JUN										
22...	0630	5.4	1.4	1.10	3.4	.790	--			
22...	0830	7.9	1.6	.550	2.0	.600	--			
22...	1230	7.1	2.6	.580	2.2	.620	--			
24...	0900	3.3	1.7	.020	.50	.190	--			
24...	1630	3.5	3.5	.530	2.6	.540	--			

05406470 BREWERY CREEK AT CROSS PLAINS, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
OCT , 1985				MAR , 1986			
04...	1440	2.4	43	10...	1900	8.8	423
11...	1458	2.7	77	11...	0905	7.5	252
12...	0815	5.1	491	13...	1641	4.5	288
12...	1015	7.6	326	16...	1900	8.2	322
12...	1215	9.1	249	17...	1845	9.3	326
12...	1515	8.0	206	17...	2145	8.8	280
12...	1915	5.7	151	18...	0345	11	307
12...	2315	4.6	117	18...	0745	12	326
18...	0405	2.4	54	18...	1245	16	523
23...	2045	4.4	209	18...	1345	17	561
24...	0045	5.4	528	19...	0905	14	986
24...	0445	6.1	127	19...	0911	14	168
24...	0845	5.3	107	19...	1715	14	493
24...	1245	4.3	85	20...	1611	4.3	224
27...	0850	2.7	89	21...	1040	3.4	312
31...	0605	2.6	62	27...	1447	3.3	110
NOV				APR			
01...	0200	8.0	323	02...	1706	3.0	107
01...	0700	21	320	11...	0725	3.1	48
01...	1100	18	201	14...	1545	3.0	410
01...	1309	20	254	18...	0818	2.9	39
01...	1310	20	262	24...	1024	2.8	47
01...	1419	22	375	MAY			
01...	1420	22	390	02...	0808	3.1	41
01...	1800	32	382	07...	1325	3.9	72
01...	2400	24	201	08...	1831	3.6	11
02...	1000	9.4	123	14...	0738	4.5	46
02...	1600	6.3	133	15...	1930	5.5	139
03...	0230	4.6	71	15...	2230	6.3	124
07...	1436	3.5	37	16...	0230	4.8	95
12...	0245	3.6	89	16...	0900	4.1	29
12...	0945	3.6	84	17...	1430	6.1	307
12...	2045	4.3	71	17...	1630	7.7	409
14...	0738	5.7	62	17...	1830	12	353
18...	1900	11	146	17...	1930	13	403
18...	2300	11	178	17...	2030	12	422
19...	0500	8.2	133	18...	0030	8.0	183
22...	0813	3.1	61	18...	0430	5.7	118
DEC				18...	1015	4.6	92
06...	1544	3.0	356	25...	0817	2.4	223
11...	1330	2.7	254	31...	0747	2.6	69
13...	0840	3.6	99	JUN			
JAN , 1986				07...	0744	2.7	56
24...	0841	2.6	211	13...	0726	--	41
FEB				22...	0530	4.4	124
06...	1214	3.9	72	22...	0730	7.9	49
19...	1140	2.6	82	22...	0800	7.9	36
20...	1038	2.8	166	22...	1030	7.4	46
28...	0728	2.8	121	22...	1430	6.7	39
MAR				22...	1930	4.7	24
07...	0732	3.9	423	26...	0737	3.3	23
10...	1122	6.8	418	JUL			
10...	1400	8.9	637	07...	1850	4.5	466
10...	1600	10	577	12...	0955	4.4	357

WISCONSIN RIVER BASIN

05406491 GARFOOT CREEK NEAR CROSS PLAINS, WI

LOCATION.--Lat 44°51'16", long 89°40'43" in NW 1/4 SW 1/4 sec.4, T.7 N., R.7 E., Dane County, Hydrologic Unit 0707005, on left bank at bridge on Garfoot Road, 0.5 mi upstream from Black Earth Creek.

DRAINAGE AREA.--5.39 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1984 to September 1986 (discontinued).

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

REMARKS.--Estimated daily discharges: July 1-7. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 128 ft³/s July 25, 1985, gage height, 5.84 ft; minimum discharge, 2.9 ft³/s July 5-8, 1985, gage height, 3.22 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 80 ft³/s Nov. 1, gage height, 5.28 ft; minimum discharge, 4.3 ft³/s Aug. 3-5; minimum gage height, 3.29 ft, Jan. 12.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used July 17 to Sept. 30.)

3.2	3.7	3.6	10
3.3	5.0	4.0	20
3.4	6.4	4.5	36
3.5	8.1	5.0	62

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	45	6.1	5.0	5.1	5.4	8.0	6.3	5.5	5.6	4.6	4.6
2	4.7	18	5.7	5.1	5.1	5.5	7.7	6.1	5.4	5.4	4.6	4.5
3	4.9	7.3	5.7	5.1	5.1	5.6	8.6	6.1	5.4	5.2	4.4	4.5
4	4.8	6.6	5.8	5.1	6.7	5.9	8.4	6.1	5.5	5.1	4.4	4.7
5	5.2	6.2	5.8	5.0	7.7	6.1	9.0	6.0	5.5	5.2	4.4	4.7
6	4.9	6.9	5.8	5.0	6.5	6.0	8.0	6.0	5.4	5.3	4.9	4.6
7	5.0	6.9	5.8	4.9	6.0	5.8	7.6	5.9	5.4	6.0	4.7	4.6
8	5.1	6.2	5.8	4.9	5.9	5.8	7.3	5.8	5.3	7.8	4.9	4.6
9	6.0	6.3	5.8	4.8	5.6	6.1	7.2	5.8	5.3	7.1	4.6	5.0
10	6.8	6.6	5.9	4.9	5.4	14	7.2	5.8	5.8	8.2	5.1	10
11	5.4	6.2	5.8	5.0	5.3	12	7.2	5.8	5.6	8.0	4.8	18
12	12	6.8	5.7	4.9	5.2	8.3	7.2	5.9	5.4	5.6	4.6	5.8
13	6.3	9.2	5.6	4.6	5.1	8.7	7.3	6.6	5.3	5.1	4.6	5.0
14	5.4	8.4	5.5	4.8	5.1	9.4	9.8	7.2	5.5	4.9	4.9	4.8
15	5.3	6.7	5.7	4.9	5.1	9.5	8.2	7.8	5.4	4.9	4.7	4.9
16	5.0	12	5.7	5.1	5.1	12	7.7	7.2	5.2	5.0	4.6	4.6
17	5.0	7.0	5.4	5.2	5.2	14	7.5	12	4.9	4.7	4.7	4.6
18	6.0	15	5.3	5.2	5.3	37	7.4	8.5	4.9	4.9	4.7	4.8
19	7.1	10	5.3	5.3	5.3	30	7.2	6.6	5.0	5.0	4.7	4.8
20	5.7	6.6	5.2	5.3	5.4	8.9	7.3	6.2	5.0	5.0	4.7	4.9
21	5.4	5.9	5.1	5.3	5.3	8.3	6.8	6.1	4.9	4.9	4.7	6.4
22	5.3	6.0	5.3	5.4	5.4	9.0	6.6	5.9	5.7	4.7	4.7	5.7
23	7.2	6.1	5.4	5.2	5.4	8.9	6.6	5.9	5.0	4.7	4.8	5.5
24	8.5	5.9	5.3	5.2	5.4	8.2	6.7	5.9	5.0	4.7	4.7	6.0
25	5.7	5.9	5.1	5.1	5.3	8.5	6.7	5.8	5.0	5.1	4.8	19
26	5.5	5.9	5.3	4.9	5.4	8.2	7.4	5.8	5.2	4.9	9.4	6.1
27	5.5	5.8	5.2	4.6	5.5	7.7	6.7	6.0	5.9	4.9	5.0	5.7
28	5.3	5.9	5.0	4.7	5.4	8.0	6.5	5.9	5.4	5.3	4.6	5.4
29	5.3	5.8	5.0	4.9	---	8.1	6.5	5.8	5.6	4.8	4.6	7.4
30	5.3	5.8	5.0	4.9	---	7.8	6.7	5.8	5.9	4.7	4.5	7.0
31	6.1	---	5.1	4.9	---	7.3	---	5.7	---	4.7	4.6	---
TOTAL	180.8	262.9	170.2	155.2	154.3	306.0	223.0	198.3	160.3	167.4	150.0	188.2
MEAN	5.83	8.76	5.49	5.01	5.51	9.87	7.43	6.40	5.34	5.40	4.84	6.27
MAX	12	45	6.1	5.4	7.7	37	9.8	12	5.9	8.2	9.4	19
MIN	4.7	5.8	5.0	4.6	5.1	5.4	6.5	5.7	4.9	4.7	4.4	4.5

CAL YR 1985 TOTAL 2038.8 MEAN 5.59 MAX 81 MIN 2.9
WTR YR 1986 TOTAL 2316.6 MEAN 6.35 MAX 45 MIN 4.4

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1984 to June 1986.
TOTAL PHOSPHORUS DISCHARGE: October 1984 to June 1986.
TOTAL NITROGEN DISCHARGE: October 1984 to June 1986.
WATER TEMPERATURE: November 1984 to September 1986.
DISSOLVED OXYGEN: April 1984 to September 1985.

COOPERATION.--Water-sediment samples were collected by the U.S. Geological Survey; chemical analysis was performed by the Wisconsin State Laboratory of Hygiene; and suspended-sediment concentrations were determined by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 62 tons July 25, 1985; minimum daily, 0.13 ton Jan. 29, 1985.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 747 lb July 25, 1985; minimum daily, 1.13 lb Jan. 26 to Feb. 3, 1985.
TOTAL NITROGEN DISCHARGE: Maximum daily, 2,980 lb July 25, 1985; minimum daily, 49 lb Jan. 26 to Feb. 3, 1985.
WATER TEMPERATURE: Maximum observed, 24.5°C July 25, 1985; minimum observed, 0°C on several days during 1985 and 1986.
DISSOLVED OXYGEN: Maximum observed, 16.5 mg/L Apr. 11, 1985; minimum observed, 4.0 mg/L Sept. 5, 1985.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED SOLID DISCHARGE: Maximum daily, 30 tons Mar. 18; minimum daily, 0.27 ton Oct. 11, 16-17.
 TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 323 lb Nov. 1; minimum daily, 1.73 lb Jan. 13.
 TOTAL NITROGEN DISCHARGE: Maximum daily, 2,140 lb Mar. 18; minimum daily, 60 lb Jan. 13, June 18, 24-25.
 WATER TEMPERATURE: Maximum observed, 21.5°C June 21, July 25; minimum observed, 0°C Jan. 26-27, Mar. 7.

[illegible]

05406491 GARFOOT CREEK AT CROSS PLAINS. WI--CONTINUED

PHOSPHORUS, TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

[illegible]

NITROGEN, TOTAL, LOAD POUNDS PER DAY, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

[illegible]

05406491 GARFOOT CREEK AT CROSS PLAINS, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	11.5	7.0	11.0	10.0	9.0	9.5	5.0	2.5	3.5	5.5	3.0	4.0
2	12.5	9.0	10.5	9.0	8.5	8.5	3.5	2.0	2.5	5.0	3.0	4.0
3	13.0	10.0	11.0	8.5	8.0	8.5	4.5	2.0	3.0	5.5	3.5	4.5
4	12.0	10.5	11.0	9.5	7.5	8.5	5.5	4.0	4.5	5.0	3.5	4.5
5	11.0	9.5	10.5	8.5	7.0	7.5	5.0	3.5	4.5	4.0	2.5	3.5
6	12.0	9.0	10.0	8.5	7.5	8.0	5.0	2.5	3.5	4.0	1.5	2.5
7	12.5	9.0	10.5	9.0	7.5	8.0	5.5	3.5	4.5	3.5	1.0	2.0
8	12.5	10.5	11.5	8.5	6.5	7.5	5.5	3.5	4.5	3.5	1.0	2.0
9	11.5	10.0	10.5	6.5	5.5	6.0	6.0	5.0	5.5	5.0	2.5	3.5
10	11.5	9.5	10.5	6.5	5.5	6.0	6.0	5.0	5.5	5.5	4.0	4.5
11	11.5	9.0	10.0	7.0	5.5	6.5	5.5	3.5	4.5	6.5	4.5	5.0
12	12.5	10.5	11.5	7.5	6.5	7.0	4.0	2.0	3.0	4.5	2.5	4.0
13	13.0	10.5	11.5	7.0	6.5	6.5	3.5	2.0	2.5	4.0	2.5	3.0
14	12.0	10.5	11.0	7.0	6.0	6.5	3.5	1.5	2.5	---	---	---
15	12.0	9.5	10.5	7.5	6.0	7.0	4.5	3.5	4.0	5.5	3.0	4.5
16	11.5	8.5	10.0	7.0	6.0	6.5	4.0	2.0	3.0	6.5	2.0	4.5
17	11.5	9.5	10.5	8.5	6.5	7.5	3.5	1.0	2.5	7.0	4.5	5.5
18	11.5	11.0	11.0	10.0	8.0	8.5	3.5	1.5	2.5	6.5	5.5	5.5
19	11.5	10.5	11.0	9.5	6.0	8.0	4.0	1.5	2.5	6.5	5.0	5.5
20	11.0	10.5	10.5	6.0	4.0	5.0	4.0	1.5	2.5	6.0	5.0	5.5
21	11.5	10.5	10.5	6.0	4.5	5.0	4.0	1.5	3.0	7.0	5.0	5.5
22	12.0	10.0	11.0	6.5	5.0	5.5	5.5	3.0	4.5	6.0	3.0	4.5
23	11.5	11.0	11.5	5.5	4.0	5.0	5.0	3.5	5.0	6.0	2.0	4.0
24	12.0	9.5	11.0	5.0	3.5	4.5	3.0	1.5	2.5	5.5	4.0	4.5
25	11.5	8.5	10.0	6.0	4.5	5.0	3.0	1.5	2.0	5.0	3.0	4.0
26	12.5	9.5	10.5	6.5	4.5	6.0	4.5	1.5	3.0	3.5	.0	1.0
27	11.0	8.5	10.0	5.5	4.0	4.5	4.0	2.0	3.0	3.0	.0	1.5
28	11.0	8.0	9.0	6.0	4.0	5.0	4.0	2.0	3.0	4.5	2.0	3.0
29	10.5	8.5	9.5	4.5	3.5	4.0	4.5	2.5	3.5	4.0	1.0	2.5
30	10.5	8.0	9.0	5.5	4.5	5.0	5.0	2.5	4.0	5.0	1.0	3.5
31	10.0	8.0	9.0	---	---	---	4.5	3.0	3.5	5.0	4.0	4.5
MONTH	13.0	7.0	10.5	10.0	3.5	6.5	6.0	1.0	3.5	7.0	.0	4.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	6.0	4.5	5.5	7.5	2.5	4.0	14.5	8.0	11.0	14.0	9.0	11.0
2	6.5	5.5	6.0	7.5	4.0	5.5	14.5	7.0	10.0	15.5	8.5	11.0
3	6.0	5.0	5.5	8.0	3.5	5.5	9.0	8.0	8.5	17.0	7.0	11.5
4	5.0	2.5	4.0	7.5	3.0	5.0	11.5	7.5	10.5	18.5	9.0	13.0
5	4.0	2.5	3.5	6.0	2.5	4.5	15.0	9.0	11.0	17.0	11.0	13.0
6	4.5	2.0	3.5	6.5	.5	3.5	12.0	9.0	10.0	18.5	11.5	14.5
7	6.0	2.5	4.0	6.5	.0	2.5	18.5	7.5	11.5	17.0	9.5	12.5
8	6.5	2.0	4.5	6.5	2.0	4.5	12.5	7.0	9.5	18.0	9.5	13.0
9	4.5	1.0	2.5	7.5	4.5	5.5	14.0	6.5	9.5	18.5	9.5	13.5
10	5.0	.5	2.0	5.5	.5	2.5	13.5	6.0	8.5	18.0	10.0	13.5
11	5.5	.5	2.0	6.0	1.0	3.0	15.0	5.5	9.5	13.5	11.5	12.5
12	5.0	1.0	2.0	4.5	2.0	3.0	10.0	7.0	8.5	16.0	11.5	13.5
13	4.0	1.0	2.5	5.0	2.5	3.5	14.0	8.0	10.5	13.5	10.5	12.0
14	6.0	1.0	3.5	4.5	3.0	3.5	9.0	7.0	8.0	15.5	11.5	13.0
15	5.0	.5	3.0	5.5	2.5	4.0	11.0	6.5	8.0	14.0	10.5	12.5
16	---	---	---	7.0	2.0	3.5	14.5	7.0	10.0	16.5	12.0	13.5
17	---	---	---	5.5	2.5	3.5	15.5	7.0	10.5	13.5	12.0	13.0
18	---	---	---	3.0	1.0	2.0	14.0	7.5	10.5	16.0	11.0	13.0
19	6.5	5.5	6.0	5.0	.5	2.5	13.5	9.0	11.0	13.5	10.0	11.5
20	5.5	2.0	4.0	6.5	1.0	3.5	14.5	8.5	10.5	16.5	9.0	12.0
21	6.5	1.5	3.5	9.0	2.0	5.0	10.5	6.5	8.0	17.0	9.0	12.5
22	6.0	2.5	4.0	7.5	2.5	5.0	14.0	5.5	9.0	13.0	10.0	11.5
23	6.0	2.5	4.5	10.0	3.5	6.0	15.0	6.0	10.0	15.5	9.5	12.0
24	7.0	2.0	3.5	9.0	3.0	5.5	17.0	8.0	12.0	14.5	10.0	12.0
25	6.5	1.5	3.5	13.0	5.5	9.0	18.0	9.5	13.0	18.0	10.5	13.5
26	6.0	2.5	4.5	12.0	5.0	9.0	17.0	11.5	14.0	15.5	11.5	13.0
27	6.0	.5	3.0	13.0	5.0	8.5	19.0	11.5	14.5	14.5	11.5	12.5
28	6.0	.5	3.0	15.5	6.5	10.5	13.0	10.0	11.5	16.0	11.5	13.0
29	---	---	---	18.5	9.5	13.0	16.5	8.5	12.0	17.5	11.5	13.5
30	---	---	---	15.0	9.5	12.5	14.0	11.0	12.5	19.5	11.5	14.5
31	---	---	---	17.5	8.5	12.5	---	---	---	20.0	11.5	15.0
MONTH	7.0	.5	3.5	18.5	.0	5.5	19.0	5.5	10.5	20.0	7.0	13.0

05406491 GARFOOT CREEK AT CROSS PLAINS, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)
DEC , 1985									
11...	1100	5.7	--	--	--	--	<3.0	67	36
FEB , 1986									
19...	1405	5.3	--	8.30	6.5	--	--	--	--
MAY									
07...	1410	5.9	--	8.20	16.0	--	2.8	61	37

DATE	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	ALKA- LITY LAB (MG/L AS CAC03) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE (MG/L AS SO4) (00946)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)	IRON (UG/L AS FE) (71885)	MANGA- NESE (UG/L AS MN) (71883)
DEC , 1985									
11...	5.0	1.0	270	--	13	.1	10	400	90
FEB , 1986									
19...	--	--	--	--	--	--	--	--	--
MAY									
07...	4.0	<1.0	270	3.3	15	.1	9.1	300	80

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT , 1985							
19...	0300	8.8	1.7	.760	3.2	.690	--
19...	0500	8.6	1.8	.500	2.8	.640	--
23...	2045	13	1.9	.770	5.6	1.59	--
23...	2345	17	1.8	1.10	6.5	1.90	--
24...	0245	13	1.9	.510	3.5	1.09	--
24...	0545	9.8	2.0	.360	2.8	.780	--
25...	0805	5.7	2.1	.070	.90	.180	--
31...	2330	13	2.0	.410	3.9	1.17	--
NOV							
01...	0330	30	1.9	.460	4.0	1.47	--
01...	1201	26	2.1	.340	2.8	.940	--
01...	1202	26	2.1	.350	3.7	.940	--
01...	1630	71	1.5	.530	4.5	1.62	--
01...	1930	79	1.6	.360	3.0	1.13	--
02...	0030	55	1.9	.240	2.2	.870	--
02...	0630	20	2.7	.170	2.0	.600	--
02...	1400	12	2.9	.090	1.5	.340	--
18...	1300	14	1.8	.440	2.9	.890	--
18...	1800	19	1.6	.420	3.2	1.00	--
18...	2100	33	1.3	.600	5.3	1.93	--
19...	0200	15	1.8	.280	2.2	.650	--
DEC							
11...	1100	5.7	2.1	.060	.40	.070	.033
JAN , 1986							
14...	1045	4.7	2.2	.040	.40	.070	.027
FEB							
19...	1405	5.3	2.2	.180	.90	.100	.049
MAR							
10...	1031	11	2.5	1.10	4.2	1.02	--
10...	1445	20	2.4	1.50	6.6	1.67	--
10...	1645	22	2.6	2.00	7.0	1.57	--
10...	2245	15	2.6	1.70	5.0	1.03	--
16...	1630	17	2.1	2.00	5.9	1.46	--
17...	1500	15	2.1	1.20	3.5	.760	--
17...	1800	23	2.0	1.60	4.4	1.08	--
17...	2200	19	2.1	1.30	3.7	.790	--
18...	0200	24	2.2	1.40	4.1	.890	--
19...	0830	31	2.1	.840	2.8	.730	.400
20...	0030	9.9	4.7	1.10	3.6	.820	--
MAY							
07...	1410	5.9	2.0	.030	.30	.060	.036
15...	1915	14	2.8	.520	5.7	1.76	--
15...	2115	12	2.2	.450	3.9	1.08	--
17...	1500	11	1.8	.590	4.0	1.32	--
17...	1800	19	1.8	.520	4.0	1.47	--
17...	2000	21	1.8	.470	3.7	1.31	--
17...	2300	16	1.9	.310	2.6	.860	--
18...	0930	8.1	2.2	.140	1.6	.370	--

WISCONSIN RIVER BASIN

05406491 GARFOOT CREEK AT CROSS PLAINS, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
OCT , 1985				FEB , 1986			
04...	1459	4.9	32	06...	1233	6.4	34
11...	1514	5.3	18	14...	0755	5.1	68
12...	0545	15	561	19...	1405	5.3	28
12...	0745	24	790	20...	1010	5.5	39
12...	0945	22	583	28...	0748	5.3	93
12...	1245	16	211	MAR			
12...	1445	13	156	07...	0752	5.8	33
12...	1845	9.8	113	10...	1031	11	388
12...	2145	8.4	90	10...	1545	22	894
18...	0923	5.5	62	10...	1745	20	559
19...	0200	8.6	152	10...	2045	17	358
19...	0400	8.8	134	11...	0805	12	150
23...	1945	9.8	304	13...	1616	9.4	109
23...	2245	16	379	16...	1730	19	548
24...	0045	15	305	16...	2030	17	271
24...	0345	11	215	17...	1600	18	301
24...	0745	8.8	127	17...	1900	23	332
27...	0725	5.5	77	17...	2300	18	185
31...	1626	5.4	30	18...	0245	26	345
31...	2130	7.5	282	18...	0745	27	252
NOV				19...	0830	31	129
01...	0130	23	521	19...	0831	31	156
01...	0530	33	274	19...	1630	19	116
01...	0950	27	140	20...	1644	9.0	65
01...	1203	26	143	21...	1100	7.7	55
01...	1205	26	157	27...	1502	8.3	39
01...	1349	37	223	APR			
01...	1350	37	204	02...	1643	7.7	33
01...	1830	79	255	11...	0741	7.2	16
01...	2230	66	131	14...	1415	18	692
02...	0330	32	112	18...	0834	7.4	86
02...	0830	17	96	24...	1040	6.7	36
02...	1800	9.8	88	MAY			
07...	1413	6.7	53	02...	0746	6.2	42
12...	1015	6.4	78	07...	1410	5.9	32
12...	1815	7.5	78	08...	1846	5.8	683
13...	0415	8.1	54	14...	0755	7.4	116
14...	0758	9.0	50	15...	1815	11	726
18...	1315	15	246	15...	2015	13	487
18...	1900	24	355	16...	0823	7.0	161
18...	2000	32	675	17...	1400	9.4	367
19...	0100	17	159	17...	1700	16	518
19...	0700	11	112	17...	1900	20	417
22...	0744	6.1	113	17...	2000	21	391
DEC				17...	2200	18	289
06...	1602	5.8	95	18...	0930	8.1	115
11...	1100	5.7	64	25...	0732	5.8	101
13...	0810	5.5	284	31...	0803	5.7	101
22...	1638	5.4	79	JUN			
29...	0823	5.0	94	07...	0803	5.4	86
JAN , 1986				13...	0743	5.3	96
05...	1611	5.0	42	22...	0817	5.9	142
12...	0905	5.0	56	26...	0753	5.0	94
19...	1646	5.3	38	JUL			
24...	0816	5.1	44	07...	1905	6.7	419
30...	1454	4.9	21	12...	1012	5.7	347

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.

WATER-DISCHARGE RECORDS

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: None, except for ice periods listed in rating table below. Records are good.

AVERAGE DISCHARGE.--32 years, 33.3 ft³/s, 10.57 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft³ 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.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 1	2245	219	3.42	Mar. 19	0515	*236	*3.50

Minimum daily, 36 ft³/s Sept. 2 and 5.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second.
(Shifting-control method used May 6 to Sept. 30; stage-discharge relation
affected by ice Dec. 17-19, 25, and Jan. 27-31.)

1.8	28	3.0	167
2.0	47	3.5	236
2.5	104		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	150	55	43	43	42	69	55	46	43	44	37
2	43	143	52	44	43	42	65	54	45	42	43	36
3	40	81	53	43	42	43	71	52	45	41	42	37
4	40	67	52	44	51	44	71	50	45	39	43	38
5	44	64	51	43	64	47	71	52	46	40	43	36
6	41	63	50	43	59	47	66	51	45	41	45	37
7	40	66	50	42	58	44	64	49	46	42	45	40
8	39	59	50	42	58	43	62	47	48	55	42	41
9	43	59	50	43	56	44	60	47	47	49	42	44
10	51	58	51	43	51	88	58	46	51	50	49	68
11	47	56	51	43	48	95	59	48	51	70	46	104
12	72	59	49	44	46	80	61	49	51	62	43	70
13	61	74	48	42	44	78	58	55	47	54	43	56
14	51	77	47	43	44	85	73	65	48	47	46	53
15	49	67	46	42	43	85	71	66	48	45	44	53
16	45	89	46	43	43	95	65	69	47	43	42	51
17	44	69	45	43	43	108	61	86	44	42	41	49
18	51	83	45	44	43	172	58	92	43	45	42	51
19	58	93	45	45	43	190	58	68	43	44	41	51
20	55	70	44	45	45	104	57	58	41	42	41	52
21	51	61	44	45	44	85	55	54	41	41	40	63
22	48	60	44	45	43	84	53	52	54	41	40	64
23	50	58	46	45	43	85	53	50	47	40	41	60
24	69	57	45	44	43	78	52	48	43	40	40	60
25	56	57	45	42	42	78	52	48	42	46	41	102
26	51	56	45	41	43	74	58	48	43	43	73	74
27	47	54	43	40	42	69	57	49	48	42	65	65
28	45	54	43	40	42	71	55	48	43	52	48	59
29	44	52	43	40	---	70	53	47	44	44	42	72
30	43	52	43	40	---	68	55	48	45	42	40	73
31	45	---	43	41	---	66	---	47	---	43	39	---
TOTAL	1509	2108	1464	1327	1309	2404	1821	1698	1377	1410	1376	1696
MEAN	48.7	70.3	47.2	42.8	46.8	77.5	60.7	54.8	45.9	45.5	44.4	56.5
MAX	72	150	55	45	64	190	73	92	54	70	73	104
MIN	39	52	43	40	42	42	52	46	41	39	39	36
CFSM	1.07	1.54	1.04	.94	1.03	1.70	1.33	1.20	1.01	1.00	.97	1.24
IN.	1.23	1.72	1.19	1.08	1.07	1.96	1.49	1.39	1.12	1.15	1.12	1.38

CAL YR 1985	TOTAL	18449	MEAN 50.5	MAX 448	MIN 27	CFSM 1.11	IN 15.05
WTR YR 1986	TOTAL	19499	MEAN 53.4	MAX 190	MIN 36	CFSM 1.17	IN 15.91

05406500 BLACK EARTH CREEK AT BLACK EARTH, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1984 to September 1986 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1984 to June 1986.

TOTAL PHOSPHORUS DISCHARGE: October 1984 to June 1986.

TOTAL NITROGEN DISCHARGE: October 1984 to June 1986.

WATER TEMPERATURE: November 1984 to September 1986.

DOSSOLVED OXYGEN: February 1986 to September 1986

INSTRUMENTATION.--Water-quality sampler since February 1985. Continuous water temperature recorder since November 1984. Water-quality monitor since February 1986.

COOPERATION.--Water-sediment samples were collected by the U.S. Geological Survey; chemical analysis was performed by the Wisconsin State Laboratory of Hygiene; and suspended-sediment concentrations were determined by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 466 tons July 25, 1985; minimum daily, 1.2 ton June 20, 1985.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 3,170 lb July 25, 1985; minimum daily, 7.0 lb Dec. 26, 1985.

TOTAL NITROGEN DISCHARGE: Maximum daily, 9,870 lb July 25, 1985; minimum daily, 363 lb Dec. 26, 1985.

WATER TEMPERATURE: Maximum observed, 24°C July 25, 1985; minimum observed, 0°C on several days during the winter period in 1985.

DISSOLVED OXYGEN: Maximum observed, 18.9 mg/L Feb. 19, 1986; minimum observed, 4.8 mg/L Aug. 26, 1986.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 286 tons Mar. 19; minimum daily, 1.5 ton Feb. 19.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 1,010 lb Mar. 18; minimum daily, 13.0 lb Feb. 28, Mar. 1.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 1,010 lb Mar. 18; minimum daily, 13.0 lb Feb. 18.
TOTAL NITROGEN DISCHARGE: Maximum daily, 5,500 lb Mar. 18; minimum daily, 476 lb Oct. 8.

WATER TEMPERATURE: Maximum observed, 23°C July 18; minimum observed, 0.5°C on several days during the

WATER TEMPERATURE: Maximum observed, 23 C July 18; minimum observed, 0.5 C on several days during the winter period.

DISSOLVED OXYGEN: Maximum observed, 18.9 mg/L Feb. 19; minimum daily, 4.8 mg/L Aug. 26.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

[illegible]

PHOSPHORUS, TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

NITROGEN, TOTAL, LOAD POUNDS PER DAY, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

[illegible]

WISCONSIN RIVER BASIN

05406500 BLACK EARTH CREEK AT BLACK EARTH, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	11.0	9.5	10.0	10.5	9.0	10.0	5.0	2.0	3.0	4.0	2.0	3.0
2	12.5	8.5	10.5	9.5	8.5	9.0	2.0	.5	1.0	4.0	2.5	3.5
3	13.0	10.0	11.5	8.5	8.0	8.5	3.0	.5	2.0	5.0	3.0	4.0
4	12.5	10.5	11.5	9.5	8.0	8.5	5.0	3.0	4.0	4.5	3.0	4.0
5	11.0	9.5	10.0	8.5	6.0	7.5	5.0	3.5	4.5	3.0	1.5	2.0
6	11.5	8.5	10.0	8.5	8.5	8.5	4.0	2.0	3.0	2.0	.5	1.5
7	12.0	9.0	10.5	9.0	6.0	8.0	5.5	3.5	4.5	.5	.5	.5
8	13.0	11.0	12.0	8.5	6.5	7.5	5.0	3.5	4.0	1.0	.5	.5
9	12.5	9.5	10.5	6.5	4.5	5.5	6.0	4.5	5.0	4.0	1.0	2.5
10	11.0	9.0	9.5	6.0	5.0	5.5	6.0	5.0	5.5	5.0	3.5	4.5
11	11.0	8.5	9.5	6.5	5.0	5.5	5.5	3.5	4.5	6.0	4.0	5.0
12	12.5	9.5	11.5	8.5	6.0	7.0	3.5	1.5	2.0	4.5	2.0	3.5
13	14.0	11.0	12.5	7.5	5.5	7.0	1.5	.5	1.0	3.0	1.0	2.0
14	12.0	10.5	11.5	7.5	5.5	6.5	2.0	.5	1.0	4.5	3.0	3.5
15	12.5	10.0	11.0	7.5	5.5	6.5	3.5	2.0	2.5	4.0	1.5	3.0
16	11.5	8.5	10.0	8.5	5.5	7.0	3.0	1.5	2.5	5.5	2.5	4.5
17	11.5	9.5	10.5	8.5	5.5	7.5	1.5	.5	1.0	6.5	4.5	5.5
18	12.0	11.5	11.5	10.5	8.5	9.5	.5	.5	.5	6.5	5.5	6.0
19	11.5	9.5	11.0	10.0	6.5	9.0	1.0	.5	.5	6.5	5.0	5.5
20	11.5	9.5	11.0	6.0	3.5	4.5	1.5	.5	1.0	6.0	5.0	5.5
21	11.5	9.5	11.0	5.5	3.5	4.5	2.5	.5	1.5	6.5	5.0	5.5
22	12.5	9.5	11.5	6.0	5.0	5.5	5.0	2.5	4.0	5.5	4.0	4.5
23	12.5	12.0	12.0	5.5	4.0	5.0	5.0	3.5	4.5	5.0	2.5	4.0
24	13.0	11.0	12.0	4.5	3.0	4.0	3.5	.5	1.5	5.0	4.0	4.0
25	11.5	8.5	10.0	5.5	4.0	4.5	.5	.5	.5	4.5	3.0	4.0
26	12.5	9.5	11.0	6.5	5.5	6.0	2.5	.5	1.0	3.0	.5	1.5
27	12.0	9.0	10.5	5.0	4.0	4.5	2.0	.5	1.5	.5	.5	.5
28	10.5	8.0	9.5	5.5	4.0	5.0	2.5	.5	1.0	3.0	.5	1.0
29	10.5	8.5	9.5	4.0	3.0	3.5	2.5	1.0	2.0	3.0	1.5	2.5
30	11.0	8.0	9.5	5.5	3.5	4.5	4.0	1.0	2.5	3.5	1.0	2.5
31	10.0	8.5	9.5	---	---	---	4.0	2.5	3.0	4.5	3.5	4.0
MONTH	14.0	8.0	10.5	10.5	3.0	6.5	6.0	.5	2.5	6.5	.5	3.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	5.5	3.5	4.5	7.5	3.0	5.0	14.0	10.0	12.0	13.0	10.0	12.0
2	6.5	5.0	5.5	9.0	5.0	6.5	13.0	7.5	10.5	14.0	9.0	11.5
3	6.0	5.5	5.5	8.5	4.5	7.0	9.5	8.5	8.5	15.0	9.0	12.0
4	5.5	4.5	5.0	8.5	6.0	7.0	11.0	8.0	9.0	17.0	9.5	14.0
5	4.5	3.5	4.0	6.5	4.5	5.5	13.5	9.0	11.0	16.0	12.5	14.0
6	4.5	3.5	4.0	6.0	2.5	4.0	10.5	9.0	10.0	19.5	13.5	16.0
7	5.5	3.0	4.5	4.5	.5	2.5	14.5	8.5	13.0	16.0	12.0	14.0
8	6.0	4.0	4.5	5.0	2.0	3.5	10.5	8.5	9.5	17.0	11.5	14.0
9	3.5	1.5	2.5	8.5	4.5	6.0	12.5	4.5	9.5	17.0	11.5	14.5
10	3.5	.5	2.0	8.5	2.5	4.5	13.0	7.0	10.0	16.5	12.0	14.5
11	3.5	.5	2.0	6.5	2.5	4.5	13.5	7.5	11.0	14.5	12.5	13.5
12	3.0	.5	1.5	5.5	4.0	4.5	9.5	8.5	9.0	15.0	12.5	13.5
13	2.5	.5	1.5	6.5	5.0	5.5	11.5	7.5	9.5	14.0	12.0	13.0
14	5.0	2.5	3.0	6.0	5.0	5.5	9.5	4.5	8.0	14.5	12.0	13.5
15	3.5	.5	2.0	6.5	5.0	5.5	9.5	6.0	8.0	14.0	12.5	13.0
16	4.5	3.0	3.5	8.5	5.0	6.0	12.0	7.5	10.0	16.0	13.0	14.5
17	6.0	4.0	5.0	7.5	4.5	6.0	13.5	8.0	11.0	15.0	13.0	13.5
18	6.5	5.5	6.0	5.0	4.0	4.5	12.5	9.0	11.0	15.5	11.5	13.5
19	7.0	6.0	6.5	5.5	3.0	4.0	13.0	9.5	11.5	13.5	11.5	12.5
20	6.5	3.5	5.0	6.5	2.0	4.0	13.0	9.0	11.0	15.5	9.5	12.5
21	5.5	2.0	3.5	8.5	3.5	6.0	10.0	7.5	9.0	16.0	9.5	13.5
22	5.0	3.0	4.0	9.0	4.5	7.0	12.5	5.5	9.0	13.5	11.5	12.0
23	5.5	2.5	4.0	10.0	5.5	8.0	13.5	7.5	10.0	14.5	9.5	12.5
24	6.5	3.0	5.0	8.5	5.0	7.0	15.5	8.0	12.0	14.0	11.5	13.0
25	6.0	3.0	5.0	12.5	5.0	10.0	16.0	10.5	13.5	16.5	11.5	14.0
26	6.5	4.5	5.5	12.0	8.0	10.0	17.5	12.5	14.5	15.0	13.0	14.0
27	6.5	3.5	5.0	11.0	6.0	8.5	18.5	13.0	15.0	14.5	13.0	13.5
28	5.0	1.0	3.5	14.0	7.5	11.0	15.5	10.5	12.5	16.0	13.0	14.5
29	---	---	---	15.5	10.0	12.5	14.5	8.0	12.0	17.0	13.0	15.0
30	---	---	---	14.0	10.0	12.5	14.5	11.0	13.0	19.0	13.5	16.5
31	---	---	---	15.5	9.5	12.0	---	---	---	19.5	14.5	17.5
MONTH	7.0	.5	4.0	15.5	.5	6.5	18.5	4.5	11.0	19.5	9.0	13.5

05406500 BLACK EARTH CREEK AT BLACK EARTH, WI--CONTINUED

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	17.5	14.5	16.5	15.0	13.5	14.5	19.5	15.5	17.0	17.0	13.0	15.0
2	16.5	12.0	14.5	17.5	13.5	15.5	19.5	15.5	17.0	17.5	13.5	15.5
3	17.0	12.0	14.5	19.5	13.5	16.5	19.5	14.0	16.5	15.5	14.0	15.0
4	18.5	13.5	16.0	20.5	16.0	18.0	19.5	14.5	16.5	19.0	13.5	15.5
5	16.5	13.5	14.5	22.5	18.5	20.5	16.5	14.5	16.0	15.5	12.5	14.0
6	14.5	13.5	14.0	21.0	18.5	20.0	15.5	14.5	15.0	14.5	12.0	13.0
7	17.0	13.5	15.0	19.5	16.0	17.0	17.5	13.5	15.5	14.5	10.0	12.0
8	19.0	13.5	16.5	19.0	15.0	16.5	19.5	14.5	17.0	15.5	10.0	12.5
9	19.0	13.5	16.5	19.5	16.5	18.0	17.5	14.5	16.0	12.5	11.5	12.0
10	16.5	14.5	16.0	19.5	15.0	16.0	19.0	15.5	16.5	15.5	12.5	14.0
11	19.5	15.5	16.5	18.5	15.0	16.5	19.0	14.0	16.0	16.5	15.5	16.0
12	16.5	14.0	15.0	19.5	16.0	17.5	19.0	13.5	15.5	16.5	13.5	15.0
13	17.0	13.5	15.0	19.5	16.5	18.0	15.5	14.0	14.5	15.0	12.5	13.5
14	15.0	13.5	14.0	19.5	16.0	17.5	18.0	14.0	15.5	13.5	12.5	12.5
15	15.0	13.0	14.0	19.0	16.0	17.5	20.0	15.5	17.5	12.5	11.5	12.5
16	19.5	14.0	16.5	20.5	16.5	18.5	20.0	15.5	17.5	14.5	10.5	12.0
17	18.5	14.0	16.0	22.0	16.5	20.0	19.5	16.0	17.5	12.0	10.5	11.5
18	19.5	14.5	16.5	23.0	19.0	20.5	19.5	15.0	16.5	14.5	12.0	13.0
19	20.0	16.0	18.0	21.5	19.0	20.0	19.5	15.0	16.5	14.0	13.0	13.5
20	20.0	15.5	18.0	20.5	16.0	19.5	18.0	14.0	16.0	13.5	13.0	13.0
21	20.5	15.0	18.0	19.5	16.5	18.5	19.0	15.0	17.0	14.5	13.0	13.5
22	19.5	16.5	18.0	20.0	16.0	18.0	18.0	14.5	15.5	16.0	14.0	14.5
23	19.5	15.5	17.5	20.5	16.0	18.5	19.5	15.0	16.5	16.0	14.0	15.0
24	18.5	14.5	16.0	22.0	16.0	20.0	17.0	13.5	15.0	15.5	13.0	14.5
25	18.5	13.5	15.5	21.0	15.5	19.5	19.0	14.0	16.5	18.5	15.0	17.0
26	19.5	15.0	17.5	19.5	16.0	18.5	18.5	16.0	16.5	19.0	16.0	17.0
27	19.5	16.5	18.5	19.5	16.5	18.5	17.0	13.5	15.5	19.0	16.0	17.5
28	19.0	15.5	17.0	19.5	16.0	18.0	15.0	11.5	13.5	16.5	14.5	15.5
29	19.0	14.5	16.5	20.0	16.0	18.0	15.5	12.0	13.5	15.5	14.5	15.5
30	17.0	14.0	15.0	19.5	16.0	17.0	15.0	13.0	13.5	15.0	13.0	14.0
31	---	---	---	19.5	15.5	17.5	17.0	12.5	15.0	---	---	---
MONTH	20.5	12.0	16.0	23.0	13.5	18.0	20.0	11.5	16.0	19.0	10.0	14.0
YEAR	23.0	.5	10.0									

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1									---	---	16.2	10.2
2									---	---	15.8	9.8
3									---	---	15.9	9.7
4									---	---	15.5	9.5
5									---	---	14.0	9.6
6									---	---	16.0	10.4
7									---	---	16.5	11.6
8									---	---	16.6	10.9
9									---	---	14.1	9.6
10									---	---	10.8	9.1
11									---	---	11.7	9.9
12									---	---	12.3	10.0
13									---	---	13.6	9.6
14									15.8	13.4	12.0	9.6
15									17.8	13.4	12.6	9.7
16									18.6	13.8	13.4	9.4
17									17.4	10.9	12.3	9.7
18									15.5	10.6	10.4	9.6
19									18.9	11.6	10.3	9.2
20									---	---	12.1	9.7
21									16.4	11.4	13.0	9.8
22									15.5	11.4	13.2	9.5
23									16.2	11.0	13.5	9.7
24									16.1	10.5	14.3	9.5
25									16.2	10.5	14.1	8.0
26									15.0	10.4	13.6	8.1
27									16.2	10.4	14.8	8.5
28									16.1	10.1	12.9	7.2
29									---	---	12.9	7.1
30									---	---	12.8	7.1
31									---	---	12.7	7.6
MONTH									18.9	10.1	16.6	7.1

WISCONSIN RIVER BASIN

05406500 BLACK EARTH CREEK AT BLACK EARTH, WI--CONTINUED

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.2	7.5	15.1	8.0	12.5	7.4	12.3	7.5	11.7	6.5	10.6	6.1
2	13.5	8.3	16.2	8.4	13.8	6.7	13.7	7.5	10.9	6.2	10.8	5.6
3	10.5	8.8	16.5	7.8	13.8	7.4	13.8	6.8	12.0	6.7	---	---
4	10.6	9.1	16.2	6.8	13.3	6.6	13.0	6.6	12.5	6.2	---	---
5	10.5	7.3	15.0	6.8	13.8	6.7	13.3	5.5	10.4	6.8	---	---
6	10.4	7.3	16.1	7.0	11.9	7.8	12.5	5.2	8.9	7.5	---	---
7	12.0	7.6	16.2	7.1	13.2	7.3	11.2	6.1	10.1	7.6	---	---
8	11.4	7.5	16.3	7.5	14.3	6.8	11.0	7.1	10.5	7.5	---	---
9	12.9	8.6	16.4	7.5	14.2	6.9	12.7	6.7	10.5	6.4	---	---
10	13.2	8.5	15.8	7.3	11.7	6.7	10.3	6.6	8.6	6.1	---	---
11	13.1	8.5	12.7	7.1	12.0	6.0	9.6	6.5	10.2	6.1	---	---
12	11.5	8.2	13.9	7.4	12.8	6.8	11.6	6.6	10.8	6.6	---	---
13	13.4	8.7	13.4	6.8	14.1	7.6	12.6	6.4	9.0	6.9	---	---
14	10.2	8.7	11.5	6.6	12.7	7.5	12.5	6.7	8.8	6.1	---	---
15	13.4	9.4	10.7	7.1	12.5	7.8	12.0	6.1	9.2	5.5	---	---
16	14.2	9.0	12.1	7.0	13.5	6.6	12.6	6.1	9.7	6.3	---	---
17	14.8	8.6	8.1	7.1	14.2	6.6	12.2	5.3	9.6	5.9	---	---
18	14.3	8.5	10.7	7.2	13.6	6.6	11.8	5.1	10.3	6.5	---	---
19	14.0	8.1	11.8	7.5	13.1	6.2	11.0	4.8	10.2	6.6	---	---
20	14.2	8.6	13.7	8.1	13.3	5.8	12.1	5.2	9.3	6.0	---	---
21	15.1	8.5	13.9	7.9	12.6	5.4	11.7	5.8	8.1	5.5	---	---
22	15.7	8.9	12.3	8.0	10.4	5.2	12.7	6.1	8.4	5.0	---	---
23	15.9	8.4	13.8	8.2	11.9	6.1	12.8	6.1	---	---	---	---
24	16.1	7.6	12.9	8.2	12.9	5.8	12.8	5.6	---	---	---	---
25	16.3	7.5	14.0	7.8	13.9	7.0	10.8	5.2	---	---	---	---
26	13.5	7.3	12.8	7.6	13.7	6.0	11.6	5.6	8.5	4.8	---	---
27	15.9	7.0	11.8	7.6	10.8	5.6	11.7	5.6	8.3	5.3	---	---
28	13.8	6.9	13.2	8.2	12.9	6.2	9.8	5.3	10.4	7.6	---	---
29	16.3	7.4	13.8	8.0	14.5	6.8	11.5	6.0	10.0	6.1	---	---
30	13.0	7.4	14.0	7.8	11.6	6.8	11.5	6.1	11.2	6.9	---	---
31	---	---	14.6	7.2	---	---	11.9	7.8	10.3	6.0	---	---
MONTH	16.3	6.9	16.5	6.6	14.5	5.2	13.8	4.8	12.5	4.8	10.8	5.6
YEAR	18.9	4.8										

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)
OCT , 1985									
03...	1100	40	685	--	11.0	--	--	--	--
NOV									
19...	1125	91	540	--	9.0	--	--	--	--
DEC									
11...	0935	50	420	--	4.5	--	<3.0	70	38
JAN , 1986									
14...	1350	43	580	--	4.0	--	--	--	--
FEB									
07...	1040	59	490	--	3.5	--	--	--	--
19...	1240	44	590	--	6.0	--	--	--	--
19...	1440	43	--	--	6.5	8.4	--	--	--
APR									
07...	1250	65	640	--	13.5	--	--	--	--
30...	1230	54	620	--	13.5	--	--	--	--
MAY									
07...	1315	49	--	8.40	15.0	--	2.8	69	40
JUN									
02...	1220	42	610	--	15.5	--	--	--	--
06...	1210	44	640	--	14.0	--	--	--	--
JUL									
24...	1040	40	--	--	18.5	--	--	--	--
SEP									
05...	1220	36	600	--	14.0	--	--	--	--

05406500 BLACK EARTH CREEK AT BLACK EARTH, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	POTAS- SIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE (MG/L AS SO4) (00946)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	IRON (UG/L AS FE) (71885)	MANGA- NESE (UG/L AS MN) (71883)
OCT , 1985									
03...	--	--	--	--	--	--	--	--	--
NOV									
19...	--	--	--	--	--	--	--	--	--
DEC									
11...	7.0	1.0	290	--	14	.1	13	200	60
JAN , 1986									
14...	--	--	--	--	--	--	--	--	--
FEB									
07...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--
APR									
07...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
MAY									
07...	6.0	1.0	292	2.2	14	.1	12	200	40
JUN									
02...	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
JUL									
24...	--	--	--	--	--	--	--	--	--
SEP									
05...	--	--	--	--	--	--	--	--	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, ORTHOS, DIS- SOLVED (MG/L AS P) (00671)
NOV , 1985						
01...	0600	119	2.0	.660	11	1.65
01...	1241	145	1.9	.350	2.9	1.00
01...	1244	145	1.9	.370	3.6	1.04
01...	1600	175	1.8	2.60	72	10.0
01...	2200	217	1.7	.320	3.6	1.21
02...	0400	194	1.9	.210	2.2	.840
02...	1400	122	2.2	.120	1.8	.510
03...	0400	91	2.3	.090	1.4	.380
18...	1400	83	2.2	.280	1.6	.440
18...	2300	117	2.0	.360	2.6	.760
19...	0800	97	2.1	.260	1.9	.530
DEC						
11...	0935	50	2.5	.020	.20	.080
JAN , 1986						
14...	1430	43	2.5	<.020	.20	.070
FEB						
19...	1440	43	2.4	.020	.20	.060
MAR						
10...	1100	85	2.2	.530	3.8	.880
10...	1600	114	2.3	.890	4.2	.960
11...	0100	104	2.5	.830	3.0	.640
16...	2359	111	2.3	1.20	4.0	1.00
17...	1200	96	2.4	.570	2.1	.490
17...	2359	129	2.2	.840	3.5	.880
18...	2100	202	2.0	.880	3.9	1.05
19...	0600	236	2.0	1.00	5.0	1.39
19...	1000	208	2.0	.830	3.3	.890
20...	1300	99	2.6	.210	1.6	.420
MAY						
07...	1315	49	2.0	<.020	.20	.080
18...	1000	91	2.4	.210	1.7	.430
JUN						
24...	0835	44	2.2	.040	.60	.140

WISCONSIN RIVER BASIN

05406500 BLACK EARTH CREEK AT BLACK EARTH, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)
OCT , 1985				FEB , 1986			
04...	1510	40	70	19...	1440	43	11
11...	1522	47	38	20...	1025	45	23
12...	1000	87	266	28...	0802	39	80
12...	1300	86	271	MAR			
12...	1600	84	316	07...	0803	39	24
18...	0938	49	29	10...	1100	85	470
27...	0727	47	274	10...	1900	116	267
31...	1618	44	16	11...	0400	99	207
NOV				11...	0830	92	147
01...	0300	91	194	13...	1630	80	145
01...	0900	132	305	16...	2100	115	191
01...	1240	145	209	17...	0900	97	117
01...	1243	145	263	18...	0300	137	335
01...	1405	155	231	18...	1800	202	758
01...	1800	197	376	19...	0300	227	228
01...	2400	217	267	19...	0905	217	161
02...	0800	157	155	19...	1000	208	510
02...	1800	108	94	19...	2400	134	360
03...	0800	84	88	20...	1723	102	34
07...	1424	66	26	20...	1800	100	234
14...	0748	79	45	21...	0910	82	48
16...	0400	83	127	27...	1512	69	117
16...	2300	80	113	APR			
18...	1700	93	138	02...	1654	63	105
18...	2000	105	187	11...	0754	58	19
19...	0200	111	242	14...	1600	94	90
19...	0500	104	164	14...	2200	82	78
22...	0759	60	45	18...	0842	58	130
DEC				26...	1052	60	17
06...	1616	51	40	MAY			
11...	0935	50	47	02...	0758	55	62
11...	1440	51	30	07...	1315	49	25
13...	0830	47	25	08...	1856	44	156
22...	1652	44	29	18...	1000	91	81
29...	0838	43	67	25...	0746	48	83
JAN , 1986				31...	0818	48	43
05...	1627	43	29	JUN			
12...	0918	44	67	07...	0819	44	28
19...	1659	45	47	13...	0759	48	31
24...	0829	44	29	22...	0834	60	39
30...	1506	42	81	26...	0809	42	27
FEB				JUL			
06...	1247	59	72	07...	1919	41	28
14...	0810	44	68	12...	1030	61	60

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 above 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.--Estimated daily discharges: None, except for ice period listed in rating table below. Records good except those for ice-affected period, which is fair. Flow regulated by 23 reservoirs and many powerplants upstream from station. In 1938 when the maximum of record occurred, there were 21 reservoirs upstream from station, the two large reservoirs, Petenwell and Castle Rock were not yet in existence. Usually less than 20 ft³/s was diverted out of basin through Portage Canal to Fox River throughout the year. Gage-height telemeter and data-collection platform at station.

AVERAGE DISCHARGE.--73 years (1914-86), 8,757 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, 47,600 ft³/s Apr. 6, gage height, 8.89 ft; minimum discharge, 4,560 ft³/s Sept. 9, gage height, 1.14 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 1 to Mar. 24.)

1.0	4,180	5.0	20,200
2.0	7,260	7.0	32,400
3.0	11,100	9.0	48,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15500	10100	8000	9600	10000	9400	31400	9980	5460	10300	10900	6080
2	15600	12300	9000	9600	10000	9400	38200	9880	6170	9220	10800	5750
3	20000	13600	7200	9600	11000	9600	43300	10100	5410	8730	10600	5320
4	23800	17200	7600	9600	11000	9600	44500	9450	4990	7200	9000	5180
5	26400	22500	9200	9600	12000	9200	46500	8870	5160	6640	8240	5080
6	25000	27200	11000	9600	12000	9400	46600	9430	5360	7300	7430	5630
7	21600	29800	11000	10000	11000	9400	44100	8540	5040	6720	7290	5340
8	23500	29500	12000	9800	10000	10000	39600	8410	5350	5600	6620	5130
9	27200	24500	12000	9600	10000	9600	31400	8490	5420	5510	6440	4860
10	30200	19300	12000	10000	11000	10000	20700	7890	5500	5250	6750	5420
11	30000	18000	13000	10000	10000	11000	18100	7830	5760	4840	6580	6460
12	25700	18700	13000	10000	9800	10000	16200	7730	5520	5050	6540	10600
13	22800	18400	13000	9600	9600	10000	14500	7830	5700	5390	6280	13900
14	21200	14500	12000	10000	9400	10000	13400	8120	6390	5670	5770	14000
15	20200	13500	12000	9600	9800	10000	13200	8480	6310	7040	5580	15600
16	19900	13800	11000	10000	9400	11000	13400	8610	6680	6500	5710	15900
17	17200	13000	12000	9600	9000	12000	12900	8570	6440	6660	6020	13800
18	14500	13700	11000	9400	9200	12000	12300	9860	6610	6210	5990	13300
19	13300	13400	11000	9400	9600	13000	12100	8760	5920	7470	6590	13200
20	12100	14100	11000	9800	9400	15000	12100	9160	5270	9000	7500	13300
21	12400	15300	11000	10000	9800	16000	13200	8470	5510	10200	6560	14200
22	11900	18700	11000	10000	9600	17000	14000	9170	6610	14500	6160	15100
23	12300	21900	11000	9800	9200	18000	13900	9110	9190	16500	6050	16200
24	11800	21500	10000	9600	10000	19000	12600	8040	7400	12300	6100	19100
25	11200	17300	10000	9400	9600	19700	11400	8190	7460	10200	6010	24100
26	12500	14700	9400	9000	9800	20800	11700	8010	6570	8430	6080	31600
27	11500	13500	9000	8600	10000	20800	11000	7360	6560	7760	7990	37800
28	11000	12100	9000	8200	8600	21000	10300	6790	7200	8440	7630	36000
29	10400	11300	9000	7200	---	22300	9760	6510	10600	8970	6810	35300
30	10000	10500	9400	9000	---	25400	10100	6410	12600	9440	6650	39800
31	9220	---	9800	10000	---	28600	---	6050	---	10800	6350	---
TOTAL	549920	513900	326600	295200	279800	438200	642460	260100	194160	253840	219020	453050
MEAN	17740	17130	10540	9523	9993	14140	21420	8390	6472	8188	7065	15100
MAX	30200	29800	13000	10000	12000	28600	46600	10100	12600	16500	10900	39800
MIN	9220	10100	7200	7200	8600	9200	9760	6050	4990	4840	5580	4860
CAL YR 1985	TOTAL	4284860	MEAN	11740	MAX	31200	MIN	4130				
WTR YR 1986	TOTAL	4426250	MEAN	12130	MAX	46600	MIN	4840				

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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT , 1985										
09...	1345	27400	--	205	7.90	11.0	6.0	8.1	745	75
JAN , 1986										
08...	1410	--	9800	220	7.30	.0	3.5	8.9	757	61
MAR										
27...	1200	20700	--	200	7.60	4.0	7.0	12.2	752	94
MAY										
30...	1100	6420	--	250	8.60	19.5	10	9.9	744	111
JUL										
17...	1215	6750	--	260	7.90	27.5	4.0	9.3	747	120
SEP										
04...	1130	5250	--	280	8.10	21.5	6.6	9.4	745	109

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
------	---	--	---	---	---	---	---	------------------------------	--	--

OCT , 1985										
09...	54	79	75	13	18	7.3	8.9	20	.5	2.1
JAN , 1986										
08...	<1	21	100	0	23	11	6.0	11	.3	2.3
MAR										
27...	K2	21	87	10	20	8.9	5.8	12	.3	2.4
MAY										
30...	67	42	110	14	23	12	4.9	9	.2	1.5
JUL										
17...	100	57	110	13	24	11	6.1	11	.3	2.1
SEP										
04...	110	810	120	21	28	13	8.2	12	.3	1.9

DATE	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR- BONATE IT-FLD (MG/L CO3) (99445)	ALKA- LITY, CARBON- ATE IT-FLD - (MG/L - CACO3) (99430)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
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OCT , 1985									
09...	76	--	61	1.5	15	14	<.10	2.2	132
JAN , 1986									
08...	142	--	115	11	13	9.9	<.10	10	139
MAR									
27...	93	--	75	3.7	19	11	.10	9.8	125
MAY									
30...	--	--	96	.5	12	8.4	<.10	1.0	125
JUL									
17...	112	--	90	2.2	13	10	<.10	6.9	141
SEP									
04...	125	--	101	1.6	16	11	.20	3.5	148

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)
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OCT , 1985									
09...	110	.18	9770	.26	.130	1.0	.080	.060	.030
JAN , 1986									
08...	150	.19	3680	.83	.120	.80	.050	.030	.030
MAR									
27...	130	.17	6990	1.1	.230	.80	.100	.050	.040
MAY									
30...	120	.17	2170	.22	.020	.90	.060	.010	<.010
JUL									
17...	130	.19	2570	.50	.030	1.1	.090	.030	.020
SEP									
04...	140	.20	2100	.19	.020	1.0	.080	.030	<.010

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

05407000 WISCONSIN RIVER AT MUSCODA, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	ALUM- INUM, DIS- SOLVED (UG/L) AS AL (01106)	ARSENIC DIS- SOLVED (UG/L) AS AS (01000)	BARIUM, DIS- SOLVED (UG/L) AS BA (01005)	BERYL- LIUM, DIS- SOLVED (UG/L) AS BE (01010)	CADMIUM DIS- SOLVED (UG/L) AS CD (01025)	CHRO- MIUM, DIS- SOLVED (UG/L) AS CR (01030)	COBALT, DIS- SOLVED (UG/L) AS CO (01035)	COPPER, DIS- SOLVED (UG/L) AS CU (01040)
OCT , 1985										
09...	1345	27400	10	<1	23	.6	1	<1	<3	6
MAR , 1986										
27...	1200	20700	30	<1	23	<.5	<1	<1	<3	4
SEP										
04...	1130	5250	<10	<1	23	<.5	<1	<1	<3	<1

DATE	IRON, DIS- SOLVED (UG/L) AS FE (01046)	LEAD, DIS- SOLVED (UG/L) AS PB (01049)	LITHIUM DIS- SOLVED (UG/L) AS LI (01130)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN (01056)	MERCURY DIS- SOLVED (UG/L) AS HG (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L) AS MO (01060)	NICKEL, DIS- SOLVED (UG/L) AS NI (01065)	SELE- NIUM, DIS- SOLVED (UG/L) AS SE (01145)	STRON- TIUM, DIS- SOLVED (UG/L) AS SR (01080)	VANA- DIUM, DIS- SOLVED (UG/L) AS V (01085)	ZINC, DIS- SOLVED (UG/L) AS ZN (01090)
OCT , 1985											
09...	320	2	8	11	.1	<10	15	<1	35	<6	23
MAR , 1986											
27...	360	2	5	16	<.1	<10	2	<1	35	<6	26
SEP											
04...	13	<5	<4	3	<.1	<10	16	<1	48	<6	7

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	SEDI- MENT, DIS- SOLVED (MG/L) (80154)	SEDI- MENT, DIS- SOLVED (MG/L) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT , 1985								
09...	1345	27400	--	205	11.0	63	4660	43
JAN , 1986								
08...	1410	--	9800	220	.0	4	106	86
MAR								
27...	1200	20700	--	200	4.0	82	4580	32
MAY								
30...	1100	6420	--	250	19.5	25	433	84
JUL								
17...	1215	6750	--	260	27.5	21	383	77
SEP								
04...	1130	5250	--	280	21.5	22	312	82

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 above National Geodetic Vertical Datum of 1929. Prior to Dec. 4, 1939, nonrecording gage on highway bridge at same datum.

REMARKS.--Estimated daily discharge: Mar. 19, Sept. 22-30, and ice period listed in rating table below. Records good except those for ice-affected period and estimated record, which are fair. Gage-height telemeter at station.

AVERAGE DISCHARGE.--48 years, 179 ft³/s, 9.14 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 greater than base discharge 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)				
Mar. 19	1445	*2,220	A *10.51	No other peaks above base.							
A Outside gage reading.											
Minimum daily discharge, 100 ft ³ /s Aug. 6.											

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 22 to Mar. 10.)

2.4	99	6.0	813
3.0	183	8.0	1,380
4.0	358	10.0	2,040

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	316	417	220	210	200	200	275	187	146	176	151	133
2	242	471	220	210	200	210	259	181	142	161	142	126
3	221	283	220	210	200	260	259	175	136	156	137	126
4	212	243	210	210	210	240	312	176	141	146	162	144
5	255	222	210	210	230	220	298	178	146	143	132	140
6	224	213	210	210	220	160	294	180	152	133	100	122
7	206	221	210	210	210	140	257	171	148	145	131	126
8	204	206	210	210	210	160	244	170	145	133	153	121
9	194	221	210	210	200	210	231	167	135	136	139	126
10	187	221	210	220	200	210	223	167	138	131	133	158
11	186	216	210	220	200	205	220	164	187	143	133	1110
12	215	220	210	230	200	195	218	183	267	148	126	313
13	227	226	210	230	200	192	216	175	174	182	125	202
14	200	262	210	220	200	210	243	203	153	146	130	189
15	193	246	210	210	200	223	303	189	151	139	152	207
16	191	349	210	210	200	235	250	235	157	211	137	179
17	187	390	210	210	200	290	228	202	140	152	127	174
18	194	317	210	220	200	909	218	226	133	134	119	178
19	194	366	210	230	200	2040	218	190	143	144	122	179
20	185	288	210	220	200	777	215	176	137	145	114	201
21	181	221	210	210	200	443	209	170	138	126	123	251
22	180	220	210	210	200	401	200	163	166	128	116	480
23	188	220	210	210	200	721	198	168	158	124	120	430
24	231	210	210	210	200	655	193	163	176	123	119	350
25	196	210	210	210	200	534	199	160	149	459	117	450
26	187	210	210	200	200	914	204	162	138	243	476	360
27	183	210	210	200	200	419	207	157	367	152	233	300
28	175	210	210	200	200	351	200	160	243	242	144	350
29	174	210	210	200	---	345	201	152	173	191	139	420
30	174	210	210	200	---	315	197	153	163	215	138	350
31	176	---	210	200	---	284	---	150	---	183	135	---
TOTAL	6278	7729	6540	6560	5680	12668	6989	5453	4942	5190	4525	7995
MEAN	203	258	211	212	203	409	233	176	165	167	146	267
MAX	316	471	220	230	230	2040	312	235	367	459	476	1110
MIN	174	206	210	200	200	140	193	150	133	123	100	121
CFSM	.76	.97	.79	.80	.76	1.54	.88	.66	.62	.63	.55	1.00
IN.	.88	1.08	.91	.92	.79	1.77	.98	.76	.69	.73	.63	1.12

CAL YR 1985	TOTAL	89252	MEAN 245	MAX 1700	MIN 137	CFSM .92	IN 12.48
WTR YR 1986	TOTAL	80549	MEAN 221	MAX 2040	MIN 100	CFSM .83	IN 11.26

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 above 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.--Estimated daily discharges: None, except for ice period listed in rating table below. Records good except for ice-affected period, which is fair. Gage-height telemeter at station.

AVERAGE DISCHARGE.--53 years, 486 ft³/s, 9.61 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.--Peak discharges greater than base discharge of 1,900 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
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Mar. 22	1600	*2,330	*12.37	No other peak greater than base discharge.			
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Minimum daily discharge, 400 ft³/s Jan. 28.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 1 to Nov. 23; stage-discharge relation affected by ice Nov. 24 to Mar. 9.)

6.5	430	10.0	1,120
7.0	511	11.0	1,400
8.0	690	12.0	1,890
9.0	882	12.3	2,220

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	901	610	560	450	420	420	831	606	495	505	662	492
2	925	777	520	450	420	430	793	593	484	509	536	481
3	723	954	480	450	420	440	782	570	474	499	504	471
4	654	820	500	450	420	450	780	560	470	482	480	470
5	634	688	500	450	450	460	826	561	467	471	473	469
6	632	646	500	440	440	460	831	565	471	463	480	473
7	645	629	490	430	440	450	817	558	485	457	459	460
8	607	615	490	430	430	440	770	548	486	451	453	446
9	589	622	490	430	430	470	730	535	475	457	486	447
10	575	623	480	450	420	568	704	532	472	448	478	471
11	558	622	480	460	420	585	689	530	487	455	460	572
12	571	616	470	460	420	588	677	537	533	465	450	979
13	604	631	470	450	420	606	671	543	625	483	441	1090
14	627	673	470	440	420	636	689	577	564	492	443	740
15	602	694	470	440	420	661	736	597	516	483	456	624
16	574	735	470	440	420	695	792	624	501	464	464	611
17	561	806	470	450	420	748	747	636	485	488	457	596
18	579	917	470	460	420	1020	700	665	478	502	437	575
19	593	872	470	450	420	1430	677	639	469	455	427	576
20	582	835	470	440	420	1520	666	611	464	457	417	578
21	572	785	470	440	420	1670	658	566	461	455	417	689
22	557	689	460	440	420	2170	643	546	484	440	412	733
23	553	656	460	440	420	2000	628	536	517	425	415	791
24	581	620	460	440	420	1610	616	528	513	422	412	902
25	604	580	460	440	420	1460	612	526	481	523	412	783
26	599	580	460	430	420	1380	620	523	486	851	552	751
27	560	560	460	420	420	1320	626	518	468	804	1080	749
28	542	560	460	400	420	1320	621	514	557	580	1060	684
29	529	540	460	420	---	1130	610	513	711	598	637	769
30	520	540	460	430	---	963	625	507	540	603	534	952
31	522	---	450	420	---	890	---	501	---	619	507	---
TOTAL	18875	20495	14780	13640	11850	28990	21167	17365	15119	15806	15901	19424
MEAN	609	683	477	440	423	935	706	560	504	510	513	647
MAX	925	954	560	460	450	2170	831	665	711	851	1080	1090
MIN	520	540	450	400	420	420	610	501	461	422	412	446
CFSM	.89	.99	.69	.64	.62	1.36	1.03	.82	.73	.74	.75	.94
IN.	1.02	1.11	.80	.74	.64	1.57	1.15	.94	.82	.86	.86	1.05

CAL YR 1985	TOTAL	248411	MEAN 681	MAX 3100	MIN 430	CFSM .99	IN 13.45
WTR YR 1986	TOTAL	213412	MEAN 585	MAX 2170	MIN 400	CFSM .85	IN 11.56

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, 2.5 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, 5.9 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.

RESERVOIRS IN WISCONSIN RIVER BASIN--CONTINUED

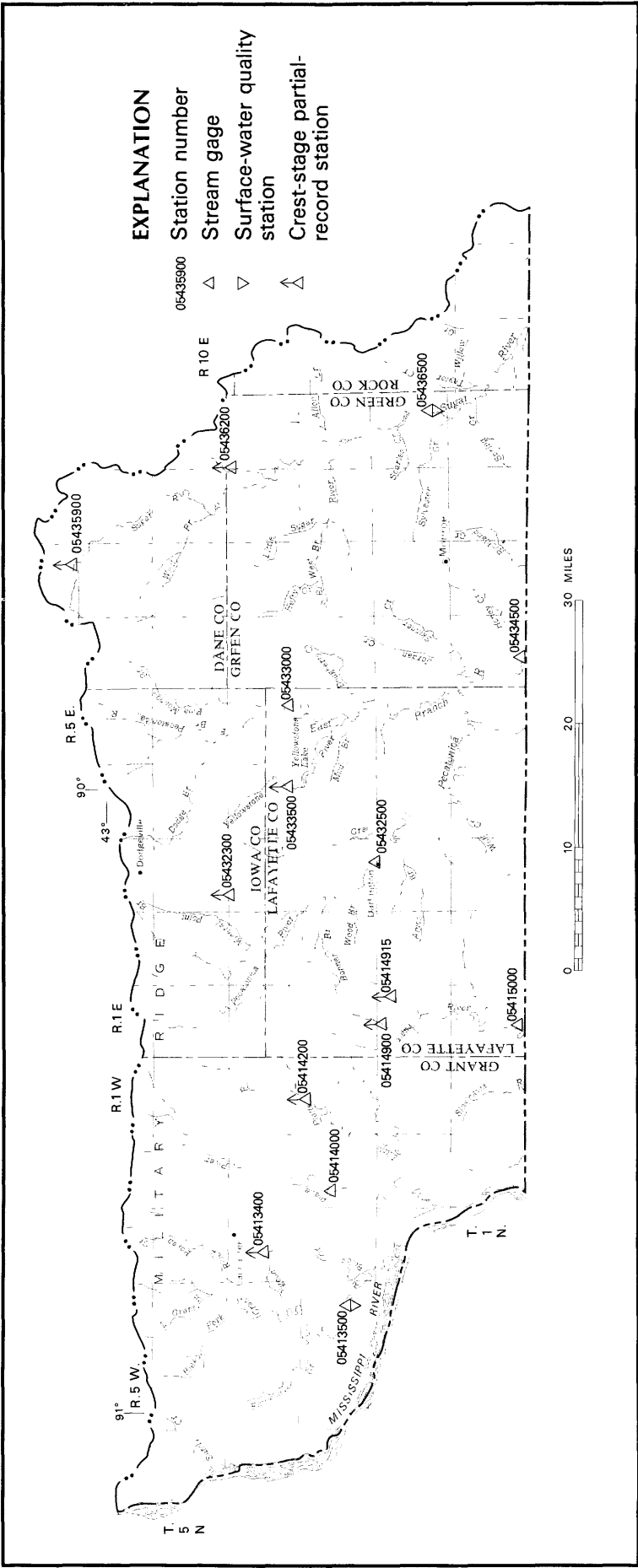
- 05399600 Big Eau Pleine Reservoir on Big Eau Pleine River, lat 44°43'52", long 89°45'35", in SW 1/4 sec.14, T.26 N., R.6 E., Marathon County, 3.0 mi northeast of Dancy, used as a reservoir since 1937, has a capacity of 4,457,000,000 ft³. Drainage area, 363 mi².
- 05400295 Lake Dubay on Wisconsin River, 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 1985 to SEPTEMBER 1986

	LAC VIEUX DESERT	TWIN LAKES	BUCKATABON LAKE	SEVENMILE LAKE	LOWER NINEMILE LAKE	BURNT ROLLWAYS RESERVOIR	LONG LAKE	DEERSKIN LAKE
SEPT. 30.....	462	296	122	70	103	588	267	18
OCT. 31.....	363	274	116	65	103	558	233	16
NOV. 30.....	305	285	118	66	49	542	257	15
DEC. 31.....	203	172	82	18	41	187	178	11
JAN. 31.....	115	89	20	2	6	0	62	10
FEB. 28.....	73	5	19	1	0	0	4	11
MAR. 31.....	60	33	60	15	66	40	43	14
APR. 30.....	283	148	115	65	102	549	249	17
MAY 31.....	449	133	114	50	101	493	230	19
JUNE 30.....	254	128	114	60	102	511	232	19
JULY 31.....	275	151	114	64	102	555	252	17
AUG. 31.....	254	165	113	64	103	542	235	19
SEPT. 30.....	311	195	114	63	103	546	263	20

	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.....	423	78	165	280	1,753	300	146	522
OCT. 31.....	418	72	162	270	2,117	277	133	539
NOV. 30.....	406	70	158	261	2,030	274	128	491
DEC. 31.....	320	49	80	215	1,953	196	48	307
JAN. 31.....	252	27	42	180	1,584	112	39	149
FEB. 28.....	87	13	33	203	808	82	36	8
MAR. 31.....	150	26	52	162	703	136	87	58
APR. 30.....	410	70	156	268	2,136	266	135	264
MAY 31.....	398	67	159	264	1,561	254	129	315
JUNE 30.....	404	71	156	265	1,377	252	138	398
JULY 31.....	404	75	159	265	1,823	288	128	508
AUG. 31.....	401	67	160	262	1,685	261	133	496
SEPT. 30.....	447	69	156	271	2,119	305	149	556

	SQUIRREL LAKE	WILLOW RESERVOIR	LAKE NOKOMIS	SPIRIT RIVER FLOWAGE	BIG EAU PLEINE RESERVOIR	LAKE DUBAY	PETENWELL FLOWAGE	CASTLE ROCK FLOWAGE
SEPT. 30.....	170	3,286	1,771	745	4,373	4,233	17,747	5,916
OCT. 31.....	174	3,157	1,758	693	4,385	4,223	17,659	5,824
NOV. 30.....	152	3,208	1,627	685	4,406	4,163	17,738	5,844
DEC. 31.....	96	2,954	1,326	492	4,190	4,104	16,986	5,831
JAN. 31.....	22	2,112	1,112	311	3,333	4,194	15,215	5,356
FEB. 28.....	4	1,281	942	169	2,069	3,368	14,386	3,810
MAR. 31.....	60	940	655	522	3,972	3,666	15,948	4,986
APR. 30.....	161	2,990	1,739	702	4,379	4,317	18,222	6,268
MAY 31.....	170	2,688	1,540	580	3,975	4,311	18,046	6,262
JUNE 30.....	168	2,936	1,737	669	3,571	3,984	17,544	5,818
JULY 31.....	168	3,181	1,733	690	3,933	4,156	17,756	5,876
AUG. 31.....	164	2,792	1,396	612	3,799	4,181	17,562	5,824
SEPT. 30.....	169	3,190	1,737	691	4,277	4,017	17,307	5,773



Base from U S Geological Survey
State base map, 1968

PECATONICA-SUGAR 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 above 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.--Estimated daily discharges: None, except for ice-affected period, Nov. 22 to Mar. 9. Records good except for ice-affected period, which is fair.

AVERAGE DISCHARGE.--52 years, 169 ft³/s, 8.53 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.--Peak discharges greater than base discharge of 2,400 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Mar. 19	0800	*2,420	*17.16	No other peak greater than base discharge.			

Minimum discharge, 88 ft³/s, Jan. 27, result of freezeup.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	227	160	98	98	98	264	198	176	172	128	120
2	139	237	150	98	98	100	252	187	169	167	125	119
3	132	179	120	98	100	110	252	183	167	162	124	119
4	129	162	130	98	110	110	263	183	170	159	123	132
5	129	154	140	98	130	110	265	185	197	156	124	124
6	125	152	130	98	130	100	252	188	177	154	146	118
7	123	157	120	96	120	96	242	181	174	156	140	117
8	123	147	120	96	110	120	235	184	171	165	138	116
9	126	148	110	96	100	140	231	180	165	161	132	118
10	138	149	110	98	98	185	232	177	178	158	132	178
11	130	140	110	100	96	253	232	179	206	177	129	238
12	158	141	100	100	96	233	230	191	182	169	123	187
13	167	155	100	100	96	279	228	180	170	158	123	142
14	140	159	100	100	96	398	234	220	172	148	147	132
15	134	151	100	100	96	351	250	205	196	147	157	132
16	129	157	100	100	96	374	226	264	198	148	131	126
17	125	161	100	110	96	462	216	224	176	145	128	124
18	134	168	100	110	100	926	212	263	166	142	123	134
19	165	208	100	110	110	1790	211	219	166	139	121	132
20	147	176	100	110	110	783	208	207	162	137	120	140
21	139	159	100	110	110	564	205	200	158	134	119	169
22	135	160	100	110	100	477	200	195	631	134	118	166
23	140	150	100	100	100	467	198	191	338	133	117	145
24	223	140	100	100	100	410	196	188	219	132	117	145
25	156	140	100	100	100	386	197	185	196	147	125	228
26	144	140	98	96	100	381	199	192	187	144	242	192
27	139	140	98	88	98	325	195	201	182	135	223	164
28	133	130	98	120	96	309	200	195	179	143	139	150
29	131	130	98	110	---	300	201	185	172	141	128	210
30	129	140	98	100	---	283	208	182	175	132	124	217
31	131	---	98	98	---	266	---	178	---	131	122	---
TOTAL	4365	4757	3388	3146	2890	11186	6734	6090	5975	4626	4188	4534
MEAN	141	159	109	101	103	361	224	196	199	149	135	151
MAX	223	237	160	120	130	1790	265	264	631	177	242	238
MIN	123	130	98	88	96	96	195	177	158	131	117	116
CFSM	.52	.59	.41	.38	.38	1.34	.83	.73	.74	.55	.50	.56
IN.	.60	.66	.47	.44	.40	1.55	.93	.84	.83	.64	.58	.63
CAL YR 1985	TOTAL	70996	MEAN 195	MAX	3400	MIN 98	CFSM .73	IN 9.82				
WTR YR 1986	TOTAL	61879	MEAN 170	MAX	1790	MIN 88	CFSM .63	IN 8.56				

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: Water years 1977-82, October 1983 to current year.

REMARKS.--Sediment records for period during considerable discharge (greater than 300 ft³/s) are good because sampling and analysis effort were concentrated on high-discharge periods. Records during remaining periods are fair because of infrequent (about twice per week) sampling. Monthly load values are good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 6,450 mg/L June 17, 1978; minimum daily mean, 7 mg/L on many days. Maximum observed, 13,600 mg/L July 13, 1979; minimum observed, 7 mg/L Mar. 2, 1978.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 95,300 tons June 17, 1978; minimum daily, 1.5 tons Mar. 1, 2, 1978.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,420 mg/L June 22, minimum daily mean, 29 mg/L Mar. 8. Maximum observed, 5,470 mg/L June 22; minimum observed, 45 mg/L July 24.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 3,540 tons June 22; minimum daily, 11 tons Mar. 7, 8.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION 100					STATION 101						
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)		
OCT , 1985					APR , 1986						
30...	0900	131	640	7.5	21...	1630	204	615	11.5		
DEC					JUN						
19...	1108	104	630	.0	09...	1521	163	640	22.5		
JAN , 1986					AUG						
27...	1555	86	720	.0	04...	1440	123	600	23.0		
MAR					SEP						
10...	1514	194	580	2.5	22...	1605	164	640	20.0		
STATION 102											
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
OCT , 1985				APR , 1986				JUL , 1986			
08...	1345	124	119	10...	1240	232	36	03...	0940	161	184
12...	0955	146	67	14...	1305	231	42	08...	0920	168	146
12...	1440	157	261	17...	1240	215	42	10...	1115	156	135
12...	1515	159	58	21...	1630	204	28	14...	0900	148	118
14...	1115	140	53	21...	1631	204	22	17...	0805	145	117
17...	0920	126	78	22...	1240	200	18	21...	0810	134	90
27...	0810	689	52	25...	0825	196	31	24...	0845	132	45
28...	1405	135	54	28...	1025	197	48	28...	0935	141	63
30...	0850	130	28	30...	0745	201	119	31...	0800	131	95
30...	0851	130	45	MAY				AUG			
NOV				05...	1645	185	61	04...	0900	122	98
01...	1420	253	175	08...	1225	186	62	04...	1440	122	71
05...	1440	153	49	11...	1255	187	99	04...	1441	122	69
07...	1335	158	49	14...	0810	215	177	07...	0930	140	91
12...	1445	141	30	16...	0930	287	351	11...	0825	129	95
16...	0930	155	28	19...	1540	216	116	14...	1015	144	126
DEC				23...	1120	191	135	18...	1015	123	81
19...	1030	100*	59	27...	1030	201	136	21...	1100	119	75
JAN , 1986				29...	1240	185	124	25...	1030	127	94
27...	1545	88*	21	JUN				26...	1015	240	1700
MAR				02...	1710	170	122	26...	1240	265	1400
10...	1510	198	209	05...	1440	203	172	26...	1550	288	785
10...	1515	198	222	09...	1530	164	90	28...	0945	139	98
15...	0835	361	190	09...	1531	164	93	SEP			
18...	1335	949	1320	10...	1550	180	145	02...	1500	118	80
19...	0815	2420	3880	12...	1335	180	121	02...	1550	118	80
19...	1555	1620	2430	16...	0915	204	379	05...	1325	121	77
20...	1555	667	505	19...	1110	165	116	08...	1510	116	82
21...	1225	553	312	22...	0845	287	593	11...	0830	212	181
22...	0925	491	250	22...	1115	760	3340	15...	1450	132	79
24...	1555	400	198	22...	1305	934	5470	18...	1350	135	78
27...	1235	322	144	22...	1550	1120	2560	22...	1020	168	116
31...	1330	265	88	22...	1825	1080	1790	22...	1500	165	233
APR				23...	0725	365	690	22...	1501	165	122
04...	1320	261	66	26...	0830	186	222	25...	0830	224	295
07...	1235	243	78	30...	1040	176	191	29...	0945	185	142

*DISCHARGE, IN CUBIC FEET PER SECOND (00060).

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	140	100	60	32	114	54	188	87	96	33	84	27			
2	140	95	60	30	111	51	186	84	97	33	81	26			
3	130	88	60	30	108	49	183	80	97	33	79	26			
4	130	92	60	30	105	48	175	75	84	28	78	28			
5	130	93	60	30	103	55	167	71	75	25	77	26			
6	120	82	60	30	100	48	159	66	83	33	78	25			
7	120	78	64	31	97	46	152	64	90	34	80	25			
8	90	57	63	32	94	44	146	65	92	34	81	25			
9	90	56	72	35	92	41	140	61	93	33	75	24			
10	80	50	84	40	137	68	135	58	94	34	126	65			
11	80	50	97	47	190	106	130	62	97	34	232	153			
12	75	47	100	51	128	63	126	57	106	35	215	111			
13	75	46	100	49	107	49	122	52	116	38	140	54			
14	75	47	170	102	130	62	118	47	123	49	107	38			
15	80	54	183	102	274	146	118	47	112	47	83	30			
16	70	43	302	218	188	100	117	47	100	36	79	27			
17	65	38	190	115	165	79	115	45	90	31	78	26			
18	65	37	272	195	145	65	108	41	82	27	79	29			
19	65	37	139	83	128	58	102	38	79	26	86	31			
20	60	34	120	67	113	49	95	35	77	25	95	36			
21	60	33	125	67	99	42	86	31	76	24	105	48			
22	60	33	130	68	1420	3540	69	25	80	25	127	57			
23	60	32	134	69	704	698	55	20	84	27	108	42			
24	60	32	135	68	445	264	46	17	89	28	129	54			
25	60	32	135	68	307	163	49	20	83	28	268	164			
26	60	32	136	70	226	114	54	21	592	456	182	95			
27	60	32	135	73	213	104	58	21	306	199	119	53			
28	60	32	130	68	205	99	64	25	109	41	78	31			
29	60	32	124	62	198	92	74	28	94	33	188	117			
30	60	33	121	59	191	91	85	30	90	30	165	98			
31	---	---	118	56	---	---	94	33	87	29	---	---			
TOTAL	---	1547	---	2077	---	6488	---	1453	---	1588	---	1591			

TOTAL LOAD FOR YEAR: 27962 TONS.

PLATTE RIVER BASIN

05414000 PLATTE RIVER NEAR ROCKVILLE, WI

LOCATION.--Lat 42°43'52", long 90°38'25", in SW 1/4 sec.17, T.3 N., R.2 W., Grant County, Hydrologic Unit 07060003, on right bank just downstream from bridge on County Trunk Highway B, 0.8 mi 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 above 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.--Estimated daily discharge: None, except for ice periods listed in rating table below. Records good except for ice-affected periods, which are fair.

AVERAGE DISCHARGE.--52 years, 101 ft³/s, 9.66 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.--Peak discharges greater than base discharge of 2,100 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Mar. 19	0315	*1,780	*8.64	No other peak greater than base discharge.			

Minimum daily, 58 ft³/s, Jan. 27, result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 23-25, Nov. 30 to Mar. 9.)

3.6	50	6.0	686
4.0	121	7.0	1,070
5.0	364	8.0	1,490

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	216	100	68	72	66	198	136	112	95	83	71
2	92	213	82	68	72	68	186	129	107	95	81	70
3	85	168	78	68	74	70	192	126	105	93	73	71
4	83	145	90	68	82	72	194	125	106	91	72	75
5	81	131	86	68	96	72	196	129	112	90	72	71
6	77	126	84	68	92	70	183	128	109	89	88	67
7	75	124	82	68	86	60	177	122	108	90	80	66
8	76	114	80	68	74	72	169	121	106	93	82	65
9	81	115	80	68	64	86	163	122	100	93	76	73
10	91	113	78	70	62	141	161	118	114	91	79	136
11	82	105	76	72	66	192	160	120	125	103	75	150
12	132	106	70	72	70	174	160	123	111	96	72	109
13	116	120	74	70	72	200	155	128	104	89	71	84
14	100	121	74	68	72	238	171	152	109	84	93	81
15	93	115	74	70	72	246	171	146	117	83	86	81
16	87	127	74	76	72	271	158	174	113	86	76	78
17	84	125	72	78	72	337	151	166	100	84	73	79
18	90	153	70	76	72	776	148	177	97	81	70	76
19	105	194	68	74	72	1240	148	149	97	78	68	79
20	96	162	70	72	72	555	145	139	95	78	67	83
21	94	144	72	70	72	396	142	133	94	78	67	88
22	90	142	72	70	72	344	138	129	174	80	65	89
23	94	130	72	68	72	328	135	126	128	79	66	83
24	106	120	70	68	70	294	135	125	112	80	65	88
25	93	120	70	66	68	283	135	124	101	93	67	152
26	89	121	70	62	68	265	139	128	99	86	128	107
27	87	115	70	58	68	239	134	132	99	85	107	93
28	83	113	70	86	66	229	139	124	98	94	78	91
29	82	109	70	80	---	222	137	118	95	89	75	115
30	82	110	70	74	---	209	151	116	97	85	73	123
31	87	---	70	72	---	199	---	113	---	87	71	---
TOTAL	2821	4017	2338	2184	2042	8014	4771	4098	3244	2718	2399	2694
MEAN	91.0	134	75.4	70.5	72.9	259	159	132	108	87.7	77.4	89.8
MAX	132	216	100	86	96	1240	198	177	174	103	128	152
MIN	75	105	68	58	62	60	134	113	94	78	65	65
CFSM	.64	.94	.53	.50	.51	1.82	1.12	.93	.76	.62	.55	.63
IN.	.74	1.05	.61	.57	.53	2.10	1.25	1.07	.85	.71	.63	.71

CAL YR 1985	TOTAL	42850	MEAN 117	MAX 1600	MIN 63	CFSM .82	IN 11.23
WTR YR 1986	TOTAL	41340	MEAN 113	MAX 1240	MIN 58	CFSM .80	IN 10.83

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 above National Geodetic Vertical Datum of 1929. Prior to Dec. 1, 1939, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: None, except for ice period listed in rating tables below. Records good except for ice-affected period, which is fair. Gage-height telemeter at station.

AVERAGE DISCHARGE.--47 years, 79.4 ft³/s, 8.63 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.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Sept. 11	0800	*3,430	*10.36	Sept. 24	2300	3,180	10.03

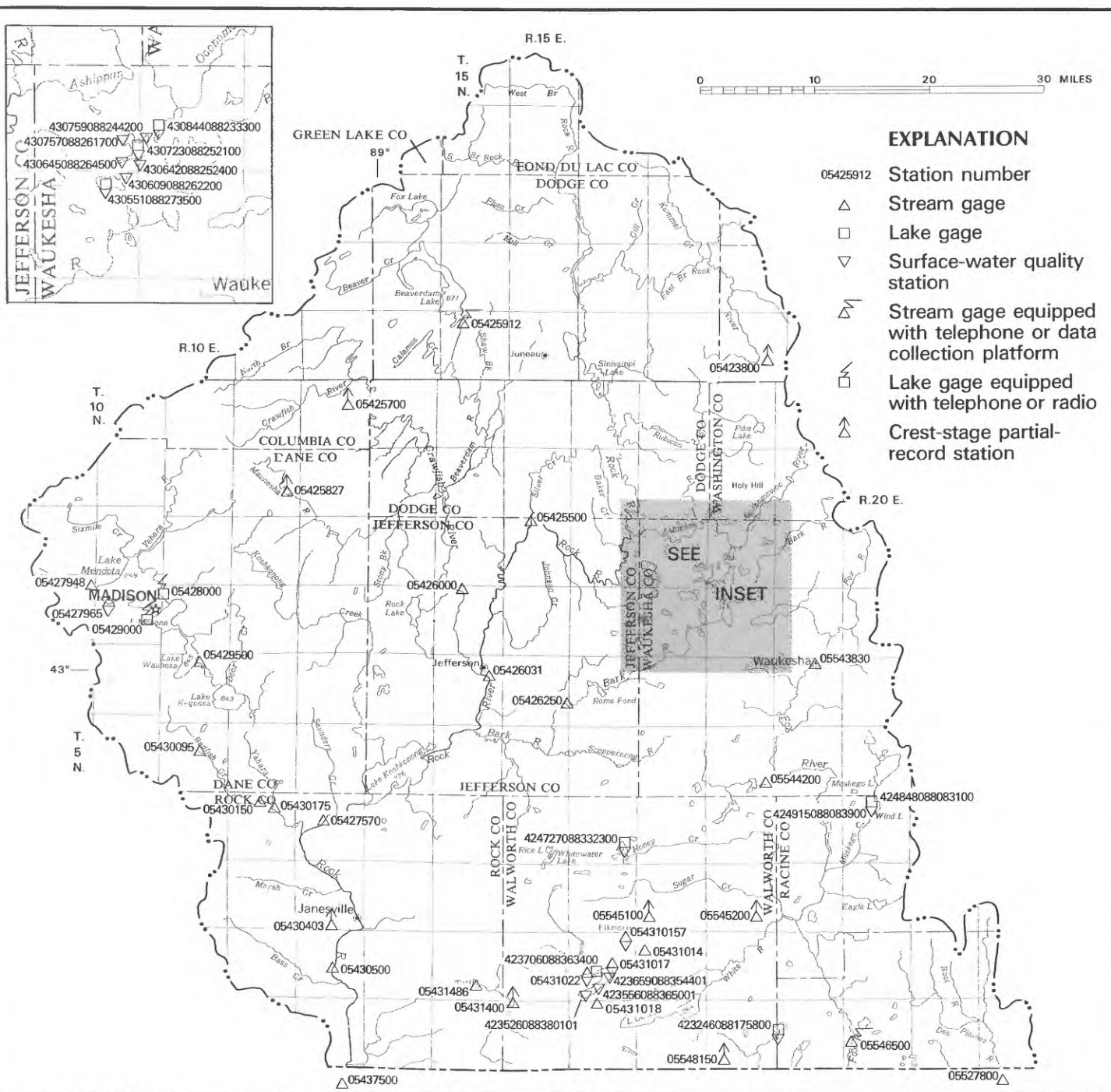
Minimum daily discharge, 51 ft³/s, Oct. 7.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 30 to Mar. 9.)

2.8	50	5.0	503
3.0	73	6.0	848
3.5	148	7.0	1,280
4.0	246		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	276	130	72	72	66	162	109	114	104	72	72
2	57	269	110	72	72	68	153	100	107	102	71	72
3	54	167	100	72	74	70	167	97	105	97	69	74
4	58	141	110	72	82	72	171	98	109	94	68	83
5	55	126	120	72	110	72	169	101	230	92	71	75
6	52	125	110	72	96	70	157	102	122	89	117	72
7	51	129	110	72	86	68	150	96	116	94	93	71
8	53	113	110	72	74	72	143	96	109	223	82	70
9	86	134	100	72	64	90	136	93	102	151	77	104
10	119	149	100	72	68	561	131	92	135	115	77	203
11	86	123	94	74	70	386	131	95	142	119	73	1180
12	226	122	86	74	70	280	128	97	136	108	70	207
13	126	132	82	66	72	338	128	96	113	103	70	146
14	95	127	80	70	72	411	143	129	121	94	148	127
15	87	117	80	74	72	329	144	124	137	93	103	117
16	78	135	80	74	72	352	128	215	313	92	82	108
17	74	127	80	74	72	405	121	228	144	88	77	105
18	80	315	80	74	72	654	118	253	128	86	73	106
19	86	346	80	74	72	786	120	169	123	85	71	104
20	78	202	78	74	72	344	118	148	115	83	69	103
21	74	166	78	72	72	295	117	138	109	82	69	210
22	73	160	78	72	72	272	110	131	137	80	67	359
23	89	150	78	72	72	270	109	125	116	78	68	261
24	136	144	78	72	70	237	107	121	106	77	67	421
25	94	140	76	70	68	229	107	125	102	85	69	842
26	86	133	76	64	70	224	114	130	101	81	90	261
27	80	124	76	54	70	192	108	155	102	78	99	207
28	75	120	74	88	66	188	111	147	102	84	74	238
29	73	120	74	82	---	180	107	131	98	78	72	498
30	72	120	74	76	---	169	119	128	111	75	72	421
31	75	---	74	72	---	162	---	119	---	74	72	---
TOTAL	2593	4752	2756	2242	2074	7912	3927	3988	3805	2984	2452	6917
MEAN	83.6	158	88.9	72.3	74.1	255	131	129	127	96.3	79.1	231
MAX	226	346	130	88	110	786	171	253	313	223	148	1180
MIN	51	113	74	54	64	66	107	92	98	74	67	70
CFSM	.67	1.26	.71	.58	.59	2.04	1.05	1.03	1.02	.77	.63	1.85
IN.	.77	1.41	.82	.67	.62	2.35	1.17	1.19	1.13	.89	.73	2.06
CAL YR 1985	TOTAL	37958	MEAN 104	MAX 2700	MIN 42	CFSM .83	IN 11.30					
WTR YR 1986	TOTAL	46402	MEAN 127	MAX 1180	MIN 51	CFSM 1.02	IN 13.81					



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

ROCK-FOX RIVER BASIN

430844088233300 NORTH LAKE NEAR NORTH LAKE, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 43°08'44", long 88°23'33", in NE 1/4 sec.20, T.8 N., R.18 E., Waukesha County, Hydrologic Unit 07090001, 1.4 miles southwest of North Lake.

PERIOD OF RECORD.--April 1985 to current year.

GAGE.--Staff gage read by Peter J. Mihelich. Elevation of gage is 896 ft, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 12.45 ft, Sept. 15, 1986; minimum observed, 10.00 ft, July 21-23, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 12.45 ft, Sept. 15; minimum observed, 10.24 ft, Oct. 2, 3.

GAGE HEIGHT (FEET ABOVE DATUM) WATER YEAR 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.28	11.10				---	11.43	10.74	10.53	10.73	10.59	10.59
2	10.24	11.30				---	11.41	10.74	10.49	10.69	10.53	10.53
3	10.24	11.49				---	11.41	10.74	10.43	10.63	10.51	10.47
4	10.26	11.68				---	11.41	10.71	10.36	10.59	10.49	10.41
5	10.40	11.70				---	11.33	10.71	10.36	10.57	10.43	10.39
6	10.38	11.68				---	11.31	10.69	10.36	10.53	10.59	10.39
7	10.38	11.60				---	11.26	10.69	10.36	10.47	10.73	10.37
8	10.41	11.50				---	11.21	10.66	10.36	10.53	10.83	10.33
9	10.50	11.48				---	11.16	10.66	10.36	10.53	10.83	10.33
10	10.54	11.45				---	11.11	10.64	10.36	10.49	10.87	10.53
11	10.58	---				---	10.93	10.61	10.34	10.49	10.83	10.97
12	10.71	11.30				---	---	10.61	10.31	10.49	10.81	11.81
13	10.81	11.31				---	10.91	10.61	10.29	10.79	10.79	12.25
14	10.84	11.34				---	10.96	10.64	10.31	10.91	10.75	12.42
15	10.88	---				---	10.99	10.66	10.33	10.91	10.73	12.45
16	10.90	11.45				---	10.99	10.74	10.33	11.13	10.71	12.37
17	10.89	11.50				---	11.01	10.89	10.31	11.35	10.69	12.23
18	10.89	11.61				---	10.99	10.93	10.29	11.31	10.63	11.93
19	10.92	11.68				---	10.96	10.95	10.29	11.27	10.59	11.89
20	10.94	11.71				---	10.93	10.93	10.29	11.21	10.53	11.74
21	10.94	11.71				12.21	10.91	10.89	10.27	11.17	10.49	11.59
22	10.92	11.66				---	10.87	10.85	10.29	11.03	10.41	11.59
23	10.90	11.58				---	10.81	10.79	10.29	10.93	10.39	11.67
24	11.00	---				---	10.79	10.75	10.32	10.83	10.37	11.63
25	11.00	---				---	10.74	10.75	10.31	10.81	10.33	11.77
26	10.98	---				---	10.76	10.69	10.30	10.75	10.61	11.85
27	10.96	---				11.91	10.76	10.69	10.61	10.69	10.69	11.89
28	10.92	---				11.83	10.74	10.65	10.71	10.71	10.71	11.85
29	10.88	---				11.71	10.74	10.61	10.81	10.75	10.65	12.03
30	10.86	---				11.61	10.74	10.59	10.77	10.67	10.63	12.17
31	10.86	---				11.53	---	10.55	---	10.63	10.61	---
MEAN	10.72	---				---	---	10.72	10.39	10.79	10.62	11.41
MAX	11.00	---				---	---	10.95	10.81	11.35	10.87	12.45
MIN	10.24	---				---	---	10.55	10.27	10.47	10.33	10.33

WATER-QUALITY RECORDS

LOCATION.--Lat 43°08'50", long 88°23'17", in NE 1/4 sec.20, T.8 N., R.18 E., Waukesha County, Hydrologic Unit 07090001, near center of southwest lobe of lake, and 1.1 miles southwest of North Lake.

PERIOD OF RECORD.--May 1985 to current year.

REMARKS.--Secchi disc readings made by David Bykowski.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
MAY 3	3.5	MAY 23	5.5	JUNE 20	5.6	JULY 16	2.9	AUG. 7	2.7	SEPT. 3	2.4
MAY 11	5.3	MAY 31	5.5	JUNE 22	4.4	JULY 23	2.7	AUG. 13	2.2	SEPT. 11	1.9
MAY 18	5.9	JUNE 7	7.6	JUNE 28	3.8	JULY 31	2.5	AUG. 28	2.4		

ROCK RIVER BASIN

430723088252100 OKAUCHEE LAKE AT OKAUCHEE, WI

LOCATION.--Lat 43°07'23", long 88°25'21", in NE 1/4 NE 1/4, sec.36, T.8 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Okauchee.

DRAINAGE AREA.--80.7 mi².

LAKE-STAGE RECORDS

PERIOD OF RECORD.--February to September 1984, March 4 to September 30, 1986.

GAGE.--Staff gage at outlet read by Tom Gukich. Datum of gage, 869.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Lake levels controlled at dam outlet by Town of Oconomowoc. The Oconomowoc River flows through the lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage-height observed, 5.54 ft, Sept. 22, 1986; minimum observed, 3.87 ft, Mar. 4, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum gage-height observed, 5.54 ft, Sept. 22; minimum observed, 3.87 ft, Mar. 4.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	---		---	4.76	---	---
2						---	---		---	---	4.76	4.76
3						---	---		---	---	---	---
4						3.87	---		---	---	4.72	---
5						---	---		---	---	---	4.58
6						---	---		---	---	4.82	---
7						---	---		---	---	---	---
8						---	---		---	4.84	---	---
9						---	---		---	---	---	---
10						---	---		---	---	---	---
11						---	---		---	4.76	---	---
12						---	---		---	---	---	---
13						---	---		---	---	4.74	---
14						---	---		---	4.70	---	---
15						---	---		---	4.74	---	5.16
16						---	---		---	---	---	---
17						4.54	---		---	4.94	---	5.30
18						4.66	---		---	4.96	4.64	---
19						---	---		4.60	4.96	4.63	---
20						4.88	---		---	---	4.66	---
21						4.96	---		---	4.90	---	---
22						---	---		---	---	---	5.54
23						---	---		---	---	4.66	5.38
24						---	4.82		---	---	---	5.34
25						---	---		---	4.72	4.68	---
26						---	---		---	---	4.92	---
27						4.88	---		---	---	---	---
28						---	---		---	4.68	---	5.34
29						---	---		---	---	---	---
30						---	---		---	---	---	5.44
31						4.66	---		---	---	---	---

430723088252100 OKAUCHEE LAKE NO. 1 AT OKAUCHEE, WI--CONTINUED

WATER-QUALITY RECORDS

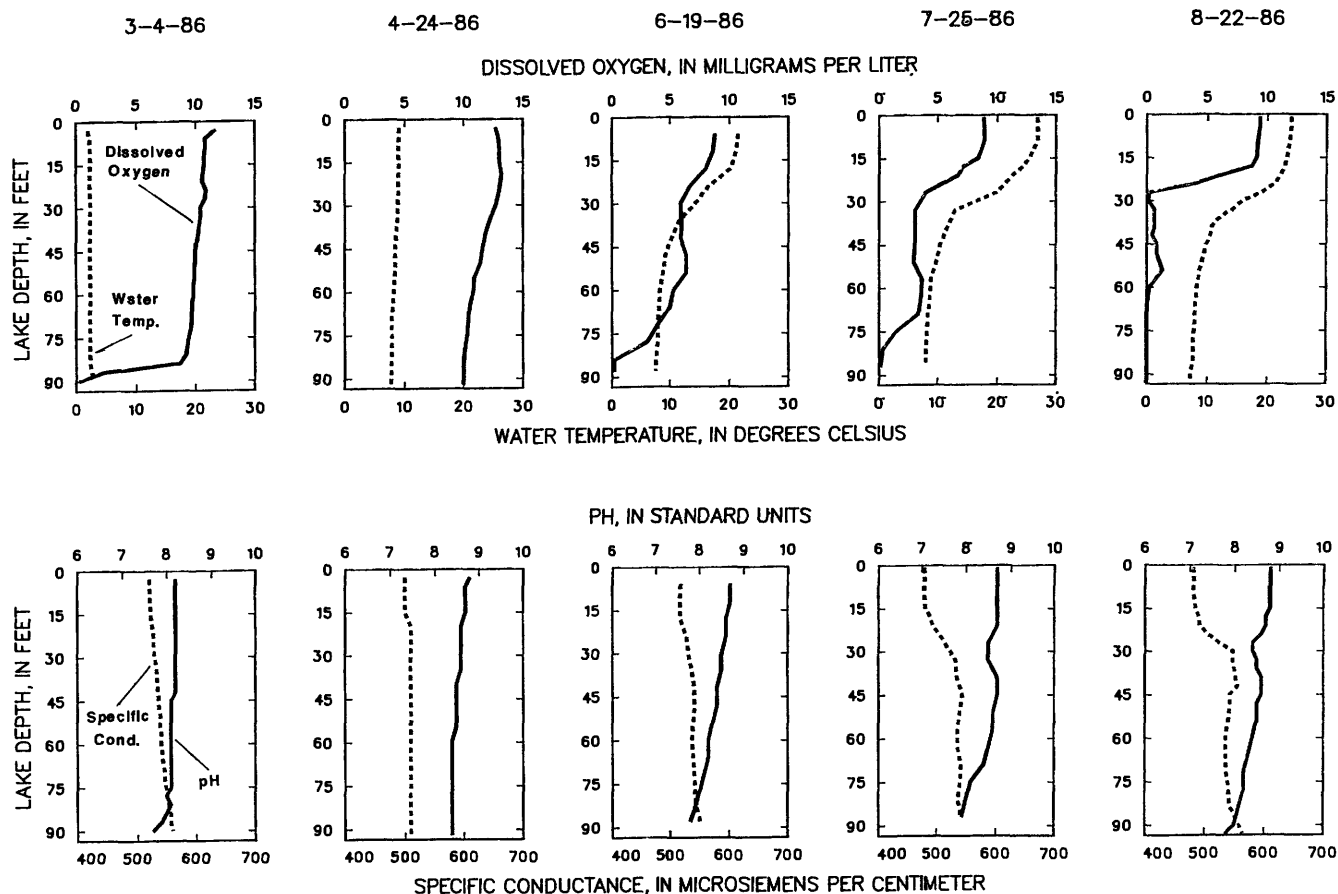
PERIOD OF RECORD.--February 15, 1984, to current year.

REMARKS.--A detailed water quality management plan has been developed for Okauchee Lake by Southeastern Wisconsin Regional Planning Commission; previous water-quality data are available in this report.

Lake sampled near center at a depth of 93 feet.

WATER-QUALITY DATA, MARCH 4 TO AUGUST 22, 1986
(Milligrams per liter unless otherwise indicated)

	Mar. 4		Apr. 24		June 19		July 25		Aug. 22	
Depth of sample (ft)	3.0	90.0	3.0	91.5	3.0	88.0	3.0	87.5	3.0	92.0
Specific conductance (uS)	521	561	500	510	519	552	480	542	481	560
pH	8.2	7.7	8.8	8.4	8.7	7.8	8.7	7.9	8.8	7.8
Water temperature (°C)	2.0	3.0	9.0	8.0	22.0	7.5	27.0	8.0	24.0	7.5
Color (Pt-Co. scale)	--	--	12	10	--	--	--	--	--	--
Turbidity (NTU)	--	--	1.0	1.3	--	--	--	--	--	--
Secchi-disc (meters)	--	--	--	2.0	--	2.7	--	1.2	--	1.7
Dissolved oxygen	11.7	0.3	12.7	10.0	8.8	0.2	8.9	0.1	9.4	0.0
Hardness, as CaCO ₃	--	--	280	280	--	--	--	--	--	--
Calcium, dissolved (Ca)	--	--	56	56	--	--	--	--	--	--
Magnesium, dissolved (Mg)	--	--	33	33	--	--	--	--	--	--
Sodium, dissolved (Na)	--	--	8.6	8.5	--	--	--	--	--	--
Potassium, dissolved (K)	--	--	2.0	2.0	--	--	--	--	--	--
Alkalinity as CaCO ₃	--	--	231	230	--	--	--	--	--	--
Sulfate, dissolved (SO ₄)	--	--	22	23	--	--	--	--	--	--
Chloride, dissolved (Cl)	--	--	18	19	--	--	--	--	--	--
Silica, dissolved (SiO ₂)	--	--	4.6	5.3	--	--	--	--	--	--
Solids, dissolved, at 180°C	--	--	290	300	--	--	--	--	--	--
Nitrogen, nitrate, total (as N)	--	--	.59	.59	--	--	--	--	--	--
Nitrogen, nitrite, total (as N)	--	--	<.01	.01	--	--	--	--	--	--
Nitrogen, ammonia, total (as N)	--	--	.03	.08	--	--	--	--	--	--
Nitrogen, organic, total (as N)	--	--	.57	.52	--	--	--	--	--	--
Nitrogen, total (as N)	--	--	1.2	1.2	--	--	--	--	--	--
Total phosphorus (as P)	--	--	.015	.013	.010	.021	<.005	.035	.009	.098
Phosphorus, ortho, diss (as P)	--	--	.003	.002	--	.006	--	.021	--	.094
Iron, dissolved (Fe) ug/L	--	--	9	7	--	--	--	--	--	--
Manganese, dissolved (Mn) ug/L	--	--	1	1	--	--	--	--	--	--
Chlorophyll <i>a</i> , phyto. (ug/L)	--	--	12 ^{1/}	--	7	--	8	--	5	--

^{1/} Adjusted from 8.0 ug/L by the Wisconsin State Laboratory of Hygiene.

ROCK RIVER BASIN
WATER-QUALITY RECORDS

430759088244200 OKAUCHEE LAKE NEAR OKAUCHEE, WI

LOCATION.--Lat 43°07'59", long 88°24'42", in NE 1/4 NW 1/4 sec.30, T.8 N., R.18 E., Waukesha County, Hydrologic Unit 07090001, near Okauchee.

PERIOD OF RECORD.--April to August 1986.

REMARKS.--Sampling site is located in Crane's Nest Bay, in the northeast part of the lake, at a depth of 10 ft.

WATER-QUALITY DATA, APRIL 24 TO AUGUST 22, 1986
(Milligrams per liter unless otherwise indicated)

	<u>Apr. 24</u>	<u>July 25</u>	<u>Aug. 22</u>
Depth of sample (ft)	3.0	3.0	3.0
Specific conductance (uS/cm)	510	---	485
pH (units)	9.2	8.6	8.8
Water temperature (°C)	11.0	27.0	23.5
Secchi-disc (meters)	1.9	1.5	1.8
Dissolved oxygen	13.5	9.4	9.8
Total phosphorus (as P)	0.098	0.016	0.013
Chlorophyll <u>a</u> , phyto. (ug/L)	---	8.0	5.0

430645088264500 OKAUCHEE LAKE, NO. 2, AT OKAUCHEE, WI

LOCATION.--Lat 43°06'45", long 88°26'45", in NE 1/4 NE 1/4 sec.35, T.8 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Okauchee.

PERIOD OF RECORD.--April to August 1986.

REMARKS.--Sampling site is located in Lower Okauchee Lake, at a depth of 10 ft.

WATER-QUALITY DATA, APRIL 24 TO AUGUST 22, 1986
(Milligrams per liter unless otherwise indicated)

	<u>Apr. 24</u>	<u>June 19</u>	<u>July 25</u>	<u>Aug. 22</u>
Depth of sample (ft)	3.0	3.0	3.0	3.0
Specific conductance (uS/cm)	420	510	---	452
pH (units)	9.1	8.7	8.7	8.9
Water temperature (°C)	---	22.8	27.8	24.2
Secchi-disc (meters)	1.9	2.5	1.2	1.8
Dissolved oxygen	13.7	---	---	9.9
Total phosphorus (as P)	0.013	0.010	0.011	0.010
Chlorophyll <u>a</u> , phyto. (ug/L)	---	5.0	8.0	4.0

430642088252400 OKAUCHEE LAKE, NO. 3, AT OKAUCHEE, WI

LOCATION.--Lat 43°06'42", long 88°25'24", in NE 1/4 NE 1/4 sec.36, T.8 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Okauchee.

PERIOD OF RECORD.--April to August 1986.

REMARKS.--Sampling site is located in Ice House Bay, in the south bay of Okauchee Lake, at a depth of 10 ft.

WATER-QUALITY DATA, APRIL 24 TO AUGUST 22, 1986
(Milligrams per liter unless otherwise indicated)

	<u>Apr. 24</u>	<u>June 19</u>	<u>July 25</u>	<u>Aug. 22</u>
Depth of sample (ft)	3.0	3.0	3.0	3.0
Specific conductance (uS/cm)	490	507	---	469
pH (units)	8.8	8.6	8.7	8.8
Water temperature (°C)	---	22.9	27.0	24.5
Secchi-disc (meters)	2.0	2.0	1.2	1.2
Dissolved oxygen	13.2	---	---	10.3
Total phosphorus (as P)	0.009	0.013	0.007	0.010
Chlorophyll <u>a</u> , phyto. (ug/L)	---	5.0	10.0	8.0

430757088261700 OKAUCHEE LAKE, NO. 4, AT OKAUCHEE, WI

LOCATION.--Lat 43°07'57", long 88°26'17", in NW 1/4 NW 1/4 sec.25, T.8 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Okauchee.

PERIOD OF RECORD.--June 1986.

REMARKS.--Sampling site is located near Crazyman's Island, in the northwest bay of Okauchee Lake, at a depth of 10 ft.

WATER-QUALITY DATA, JUNE 19, 1986
(Milligrams per liter unless otherwise indicated)

	<u>June 19</u>
Depth of sample (ft)	3.0
Specific conductance (uS/cm)	506
pH (units)	8.8
Water temperature (°C)	21.9
Secchi-disc (meters)	2.0
Total phosphorus (as P)	0.098
Chlorophyll <u>a</u> , phyto. (ug/L)	4.0

430551088273500 OCONOMOWOC LAKE NO. 1 (CENTER) AT OCONOMOWOC, WI

LOCATION.--Lat 43°05'51", long 88°27'35", in NW 1/4 SE 1/4 sec.2, T.7 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Oconomowoc.

LAKE-STAGE RECORDS

PERIOD OF RECORD.--April 26 to September 28, 1986.

GAGE.--Staff gage at outlet read by Martha Ibach.

EXTREMES FOR CURRENT YEAR.--Maximum gage-height observed, 9.10 ft, Sept. 28; minimum observed, 7.69 ft, Apr. 26.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	---	---	---	---	---
2							---	---	8.10	---	---	---
3							---	---	---	---	8.06	---
4							---	7.75	---	---	---	---
5							---	---	---	---	---	---
6							---	---	---	---	---	---
7							---	---	---	7.98	---	8.12
8							---	---	---	---	---	---
9							---	---	8.00	---	---	---
10							---	---	---	---	8.25	---
11							---	---	---	---	---	---
12							---	8.10	---	---	---	---
13							---	---	---	8.18	---	---
14							---	---	---	---	---	8.46
15							---	---	---	---	---	---
16							---	---	8.15	---	---	---
17							---	---	---	---	8.08	---
18							---	---	---	---	---	---
19							---	8.10	7.95	8.08	---	---
20							---	---	---	---	8.10	8.84
21							---	---	7.86	---	---	---
22							---	---	---	---	8.06	---
23							---	---	---	---	---	---
24							---	---	---	---	---	---
25							---	---	---	---	---	---
26							7.69	8.00	---	---	---	---
27							---	---	8.26	8.12	---	---
28							---	---	---	---	---	9.10
29							---	---	---	---	---	---
30							---	---	---	---	8.20	---
31							---	---	---	---	---	---

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 14 to August 20, 1986.

REMARKS.--Lake sampled near center at a depth of 60 ft.

WATER-QUALITY DATA, MARCH 14 TO AUGUST 20, 1986
(Milligrams per liter unless otherwise indicated)

	Mar. 14		Apr. 26		June 19		July 25		Aug. 20	
Depth of sample (ft)	3.0	59.0	3.0	61.5	3.0	59.0	3.0	59.5	3.0	58.0
Specific conductance (uS)	536	567	478	481	531	555	--	--	475	555
pH	8.3	7.7	8.3	8.2	8.6	7.9	8.6	7.7	8.7	8.1
Water temperature (°C)	1.5	4.0	11.5	8.5	22.5	9.0	27.5	9.5	24.5	9.5
Color (Pt-Co. scale)	--	--	5	10	--	--	--	--	--	--
Turbidity (NTU)	--	--	1.0	1.0	--	--	--	--	--	--
Secchi-disc (meters)	--	--	--	8.3	4.1	--	1.5	--	2.2	--
Dissolved oxygen	10.6	0.0	10.0	10.8	8.6	1.2	8.4	0.0	8.8	0.2
Hardness, as CaCO ₃	--	--	260	260	--	--	--	--	--	--
Calcium, dissolved (Ca)	--	--	51	51	--	--	--	--	--	--
Magnesium, dissolved (Mg)	--	--	31	31	--	--	--	--	--	--
Sodium, dissolved (Na)	--	--	9.2	9.3	--	--	--	--	--	--
Potassium, dissolved (K)	--	--	2.0	2.0	--	--	--	--	--	--
Alkalinity as CaCO ₃	--	--	225	225	--	--	--	--	--	--
Sulfate, dissolved (SO ₄)	--	--	25	23	--	--	--	--	--	--
Chloride, dissolved (Cl)	--	--	19	20	--	--	--	--	--	--
Silica, dissolved (SiO ₂)	--	--	4.9	5.3	--	--	--	--	--	--
Solids, dissolved, at 180°C	--	--	294	290	--	--	--	--	--	--
Nitrogen, nitrate, total (as N)	--	--	.49	.49	--	--	--	--	--	--
Nitrogen, nitrite, total (as N)	--	--	.010	.010	--	--	--	--	--	--
Nitrogen, ammonia, total (as N)	--	--	.060	.040	--	--	--	--	--	--
Nitrogen, organic, total (as N)	--	--	.44	.46	--	--	--	--	--	--
Nitrogen, total (as N)	--	--	1.0	1.0	--	--	--	--	--	--
Total phosphorus (as P)	--	--	.003	.005	.006	.011	<.005	.049	.006	.013
Phosphorus, ortho, diss (as P)	--	--	<.001	.003	--	.005	--	.044	--	.003
Iron, dissolved (Fe) ug/L	--	--	12	23	--	--	--	--	--	--
Manganese, dissolved (Mn) ug/L	--	--	2	2	--	--	--	--	--	--
Chlorophyll <i>a</i> , phyto. (ug/L)	--	--	2.5 ₁	--	<5.0	--	5.0	--	6.0	--

1/ Adjusted from <5 ug/L by the Wisconsin State Laboratory of Hygiene.

3-14-86

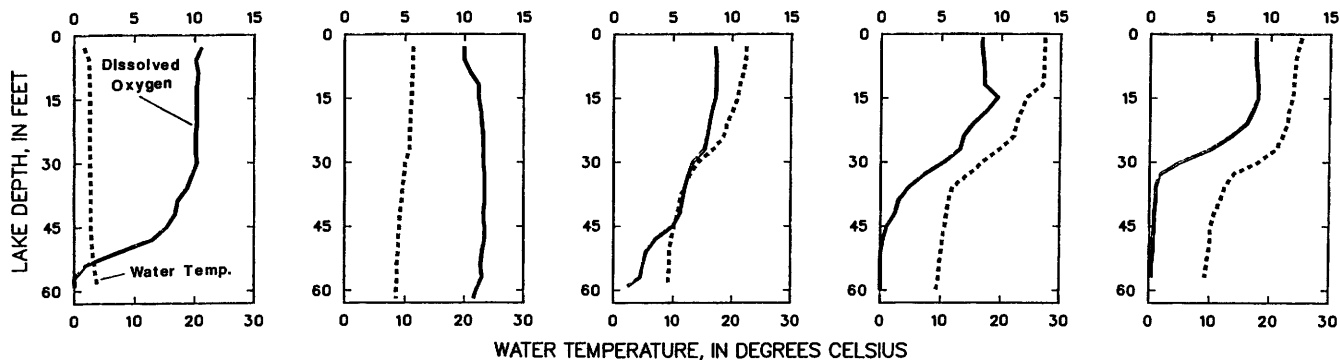
4-26-86

6-19-86

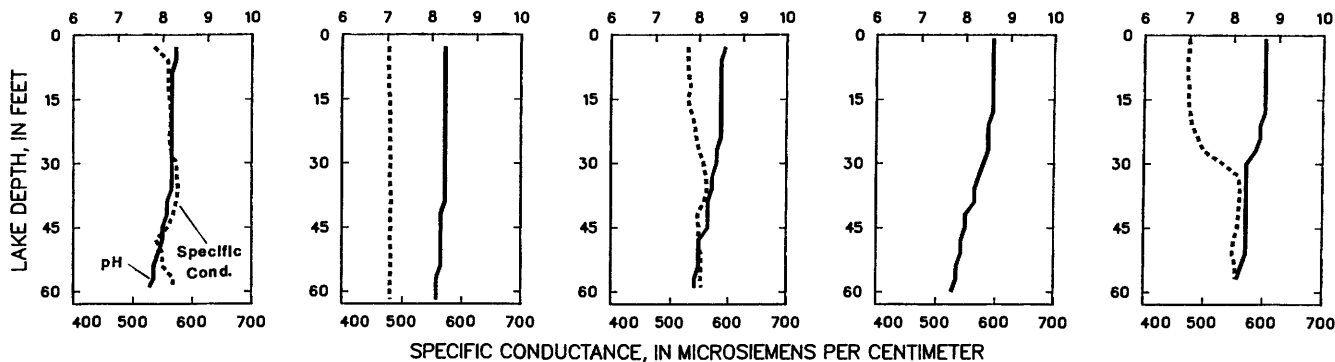
7-25-86

8-20-86

DISSOLVED OXYGEN, IN MILLIGRAMS PER LITER



PH, IN STANDARD UNITS



430609088262200 OCONOMOWOC LAKE NO. 2 (OFF HEWITT POINT) AT OCONOMOWOC, WI

WATER-QUALITY RECORDS

LOCATION.--Lat 43°06'09", long 88°26'22", in NW 1/4 NW 1/4 sec.1, T.7 N., R.17 E., Waukesha County, Hydrologic Unit 07090001, at Oconomowoc.

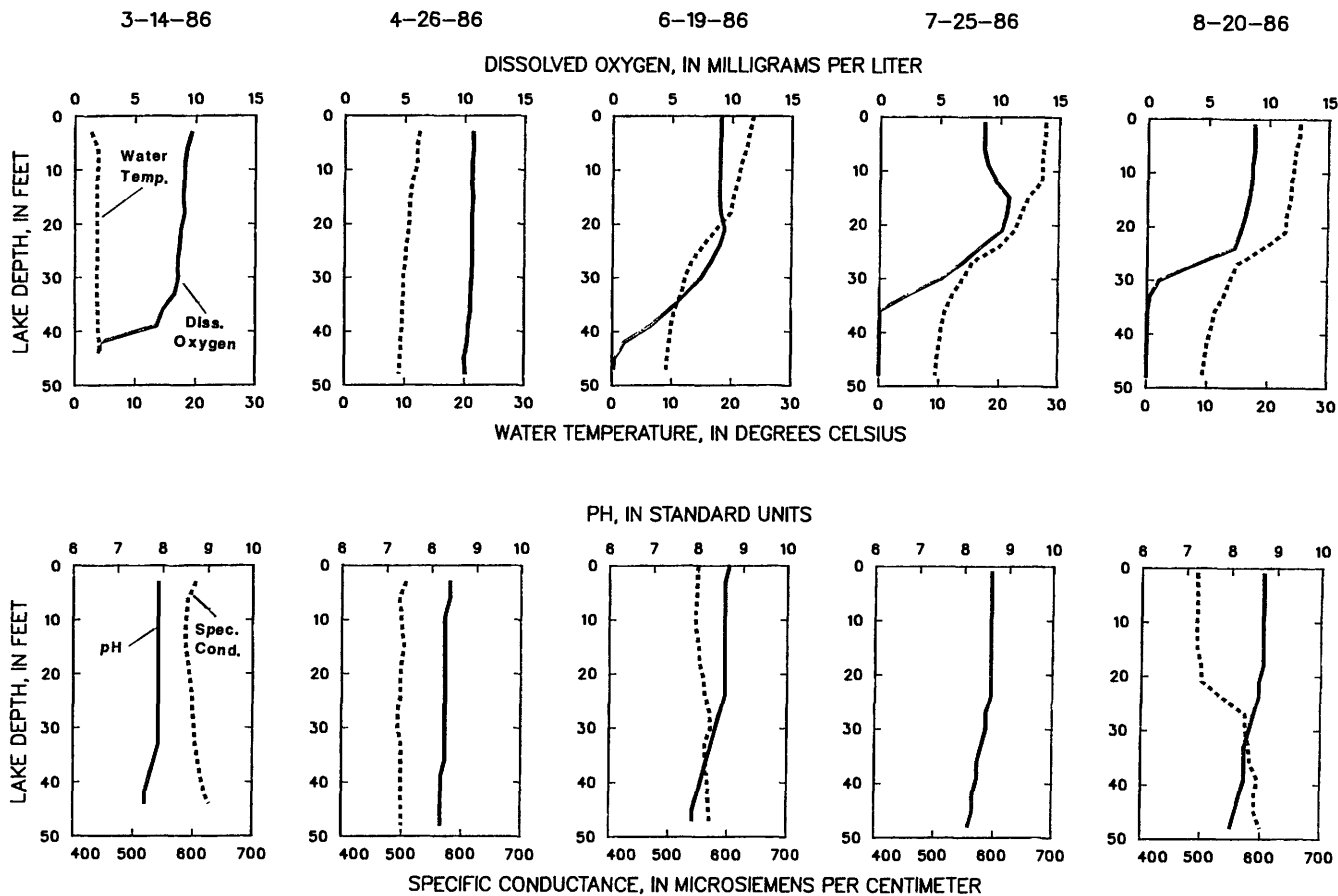
PERIOD OF RECORD.--March 14 to August 20, 1986.

REMARKS.--Sampling site is located in northeast bay near Hewitt Point at a depth of 48 ft.

WATER-QUALITY DATA, MARCH 14 TO AUGUST 20, 1986
(Milligrams per liter unless otherwise indicated)

	Mar. 14		Apr. 26		June 19		July 25		Aug. 20	
Depth of sample (ft)	3.0	44.0	3.0	47.5	1.0	47.0	3.0	48.5	3.0	48.0
Specific conductance (uS)	604	628	507	500	550	571	--	--	493	600
pH	7.9	7.6	8.4	8.2	8.7	7.9	8.6	8.1	8.7	8.0
Water temperature (°C)	2.5	4.0	12.5	9.0	23.5	9.0	27.5	9.5	25.0	9.5
Secchi-disc (meters)	--	--	--	7.5	--	3.0	--	2.2	--	2.4
Dissolved oxygen	9.7	1.9	10.7	10.1	9.1	0.1	8.7	0.0	8.8	0.0
Total phosphorus (as P)	--	--	<.001	<.001	.005	.011	.008	.025	.005	.016
Phosphorus, ortho, diss (as P)	--	--	--	--	--	.003	--	.009	--	.005
Chlorophyll <i>a</i> , phyto. (ug/L)	--	--	1.6 ₁	--	<5.0	--	<5.0	--	2.0	--

₁/ Adjusted from 1.0 ug/L by the Wisconsin State Laboratory of Hygiene.



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 above National Geodetic Vertical Datum of 1929. Prior to Sept. 26, 1933, nonrecording gage at site 700 ft upstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 8-11, Mar. 24, Mar. 31 to Apr. 17, Aug. 1-12, and ice periods listed in rating table below. Records good except for estimated daily discharges, 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.--49 years, (water years 1932-70, 1977-86), 471 ft³/s, 6.60 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.--Peak discharges greater than base discharge of 1,100 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 25	1615	2,600	4.52	July 13	2015	1,460	3.52
Mar. 24	----	*4,030	A *5.54	Sept. 30	1800	R 3,450	5.15

A High-water mark in well.

R On rising stage, peak occurred Oct. 5, 1986, at 0225, 3,990 ft³/s, gage height, 5.51 ft.

Minimum daily discharge, 181 ft³/s, Aug. 25.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 14 to Mar. 1 and Mar. 6-8.)

1.2	78	3.0	977
1.5	146	4.0	1,970
2.0	311	5.0	3,240
2.5	594	6.0	4,770

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	439	1290	2230	520	450	640	3100	1400	290	865	500	320
2	435	1710	1910	500	460	615	3100	1320	271	828	500	267
3	430	1710	1780	500	460	619	3000	1280	253	737	470	247
4	456	1620	1990	490	470	614	3000	1240	196	630	450	237
5	463	1580	2060	480	480	622	2900	1210	188	555	440	234
6	484	1620	1840	480	500	620	2900	1190	196	489	460	232
7	505	1680	1820	480	520	620	2800	1120	214	448	490	213
8	533	1740	1700	480	540	620	2800	1060	227	489	500	193
9	557	1820	1500	480	560	641	2700	1040	224	415	490	187
10	601	1880	1400	470	600	1060	2600	979	228	352	480	246
11	623	1910	1300	460	640	1650	2500	945	294	401	480	1370
12	745	1950	1220	460	700	1720	2400	847	355	616	480	1970
13	829	2060	1160	460	720	1760	2300	812	401	1260	479	1790
14	820	2150	1100	470	720	1980	2300	812	446	1350	469	1690
15	811	2160	1100	470	720	1970	2200	784	494	1260	421	1760
16	811	2210	1000	460	740	2000	2100	734	526	1330	385	1810
17	829	2240	960	460	740	2230	2100	686	546	1320	361	1860
18	845	2360	900	450	740	2590	2020	709	520	1230	332	1890
19	882	2490	840	450	740	2950	1920	755	423	1170	335	1920
20	910	2430	800	460	740	2600	1860	794	341	1140	190	1920
21	889	2390	780	490	720	2880	1800	832	300	1070	278	1950
22	917	2370	740	500	720	3040	1740	842	329	984	189	2290
23	949	2370	700	500	700	3310	1660	818	334	821	217	2650
24	988	2220	680	490	700	3700	1620	819	353	606	205	2380
25	1020	2330	640	490	680	3450	1600	832	371	518	181	2600
26	1020	2340	620	490	660	3360	1640	782	400	480	243	2660
27	1040	2210	600	490	660	3330	1630	784	831	474	356	2610
28	1030	2230	580	480	640	3270	1580	619	978	581	422	2680
29	1030	1830	560	470	---	3250	1530	519	950	558	479	3040
30	1020	2110	540	460	---	3230	1520	395	906	529	485	3340
31	1040	---	540	450	---	3200	---	351	---	534	403	---
TOTAL	23951	61010	35590	14790	17720	64141	66920	27310	12385	24040	12170	46556
MEAN	773	2034	1148	477	633	2069	2231	881	413	775	393	1552
MAX	1040	2490	2230	520	740	3700	3100	1400	978	1350	500	3340
MIN	430	1290	540	450	450	614	1520	351	188	352	181	187
CFSM	.80	2.10	1.19	.49	.65	2.14	2.30	.91	.43	.80	.41	1.60
IN.	.92	2.34	1.37	.57	.68	2.46	2.57	1.05	.48	.92	.47	1.79

CAL YR 1985	TOTAL	338833.4	MEAN	928	MAX	3050	MIN	3.4	CFSM	.96	IN	13.01
WTR YR 1986	TOTAL	406583.0	MEAN	1114	MAX	3700	MIN	181	CFSM	1.15	IN	15.61

05425912 BEAVERDAM RIVER AT BEAVER DAM, WI

LOCATION.--Lat 43°26'57", long 88°50'21", in NE 1/4 SW 1/4 sec.4, T.11 N., R.14 E., Dodge County, Hydrologic Unit 07090002, on left bank 5 ft upstream from bridge on Davis Street, 0.8 mi downstream from outlet of Beaverdam Lake, at Beaver Dam.

DRAINAGE AREA.--157 mi².

PERIOD OF RECORD.--March 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 839.42 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: None. Records are good. Flow regulated by dam 0.8 mi upstream.

EXTREMES FOR CURRENT PERIOD.--March to September 1985: Maximum discharge, 494 ft³/s Sept. 9, gage height, 8.46 ft; minimum daily, 1.9 ft³/s June 24.

Water Year 1986: Maximum discharge, 754 ft³/s Sept. 26, gage height, 9.35 ft; minimum daily, 14 ft³/s June 2, 3, and 9.

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

5.3	1.1	6.0	40
5.4	2.5	6.5	98
5.5	5.2	7.0	175
5.6	9.6	8.0	380
5.8	23	9.0	644

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						8.1	343	15	3.4	5.8	15	70
2						8.6	290	15	3.7	6.9	15	65
3						11	315	12	3.2	6.1	16	128
4						75	321	11	3.0	15	16	192
5						30	357	16	3.7	27	16	203
6						5.1	369	20	5.8	22	18	191
7						35	365	14	7.8	21	21	185
8						130	371	13	7.7	21	17	188
9						233	337	17	11	19	16	200
10						244	324	16	8.0	19	16	193
11						292	326	12	7.6	18	14	186
12						323	317	19	9.6	18	19	191
13						378	308	16	6.4	17	13	196
14						312	307	19	3.9	17	12	196
15						260	304	17	5.4	16	13	190
16						395	303	15	3.5	14	14	184
17						388	266	11	3.9	14	16	175
18						375	276	6.1	3.0	14	19	158
19						372	267	7.7	2.0	14	16	158
20						321	253	6.5	2.1	15	16	163
21						242	244	5.7	4.8	14	16	156
22						238	184	5.5	5.3	12	15	156
23						240	166	5.8	2.0	13	16	161
24						251	144	5.1	1.9	15	18	156
25						240	127	5.1	2.1	34	22	169
26						224	75	49	3.9	14	30	199
27						248	46	5.7	5.8	15	65	197
28						285	51	5.3	5.7	17	75	195
29						304	26	4.7	4.9	16	73	194
30						293	14	6.5	4.8	14	76	192
31						298	---	7.2	---	15	68	---
TOTAL						7058.8	7396	383.9	145.9	498.8	792	5187
MEAN						228	247	12.4	4.86	16.1	25.5	173
MAX						395	371	49	11	34	76	203
MIN						5.1	14	4.7	1.9	5.8	12	65

ROCK RIVER BASIN

05425912 BEAVERDAM RIVER AT BEAVER DAM, WI--CONTINUED

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	188	235	389	206	266	140	306	156	20	111	200	232
2	190	257	385	205	249	138	308	135	14	123	236	240
3	193	256	371	206	237	135	357	121	14	140	221	256
4	203	265	362	201	244	133	423	114	16	143	203	261
5	211	261	357	194	198	129	432	88	17	135	191	245
6	195	270	350	200	241	127	443	75	15	142	219	227
7	191	279	341	217	232	129	448	75	17	130	237	209
8	193	281	334	269	223	122	465	71	17	123	234	196
9	200	298	329	300	215	122	440	47	14	118	214	181
10	198	311	326	312	205	90	416	36	19	109	223	207
11	191	297	317	304	198	77	400	38	22	107	230	253
12	205	302	310	293	190	63	378	34	31	119	246	252
13	200	331	303	297	182	25	368	27	24	134	219	244
14	199	384	296	317	177	25	343	31	22	120	207	237
15	200	378	291	297	169	25	388	33	23	155	241	251
16	196	397	284	305	166	26	388	39	29	190	253	242
17	198	406	278	315	162	26	362	47	22	189	244	233
18	209	418	271	300	80	28	332	49	20	186	246	248
19	208	437	266	285	106	30	340	47	23	187	262	245
20	207	445	260	298	162	27	340	45	20	183	255	245
21	207	423	254	317	159	31	352	45	18	121	265	241
22	205	419	249	301	156	31	300	46	26	34	277	310
23	211	412	244	311	152	37	208	46	26	123	330	298
24	220	411	237	327	149	57	178	88	23	171	280	328
25	215	403	231	312	147	38	183	163	17	175	267	377
26	213	398	230	291	148	54	181	15	17	163	332	360
27	215	395	228	317	145	132	180	18	67	160	318	399
28	209	388	223	332	142	160	169	17	71	164	286	430
29	206	382	220	314	---	180	181	19	70	155	269	478
30	207	376	216	293	---	200	142	21	82	144	258	536
31	207	---	211	276	---	211	---	20	---	146	242	---
TOTAL	6290	10515	8963	8712	5100	2748	9751	1806	816	4400	7705	8461
MEAN	203	351	289	281	182	88.6	325	58.3	27.2	142	249	282
MAX	220	445	389	332	266	211	465	163	82	190	332	536
MIN	188	235	211	194	80	25	142	15	14	34	191	181
WTR YR 1986	TOTAL	75267.0	MEAN	206	MAX	536	MIN	14				

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 above National Geodetic Vertical Datum of 1929. Prior to July 28, 1966, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: None, except for ice period listed in rating table below. Records are good except for ice-affected period, which is fair. Some diurnal fluctuation at lower flows, due to manipulation of gates on small dams upstream.

AVERAGE DISCHARGE.--55 years, 393 ft³/s, 7.00 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 greater than base discharge 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)
Nov. 21	2300	2,400	6.95	July 17	0700	1,620	5.25
Mar. 24	0100	*3,740	*9.10	Sept. 30	2400	R 3,340	8.48

R Stage rising, peak occurred Oct. 4, 1986 at 1400, 3,530 ft³/s, gage height 8.78 ft.

Minimum daily discharge, 185 ft³/s June 6.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Nov. 30 to Mar. 10.)

2.2	171	6.0	1,950
2.5	282	8.0	3,040
3.0	510	10.0	4,340
4.0	1,030		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	572	1100	1600	460	580	700	2820	815	304	955	757	1110
2	557	1380	1500	450	580	720	2670	780	262	956	702	1070
3	554	1540	1400	440	600	720	2520	712	222	921	642	1020
4	554	1730	1300	430	620	720	2420	599	219	825	583	977
5	591	1850	1300	430	640	740	2280	549	227	761	537	925
6	545	1910	1200	420	660	740	2180	571	203	748	606	864
7	546	1960	1100	430	680	760	2120	563	198	694	696	797
8	505	1960	1000	460	700	800	2080	523	206	692	687	730
9	618	1990	1000	490	740	1000	2000	474	185	655	671	677
10	651	2000	1000	520	780	1200	1900	428	187	608	677	714
11	646	1930	980	540	780	1470	1810	397	190	701	672	1100
12	715	1890	980	540	800	1630	1730	375	221	901	644	1450
13	835	1890	960	540	800	1790	1650	353	226	1150	616	1800
14	932	1920	920	540	780	1980	1550	350	262	1360	590	2090
15	993	1930	900	560	780	2130	1530	344	294	1510	601	2280
16	1010	1960	880	560	780	2280	1510	382	292	1600	580	2360
17	991	2020	820	560	760	2500	1440	425	285	1610	566	2370
18	1000	2120	740	560	760	2740	1360	520	263	1600	539	2340
19	1020	2240	700	580	740	2960	1290	573	252	1570	519	2250
20	1020	2300	680	580	740	3250	1280	593	241	1510	511	2160
21	1020	2390	640	580	740	3420	1270	597	206	1410	506	2090
22	1010	2390	620	600	720	3540	1190	577	253	1310	478	2110
23	991	2350	600	600	720	3670	1080	536	272	1190	480	2280
24	1050	2240	580	620	720	3730	1020	488	299	1060	457	2520
25	1060	2160	560	640	700	3650	1010	466	284	1040	433	2800
26	1060	2090	540	640	700	3670	970	434	277	942	538	2950
27	1100	2030	520	620	700	3590	917	423	452	850	773	3040
28	1080	1960	500	620	700	3420	848	398	676	880	951	3090
29	1060	1820	490	600	---	3280	853	377	858	857	1060	3180
30	1020	1700	480	580	---	3150	834	349	934	822	1120	3280
31	987	---	470	560	---	2950	---	317	---	811	1130	---
TOTAL	26293	58750	26960	16750	20000	68900	48132	15288	9250	32499	20322	56424
MEAN	848	1958	870	540	714	2223	1604	493	308	1048	656	1881
MAX	1100	2390	1600	640	800	3730	2820	815	934	1610	1130	3280
MIN	505	1100	470	420	580	700	834	317	185	608	433	677
CFSM	1.11	2.57	1.14	.71	.94	2.92	2.11	.65	.40	1.38	.86	2.47
IN.	1.28	2.87	1.32	.82	.98	3.36	2.35	.75	.45	1.59	.99	2.75

CAL YR 1985	TOTAL	280612	MEAN	769	MAX	2960	MIN	41	CFSM	1.01	IN	13.70
WTR YR 1986	TOTAL	399568	MEAN	1095	MAX	3730	MIN	185	CFSM	1.44	IN	19.51

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 above 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.--Estimated daily discharges: Period of ice effect, Dec. 3 to Mar. 21. Records good except for ice-affected period, which is fair.

AVERAGE DISCHARGE.--8 years, 1,510 ft³/s, 11.08 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, 90 ft³/s July 18, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,200 ft³/s Mar. 25, gage height, 9.33 ft; minimum daily discharge, 438 ft³/s June 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1030	2520	3490	1200	1200	1400	5810	2460	636	1960	1470	1720
2	1010	3150	3510	1200	1200	1400	5630	2360	520	1970	1410	1620
3	986	3390	3500	1200	1200	1500	5460	2260	473	1920	1280	1560
4	1010	3560	3500	1100	1300	1500	5370	2200	452	1740	1140	1500
5	1070	3620	3500	1100	1300	1500	5230	2140	452	1630	1010	1360
6	1030	3620	3500	1100	1300	1400	5080	2070	438	1520	1150	1230
7	1030	3660	3400	1100	1400	1400	4940	1970	444	1440	1540	1130
8	1070	3650	3400	1200	1400	1400	4760	1790	462	1450	1510	1050
9	1190	3700	3300	1200	1500	1700	4550	1710	444	1410	1490	985
10	1330	3760	3200	1200	1500	2300	4380	1630	441	1220	1490	1220
11	1350	3740	3000	1200	1500	3000	4180	1560	493	1290	1470	2370
12	1570	3740	2800	1200	1600	3400	4030	1230	549	1600	1390	3140
13	1760	3820	2700	1200	1600	3800	3870	1130	600	2020	1280	3650
14	1930	3920	2600	1300	1600	4100	3740	1170	684	2420	1300	3950
15	1990	3990	2400	1300	1600	4300	3670	1210	789	2610	1280	4140
16	1920	4110	2300	1300	1600	4600	3610	1300	858	2870	1170	4260
17	1880	4220	2200	1300	1600	5000	3510	1350	869	2930	1060	4290
18	1920	4430	2000	1300	1600	5600	3400	1610	859	2890	992	4280
19	2020	4670	1900	1300	1600	6000	3280	1630	831	2810	935	4220
20	2040	4720	1800	1300	1500	6000	3190	1610	729	2680	854	4130
21	2060	4750	1700	1300	1500	6400	3100	1620	626	2520	811	4040
22	2050	4710	1700	1400	1500	6790	2990	1610	653	2380	797	4120
23	2080	4610	1600	1400	1500	6860	2890	1580	677	2220	718	4720
24	2250	4380	1500	1400	1500	7000	2810	1530	699	2050	693	5000
25	2280	3970	1500	1400	1500	7110	2750	1460	692	1860	659	5420
26	2320	4170	1400	1400	1400	6980	2750	1330	711	1530	837	5650
27	2330	4200	1400	1400	1400	6870	2690	1250	1220	1460	1220	5730
28	2300	4120	1300	1300	1400	6700	2620	1200	1740	1540	1540	5740
29	2260	3330	1300	1300	---	6490	2580	1060	1910	1580	1710	6050
30	2210	3120	1300	1300	---	6230	2540	912	1930	1530	1760	6350
31	2160	---	1200	1200	---	6020	---	766	---	1500	1780	---
TOTAL	53436	117350	73900	39100	40800	134750	115410	48708	22881	60550	37746	104625
MEAN	1724	3912	2384	1261	1457	4347	3847	1571	763	1953	1218	3488
MAX	2330	4750	3510	1400	1600	7110	5810	2460	1930	2930	1780	6350
MIN	986	2520	1200	1100	1200	1400	2540	766	438	1220	659	985
CFSM	.93	2.12	1.29	.68	.79	2.35	2.08	.85	.41	1.06	.66	1.89
IN.	1.07	2.36	1.49	.79	.82	2.71	2.32	.98	.46	1.22	.76	2.10
CAL YR 1985	TOTAL	632148	MEAN	1732	MAX	5290	MIN	90	CFSM	.94	IN	12.71
WTR YR 1986	TOTAL	849256	MEAN	2327	MAX	7110	MIN	438	CFSM	1.26	IN	17.08

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). October 1983 to present.

GAGE.--Water-stage recorder. Elevation of gage is 810 ft, from topographic map.

REMARKS.--Estimated daily discharges: None, except for ice periods listed in rating table below. Records are good except for ice-affected periods, which are fair.

AVERAGE DISCHARGE.--5 years, 97.7 ft³/s, 10.88 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 443 ft³/s Apr. 6, 1982, gage height, 2.39 ft; minimum, 10 ft³/s July 22, 23, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 399 ft³/s Sept. 30, stage rising, peak occurred Oct. 1, 1986; maximum peak discharge, 388 ft³/s, Mar. 21, gage height, 2.27 ft; minimum, 25 ft³/s Oct. 3, gage height, 0.71 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Mar. 13, 14, July 24 to Sept. 11; stage-discharge relation affected by ice Dec. 15 to Feb. 3, Feb. 7-21, and Feb. 28 to Mar. 2.)

0.6	18	1.5	171
0.8	42	2.0	293
1.0	73	2.5	430

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	160	195	98	82	110	255	107	78	127	91	140
2	35	231	175	98	82	110	245	101	76	122	89	132
3	26	220	179	98	84	114	246	107	70	121	84	131
4	36	213	193	96	102	113	243	104	70	130	74	120
5	35	214	196	90	121	113	233	104	85	123	69	107
6	42	214	192	86	124	112	219	105	84	114	82	99
7	47	208	190	84	120	111	211	106	85	105	94	85
8	50	202	184	84	110	106	202	108	83	106	101	61
9	62	207	179	86	100	121	197	106	77	104	103	66
10	91	210	173	88	98	194	188	103	62	99	101	120
11	84	204	168	90	96	233	165	99	57	112	105	235
12	89	202	145	92	94	255	139	103	60	139	92	228
13	89	207	129	90	94	284	141	105	64	138	95	219
14	89	213	124	86	92	300	149	100	81	129	112	221
15	87	213	120	84	86	305	138	100	94	133	103	232
16	82	220	120	86	84	324	136	106	85	139	118	226
17	80	209	120	88	84	337	135	111	82	145	123	220
18	77	241	120	90	82	357	133	133	86	134	115	217
19	85	252	120	94	90	365	123	131	82	120	89	216
20	88	234	120	96	100	316	121	127	77	114	72	216
21	85	246	110	100	110	371	114	125	72	110	75	211
22	83	249	110	100	116	348	115	118	74	108	62	221
23	85	237	110	100	115	329	107	118	73	105	82	267
24	106	226	110	100	112	315	105	112	74	100	77	284
25	110	215	100	94	113	304	107	109	71	99	77	341
26	115	207	100	88	112	301	122	101	69	99	107	333
27	116	203	100	84	112	296	123	97	103	92	158	337
28	115	193	100	82	110	292	130	97	123	98	164	329
29	116	175	100	80	---	286	118	92	121	98	172	367
30	114	183	100	80	---	279	126	86	127	99	144	388
31	113	---	100	80	---	273	---	82	---	98	129	---
TOTAL	2470	6408	4282	2792	2825	7674	4786	3303	2445	3560	3159	6369
MEAN	79.7	214	138	90.1	101	248	160	107	81.5	115	102	212
MAX	116	252	196	100	124	371	255	133	127	145	172	388
MIN	26	160	100	80	82	106	105	82	57	92	62	61
CFSM	.65	1.75	1.13	.74	.83	2.03	1.31	.88	.67	.94	.84	1.74
IN.	.75	1.95	1.31	.85	.86	2.34	1.46	1.01	.75	1.09	.96	1.94
CAL YR 1985	TOTAL	37951	MEAN 104	MAX 314	MIN 11	CFSM .85	IN 11.57					
WTR YR 1986	TOTAL	50073	MEAN 137	MAX 388	MIN 26	CFSM 1.12	IN 15.27					

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Natural flow of stream affected by dam in Indianford. Discharge is adjusted for flow through wicket gates.

AVERAGE DISCHARGE.--11 years, 1,894 ft³/s, 9.78 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, 8,820 ft³/s Mar. 30, gage height, 15.22 ft; minimum daily discharge, 860 ft³/s June 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1490	2860	5260	2500	1970	2140	8530	3570	1850	1870	2180	1970
2	1560	3150	5050	2500	1930	2130	8420	3620	1700	2240	2100	1990
3	1570	3410	4860	2450	1920	2100	8210	3480	1480	2270	2020	1950
4	1500	3730	4790	2390	2000	2070	8090	3170	1450	2140	1970	1930
5	1570	3950	4770	2220	2090	2050	7670	3060	1250	2160	1890	2050
6	1580	4130	4760	2180	2200	2030	7470	3100	922	2240	1960	2000
7	1600	4290	4720	2060	2200	2000	7320	3120	887	2270	1910	1910
8	1440	4490	4710	2030	2240	2050	7230	3100	939	2320	1930	1820
9	1750	4830	4660	1980	2310	2080	7070	2900	979	2400	1940	1810
10	1780	5040	4610	2030	2370	2240	6810	2770	904	2280	1970	1890
11	1830	4890	4500	2020	2430	2590	6570	2650	860	2200	1970	2180
12	1880	4850	4350	1970	2440	3020	6370	2560	912	2150	1960	2570
13	1970	4960	4160	1920	2440	3430	6120	2380	959	2150	1920	2970
14	2080	5020	3830	1970	2510	3870	5840	2240	966	2370	1820	3380
15	2160	5190	3800	1880	2430	4280	5720	2210	1010	2520	1920	3780
16	2260	5030	3730	1900	2460	4690	5650	2170	1010	2740	1920	4060
17	2250	5310	3460	1860	2410	5070	5440	2280	1120	2930	1950	4280
18	2390	5480	3240	1830	2340	5510	5240	2410	1070	3100	1880	4540
19	2550	5620	3230	1860	2330	6020	4930	2460	1100	3240	1760	4710
20	2600	5660	3150	1860	2300	6520	5040	2410	1150	3270	1690	4850
21	2420	6180	3080	1840	2290	6910	4920	2370	1010	3220	1660	4990
22	2320	6200	3060	1850	2240	7300	4680	2390	1060	3170	1570	5060
23	2310	6230	3100	1890	2260	7770	4400	2360	1060	3080	1650	5220
24	2430	6170	3000	1900	2260	8090	4270	2330	1130	2940	1460	5440
25	2510	6120	2750	1850	2240	8160	4260	2330	1030	3020	1350	5810
26	2500	5960	2670	1920	2240	8480	4110	2300	986	2920	1450	6150
27	2660	5900	2680	1780	2260	8650	3970	2240	1080	2660	1580	6450
28	2700	5800	2550	1900	2140	8670	3700	2160	1270	2540	1600	6750
29	2680	5640	2540	1980	---	8690	3760	2090	1390	2450	1660	7220
30	2700	5320	2510	1970	---	8760	3700	1960	1540	2350	1770	7610
31	2710	---	2520	1980	---	8600	---	1870	---	2280	1870	---
TOTAL	65750	151410	116100	62270	63250	155970	175510	80060	34074	79490	56280	117340
MEAN	2121	5047	3745	2009	2259	5031	5850	2583	1136	2564	1815	3911
MAX	2710	6230	5260	2500	2510	8760	8530	3620	1850	3270	2180	7610
MIN	1440	2860	2510	1780	1920	2000	3700	1870	860	1870	1350	1810
CFSM	.81	1.92	1.42	.76	.86	1.91	2.22	.98	.43	.98	.69	1.49
IN.	.93	2.14	1.64	.88	.89	2.21	2.48	1.13	.48	1.12	.80	1.66
CAL YR 1985	TOTAL	934306	MEAN	2560	MAX	6860	MIN	181	CFSM	.97	IN	13.22
WTR YR 1986	TOTAL	1157504	MEAN	3171	MAX	8760	MIN	860	CFSM	1.21	IN	16.37

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records are good

AVERAGE DISCHARGE.--12 years, 4.34 ft³/s, 3.45 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.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Nov. 1	2045	105	5.72	Mar. 19	0145	*123	*5.86

Minimum discharge, 1.1 ft³/s Jan. 9, result of freezeup, gage height, 3.88 ft.

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

4.0	1.4	4.6	9.6
4.2	2.2	4.8	20
4.3	2.8	5.0	34
4.4	3.7	5.5	80
4.5	5.3		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	78	3.0	2.4	2.3	2.4	4.6	2.8	2.8	3.2	3.1	2.0
2	2.5	41	2.0	2.4	2.5	2.5	3.7	2.6	2.6	3.1	2.9	1.9
3	2.3	13	3.1	2.3	2.5	2.7	5.4	2.5	2.5	2.8	2.8	2.0
4	2.6	6.9	3.1	2.3	5.3	2.9	4.5	2.5	2.5	2.8	2.8	2.0
5	3.2	4.9	3.1	2.2	11	3.1	4.6	2.8	2.5	2.7	2.8	1.8
6	2.4	7.0	3.1	2.4	7.7	3.1	4.1	2.6	2.6	2.8	7.2	1.8
7	2.2	9.0	3.1	2.2	5.9	2.8	3.8	2.4	2.7	2.9	4.2	1.8
8	2.3	4.8	3.1	2.2	5.1	2.8	3.6	2.3	2.5	7.9	4.0	1.9
9	5.3	4.5	3.1	1.4	4.8	2.8	3.4	2.3	2.3	4.4	3.1	3.7
10	7.9	4.5	3.1	1.5	4.3	19	3.3	2.2	5.6	16	5.1	11
11	3.9	4.7	3.1	2.1	3.9	20	3.3	2.4	3.9	27	3.7	32
12	18	7.5	2.9	2.2	3.5	14	3.3	2.5	2.9	13	2.9	9.8
13	6.8	19	2.9	1.7	3.1	14	3.2	6.2	2.5	6.3	2.8	4.1
14	4.0	16	2.9	1.8	3.0	17	7.3	7.8	3.2	4.7	4.5	3.4
15	3.4	7.9	2.9	2.3	2.7	18	4.6	7.1	3.0	5.3	3.2	3.1
16	3.0	28	2.9	2.6	2.8	24	3.7	7.3	2.7	4.5	2.9	2.9
17	2.8	11	2.8	2.9	2.7	33	3.4	24	2.4	3.9	2.9	2.9
18	4.2	31	2.6	2.8	2.7	73	3.2	17	2.4	3.8	2.7	2.8
19	6.8	23	2.7	2.8	2.7	79	3.2	6.0	2.4	3.6	2.5	2.9
20	4.4	8.9	2.7	2.8	2.9	28	3.2	4.4	2.3	3.5	2.2	3.0
21	3.5	5.2	2.6	2.8	2.6	16	3.1	3.6	2.2	3.4	2.2	12
22	3.2	4.7	2.7	2.8	2.5	23	2.9	3.4	5.5	3.3	2.0	14
23	7.8	4.4	2.8	2.8	2.4	27	2.9	3.2	3.0	3.0	2.0	8.7
24	16	3.9	2.7	2.8	2.3	20	2.8	3.0	2.5	2.8	1.9	9.7
25	5.1	3.8	2.5	2.8	2.4	19	3.0	2.9	2.5	5.5	1.9	41
26	4.0	3.7	2.4	2.5	2.4	16	5.7	2.8	2.5	3.4	34	12
27	3.4	3.6	2.3	2.3	2.5	10	3.2	3.3	7.2	3.8	11	6.1
28	3.1	3.5	2.4	2.5	2.3	6.5	3.0	3.3	3.7	9.8	3.4	4.4
29	2.9	3.0	2.4	2.4	---	4.8	2.8	3.2	3.2	3.9	2.7	22
30	2.8	2.9	2.4	2.3	---	4.2	3.1	3.0	3.0	3.5	2.4	18
31	5.1	---	2.4	2.2	---	4.0	---	2.9	---	3.3	2.2	---
TOTAL	147.8	369.3	85.8	73.5	100.8	514.6	111.9	144.3	91.6	169.9	134.0	244.7
MEAN	4.77	12.3	2.77	2.37	3.60	16.6	3.73	4.65	3.05	5.48	4.32	8.16
MAX	18	78	3.1	2.9	11	79	7.3	24	7.2	27	34	41
MIN	2.2	2.9	2.0	1.4	2.3	2.4	2.8	2.2	2.2	2.7	1.9	1.8
CFSM	.26	.67	.15	.13	.20	.91	.20	.25	.17	.30	.24	.45
IN.	.30	.75	.17	.15	.20	1.05	.23	.29	.19	.35	.27	.50
CAL YR 1985	TOTAL	2336.89	MEAN	6.40	MAX	310	MIN	.88	CFSM	.35	IN	4.75
WTR YR 1986	TOTAL	2188.20	MEAN	6.00	MAX	79	MIN	1.4	CFSM	.33	IN	4.45

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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)
MAY , 1986									
17...	1605	32	3.0	.780	2.9	3.7	6.7	1.10	.460
17...	2000	47	4.9	.630	4.0	4.6	9.5	1.50	.330
18...	0305	28	8.6	1.20	3.0	4.2	13	1.20	.810
JUL									
10...	1715	37	.80	.070	1.9	2.0	2.8	.850	.140
10...	2015	47	1.6	.390	4.4	4.8	6.4	2.60	.200
11...	0015	33	4.7	.280	2.4	2.7	7.4	1.40	.210
11...	0515	23	7.2	.860	3.4	4.3	12	1.20	.700
AUG									
26...	1325	58	2.8	.520	1.4	1.9	4.7	1.40	.320
26...	1340	59	3.0	.500	1.4	1.9	4.9	1.10	.350
SEP									
29...	0615	31	2.8	1.70	1.7	3.4	6.2	.780	.310
29...	0815	30	2.9	.990	2.3	3.3	6.2	.740	.280
29...	1700	26	13	3.00	2.0	5.0	18	.860	.290

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
NOV , 1985				
01...	0815	71	393	75
01...	1215	68	321	59
01...	1515	83	299	67
01...	1815	98	417	110
01...	2115	105	405	115
02...	0215	77	281	58
02...	1015	38	165	17
16...	0330	27	361	26
16...	0600	34	473	43
16...	1000	40	609	66
16...	1630	27	354	26
18...	1800	45	498	61
18...	1900	44	390	46
18...	2030	45	332	40
18...	2330	42	500	57
19...	0700	27	244	18
MAR , 1986				
10...	1245	27	176	13
10...	1315	29	221	17
10...	1415	32	246	21
10...	1715	28	144	11
11...	0045	23	49	3.0
16...	1515	25	44	3.0
16...	1915	34	84	7.7
17...	1115	23	30	1.9
17...	1415	27	52	3.8
17...	1715	42	196	22
20...	1315	23	212	13
22...	1915	38	212	22
24...	0715	18	45	2.2
24...	1630	20	133	7.2
24...	2230	20	49	2.6
MAY				
13...	2105	9.6	168	4.4
17...	1530	27	208	15
17...	1705	35	259	24
17...	1905	45	1120	136
17...	2100	48	490	64
17...	2400	38	267	27
18...	0405	26	109	7.7

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
MAY , 1986				
28...	0945		3.3	41
JUN				
27...	1610		8.0	164
27...	1611		8.0	186
JUL				
10...	1600	27	116	8.5
10...	1615	41	279	31
10...	1815	26	1030	72
10...	1915	45	1010	123
10...	2215	38	1600	164
11...	0215	29	576	45
11...	0815	28	354	27
11...	1015	33	1030	92
11...	1016	33	780	69
11...	1115	28	482	36
11...	1315	31	383	32
11...	1615	28	105	7.9
11...	1915	24	74	4.8
11...	2330	19	275	14
11...	2400	19	266	14
SEP				
25...	0800	49	324	43
25...	1400	32	197	17
25...	1415	34	152	14
25...	1416	34	182	17
25...	1430	34	164	15
25...	1431	34	170	16
25...	1545	31	131	11
25...	1745	27	102	7.4
25...	1945	24	104	6.7
26...	0820	12	46	1.5
26...	0821	12	40	1.3
29...	0530	22	180	11
29...	0545	25	305	21
29...	0645	30	365	30
29...	0745	26	396	28
29...	0845	30	354	29
29...	0945	28	428	32
29...	1015	30	416	34
29...	1018	29	360	28
29...	1020	29	382	30

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharge: None. Records are good except those for flow less than 0.3 ft³/s, which are poor.

AVERAGE DISCHARGE.--10 years (1977-86), 1.44 ft³/s, 5.94 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, 303 ft³/s Sept. 29, gage height, 2.85 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 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	42	.00	.00	.13	.21	2.0	.13	.00	.00	.01	.00
2	.01	1.8	.00	.00	.35	1.2	.22	.03	.00	.00	.00	.00
3	.04	.23	.01	.00	.28	1.2	3.7	.00	.00	.00	.00	.09
4	2.0	.18	.06	.00	8.1	1.3	1.1	.00	.00	.00	.00	.04
5	.88	.10	.06	.00	3.2	.61	1.2	.43	.00	.00	.01	.00
6	.05	3.8	.04	.00	.52	.27	.18	.14	.00	.00	12	.00
7	.01	.48	.00	.00	.16	.07	.12	.01	.00	.20	1.0	.00
8	1.1	.43	.00	.00	.21	.00	.12	.00	.00	9.7	.56	.03
9	8.2	2.4	.00	.00	.13	.90	.12	.01	.00	.30	.02	10
10	2.1	.86	.06	.00	.00	21	.12	.08	7.3	18	3.6	30
11	.22	.36	.17	.01	.00	5.0	.07	.38	1.5	1.7	.07	12
12	15	2.2	.12	.03	.00	.60	.42	.26	.17	.25	.00	.14
13	.24	4.1	.02	.01	.00	3.0	.14	9.5	.05	.04	.00	.02
14	.12	1.4	.00	.00	.00	1.8	7.6	2.3	2.5	.00	3.0	.39
15	.05	.60	.00	.00	.00	1.3	.28	7.8	.13	1.5	.00	.01
16	.00	7.9	.00	.01	.00	2.8	.08	.83	.01	.24	.00	.00
17	.00	2.5	.00	.30	.00	3.5	.00	17	.00	.06	.00	1.1
18	4.2	11	.00	1.0	.07	21	.00	.75	.00	.06	.00	.16
19	1.5	.84	.00	.49	.68	6.9	.00	.08	.00	.06	.00	.21
20	.49	.18	.00	.18	.47	.37	.04	.08	.01	.01	.00	.07
21	.20	.12	.00	.19	.16	.34	.07	.05	.01	.00	.00	7.3
22	.19	.09	.00	.33	.06	1.1	.13	.06	8.4	.00	.00	1.2
23	16	.12	.00	.14	.01	1.2	.18	.00	.22	.00	.00	6.1
24	1.2	.10	.00	.08	.06	.59	.06	.00	.07	.00	.00	15
25	.17	.00	.00	.08	.12	1.4	1.6	.01	.06	5.9	.00	12
26	.11	.43	.00	.05	.17	1.1	9.1	.02	.06	.05	35	.21
27	.00	.16	.00	.00	.13	.42	.17	1.0	9.5	4.3	.30	.05
28	.06	.06	.00	.00	.01	.54	.29	.11	.08	5.5	.01	1.2
29	.68	.00	.00	.00	---	.46	.74	.06	.06	.16	.00	29
30	.02	.00	.00	.00	---	.34	1.4	.06	.01	.06	.00	5.5
31	10	---	.00	.00	---	.25	---	.00	---	.06	.00	---
TOTAL	64.85	84.44	.54	2.90	15.02	80.77	31.25	41.18	30.14	48.15	55.58	131.82
MEAN	2.09	2.81	.017	.094	.54	2.61	1.04	1.33	1.00	1.55	1.79	4.39
MAX	16	42	.17	1.0	8.1	21	9.1	17	9.5	18	35	30
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.64	.85	.005	.03	.16	.79	.32	.40	.30	.47	.54	1.33
IN.	.73	.95	.01	.03	.17	.91	.35	.47	.34	.54	.63	1.49

CAL YR 1985 TOTAL 495.15 MEAN 1.36 MAX 42 MIN .00 CFSM .41 IN 5.60
WTR YR 1986 TOTAL 586.64 MEAN 1.61 MAX 42 MIN .00 CFSM .49 IN 6.63

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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT , 1985					APR , 1986				
12...	0330	23	659	41	26...	0330	41	258	29
12...	0400	96	348	90	26...	0600	9.2	80	2.0
12...	0415	131	536	190	MAY				
12...	0500	63	243	41	13...	1520	22	550	33
23...	1550	14	583	22	13...	1605	42	346	39
23...	1620	52	369	52	13...	1820	31	117	9.8
23...	1650	65	219	38	JUN				
23...	1820	42	125	14	22...	0130	23	1410	88
23...	1935	64	106	18	22...	0200	38	164	17
23...	2005	83	106	24	22...	0215	47	292	37
23...	2235	31	107	9.0	22...	0315	24	114	7.4
NOV					22...	0500	11	32	.95
01...	1125	37	60	6.0	JUL				
01...	1345	36	46	4.5	08...	0055	22	585	35
01...	1445	65	49	8.6	08...	0125	72	234	45
01...	1545	82	95	21	08...	0155	100	168	45
01...	1645	64	101	17	08...	0310	42	192	22
01...	1745	48	84	11	08...	0455	10	30	.81
01...	2005	20	97	5.2	25...	0125	15	818	33
16...	0055	18	330	16	25...	0155	69	410	76
16...	0115	43	327	38	25...	0240	57	222	34
16...	0135	55	339	50	25...	0440	11	35	1.0
16...	0235	34	167	15	27...	2245	42	835	95
16...	0455	12	89	2.9	27...	2315	112	507	153
FEB , 1986					27...	2400	64	291	50
04...	1340	19	198	10	28...	0200	30	94	7.6
04...	1540	18	110	5.3	AUG				
04...	1825	14	76	2.9	26...	0735	16	288	12
MAR					26...	0745	163	743	327
17...	2330	20	478	26	26...	0845	109	387	114
18...	0630	9.6	192	5.0	26...	0930	198	439	235
18...	0725	35	578	55	26...	1100	70	236	45
18...	1125	14	118	4.5	26...	1330	45	108	13
18...	1655	18	267	13	SEP				
APR					10...	1215	40	113	12
14...	0945	9.6	430	11	10...	1216	40	113	12
14...	1015	29	655	51	10...	1430	51	206	28
14...	1045	71	649	124	10...	1845	6.7	122	2.2
14...	1215	33	167	15	10...	1930	151	714	291
14...	1415	10	61	1.6	10...	2100	58	313	49
25...	2330	10	871	24	29...	0200	11	680	20
25...	2400	13	885	31	29...	0225	215	1200	697
26...	0030	17	448	21	29...	0355	75	279	56
26...	0130	41	434	48	29...	0525	91	128	31
26...	0200	74	641	128	29...	1025	15	74	3.0

05428000 LAKE MENDOTA AT MADISON, WI

LOCATION.--Lat 43°05'42", long 89°22'12", in SE 1/4 sec.12, T.7 N., R.9 E., Dane County, Hydrologic Unit 07090001, in city boat house at dam at outlet, in Madison.

DRAINAGE AREA.--233 mi². Area of Lake Mendota, 15.2 mi².

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 above 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.--Estimated daily lake levels: Oct. 31 to Nov. 4, June 21, 22, 28, 29, and July 4, 5, 11, 13, 19, 20, 26, and 27. Lake level regulated by concrete dam with two 12-foot gates and 20-foot lock at outlet. Gage-height telemeter at station.

COOPERATION.--Once-daily lake level readings were provided by Dane County Department of Public Works during June 20 to July 29.

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, 11.28 ft Nov. 19; minimum, 8.90 ft Feb. 3.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.48	10.60	10.96	9.94	8.97	9.23	10.32	9.97	9.94	9.95	10.04	10.18
2	10.43	10.86	11.00	9.92	8.96	9.23	10.30	9.95	9.89	9.95	10.02	10.19
3	10.39	10.86	10.94	9.90	8.95	9.23	10.30	9.94	9.86	9.90	9.99	10.19
4	10.41	10.85	10.92	9.88	9.02	9.23	10.32	9.91	9.84	9.90	9.97	10.20
5	10.41	10.85	10.90	9.85	9.13	9.23	10.32	9.92	9.81	9.90	9.96	10.19
6	10.34	10.85	10.87	9.82	9.16	9.22	10.31	9.92	9.79	9.90	10.02	10.17
7	10.31	10.88	10.82	9.79	9.17	9.22	10.31	9.90	9.79	10.00	10.06	10.15
8	10.29	10.87	10.79	9.75	9.18	9.22	10.30	9.87	9.78	10.00	10.09	10.13
9	10.31	10.91	10.75	9.71	9.18	9.22	10.26	9.83	9.75	9.95	10.08	10.12
10	10.32	10.93	10.73	9.68	9.18	9.27	10.21	9.80	9.78	10.10	10.12	10.23
11	10.30	10.90	10.69	9.65	9.19	9.34	10.17	9.77	9.84	10.10	10.10	10.41
12	10.36	10.90	10.65	9.60	9.19	9.38	10.14	9.75	9.85	10.10	10.09	10.52
13	10.39	10.92	10.60	9.58	9.20	9.41	10.10	9.73	9.83	10.15	10.07	10.57
14	10.39	10.94	10.56	9.54	9.19	9.44	10.11	9.77	9.83	10.20	10.07	10.58
15	10.39	10.93	10.52	9.50	9.19	9.47	10.12	9.79	9.84	10.15	10.08	10.59
16	10.36	10.99	10.49	9.46	9.19	9.51	10.10	9.85	9.85	10.15	10.09	10.55
17	10.35	11.01	10.45	9.43	9.18	9.55	10.07	9.92	9.82	10.15	10.08	10.52
18	10.37	11.06	10.42	9.40	9.19	9.67	10.02	9.99	9.81	10.15	10.06	10.52
19	10.40	11.13	10.38	9.36	9.19	9.85	10.00	9.99	9.82	10.15	10.04	10.49
20	10.40	11.11	10.34	9.33	9.21	9.98	9.98	10.00	9.80	10.15	10.03	10.47
21	10.40	11.07	10.30	9.29	9.21	10.08	9.96	9.99	9.80	10.15	10.01	10.48
22	10.39	11.07	10.27	9.26	9.21	10.13	9.90	9.98	9.85	10.10	9.99	10.52
23	10.40	11.04	10.24	9.23	9.20	10.18	9.85	9.98	9.90	10.00	9.98	10.56
24	10.49	11.01	10.22	9.19	9.21	10.24	9.82	9.98	9.90	9.95	9.96	10.58
25	10.48	10.98	10.18	9.17	9.21	10.27	9.83	9.97	9.90	10.00	9.94	10.73
26	10.47	10.97	10.15	9.13	9.24	10.31	9.88	9.96	9.90	10.04	10.09	10.78
27	10.46	10.94	10.12	9.09	9.24	10.31	9.91	9.97	9.91	10.08	10.19	10.80
28	10.44	10.92	10.08	9.05	9.24	10.31	9.92	9.98	9.91	10.10	10.19	10.81
29	10.42	10.89	10.05	9.03	---	10.32	9.93	9.97	9.91	10.10	10.19	10.94
30	10.41	10.87	10.01	8.99	---	10.33	9.95	9.97	9.91	10.04	10.19	11.03
31	10.42	---	9.98	8.96	---	10.31	---	9.96	---	10.05	10.18	---
MEAN	10.39	10.94	10.50	9.47	9.16	9.70	10.09	9.91	9.85	10.05	10.06	10.47
MAX	10.49	11.13	11.00	9.94	9.24	10.33	10.32	10.00	9.94	10.20	10.19	11.03
MIN	10.29	10.60	9.98	8.96	8.95	9.22	9.82	9.73	9.75	9.90	9.94	10.12
WTR YR 1986	MEAN	10.05	MAX	11.13	MIN	8.95						

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 above 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, nonrecording gage at same site and datum.

REMARKS.--Records good, no estimated daily lake levels. Lake level regulated by concrete dam with four 12-foot stop-log sections and 12-foot lock at outlet of Lake Waubesa. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 7.27 ft July 28, 1929; minimum observed, 3.22 ft Jan. 20, 1965, current datum.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 6.27 ft Sept. 30; minimum, 4.69 ft Mar. 9.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.66	5.94	6.01	6.02	5.70	4.80	5.29	5.03	5.05	5.02	5.31	5.35
2	5.66	6.08	6.03	6.01	5.64	4.78	5.31	4.97	5.05	4.99	5.26	5.34
3	5.66	6.09	6.01	6.03	5.58	4.77	5.34	4.93	5.05	4.99	5.21	5.34
4	5.67	6.07	6.03	6.03	5.59	4.76	5.36	4.90	5.07	4.98	5.18	5.32
5	5.66	6.04	6.04	6.03	5.65	4.76	5.38	4.89	5.09	5.00	5.15	5.29
6	5.66	6.04	6.03	6.02	5.60	4.73	5.36	4.90	5.09	5.00	5.22	5.26
7	5.67	6.03	6.05	6.02	5.54	4.71	5.35	4.90	5.07	4.99	5.23	5.23
8	5.69	6.01	6.06	6.02	5.48	4.71	5.33	4.93	5.07	5.08	5.22	5.20
9	5.76	6.02	6.07	6.00	5.42	4.70	5.32	4.95	5.07	5.12	5.20	5.22
10	5.83	6.02	6.09	5.99	5.37	4.76	5.33	4.98	5.10	5.20	5.21	5.38
11	5.84	5.98	6.08	5.98	5.32	4.84	5.34	5.00	5.14	5.35	5.19	5.62
12	5.94	5.96	6.08	5.97	5.26	4.87	5.36	5.04	5.13	5.38	5.19	5.66
13	5.96	5.97	6.08	5.96	5.22	4.89	5.37	5.06	5.13	5.37	5.19	5.67
14	5.94	5.95	6.07	5.96	5.17	4.92	5.42	5.03	5.15	5.38	5.22	5.68
15	5.92	5.95	6.06	5.96	5.13	4.94	5.45	5.03	5.18	5.40	5.23	5.67
16	5.89	5.98	6.07	5.95	5.09	4.97	5.44	5.03	5.17	5.42	5.23	5.68
17	5.86	5.97	6.07	5.95	5.04	5.02	5.44	5.09	5.18	5.42	5.24	5.71
18	5.86	6.06	6.06	5.94	5.01	5.14	5.45	5.14	5.17	5.43	5.24	5.74
19	5.88	6.11	6.06	5.93	4.98	5.27	5.43	5.11	5.16	5.43	5.23	5.78
20	5.86	6.10	6.06	5.92	4.97	5.29	5.42	5.08	5.16	5.41	5.23	5.81
21	5.83	6.10	6.06	5.91	4.96	5.29	5.39	5.06	5.13	5.40	5.23	5.89
22	5.81	6.09	6.05	5.89	4.94	5.28	5.38	5.04	5.20	5.39	5.22	5.91
23	5.83	6.06	6.05	5.87	4.91	5.25	5.37	5.02	5.18	5.38	5.20	5.94
24	5.89	6.03	6.06	5.85	4.88	5.23	5.35	5.01	5.15	5.37	5.19	5.95
25	5.87	6.02	6.06	5.84	4.86	5.23	5.29	5.01	5.11	5.45	5.19	6.12
26	5.85	6.00	6.06	5.80	4.87	5.25	5.29	5.01	5.08	5.44	5.37	6.13
27	5.81	5.97	6.06	5.81	4.84	5.25	5.24	5.01	5.13	5.41	5.45	6.12
28	5.78	5.95	6.05	5.80	4.82	5.26	5.19	5.00	5.12	5.45	5.41	6.11
29	5.75	5.93	6.04	5.79	---	5.26	5.13	5.00	5.09	5.43	5.39	6.20
30	5.72	5.93	6.04	5.77	---	5.26	5.11	5.00	5.06	5.40	5.37	6.25
31	5.71	---	6.02	5.74	---	5.25	---	5.02	---	5.36	5.36	---
MEAN	5.80	6.02	6.05	5.93	5.21	5.01	5.34	5.01	5.12	5.29	5.25	5.69
MAX	5.96	6.11	6.09	6.03	5.70	5.29	5.45	5.14	5.20	5.45	5.45	6.25
MIN	5.66	5.93	6.01	5.74	4.82	4.70	5.11	4.89	5.05	4.98	5.15	5.20
CAL YR 1985	MEAN	5.53	MAX	6.11	MIN	4.84						
WTR YR 1986	MEAN	5.48	MAX	6.25	MIN	4.70						

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 above 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.--No estimated daily discharges. Records fair. Flow regulated by dams at outlets of Lake Mendota and Lake Waubesa. The Madison Metropolitan Sewerage District diverted an average of 55 ft³/s of effluent into the Badfish Creek basin during 1986 water year. The data were provided 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 for Lake Waubesa stage.

AVERAGE DISCHARGE.--56 years, 157 ft³/s, 6.52 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, 415 ft³/s Feb. 5, gage height, 5.33 ft; maximum gage height, 5.94 ft Sept. 30, backwater from aquatic vegetation; minimum, 71 ft³/s Aug. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	194	315	358	364	410	248	346	278	166	95	151	109
2	192	366	386	364	402	242	345	262	163	92	142	110
3	193	371	372	366	392	236	347	244	160	88	131	110
4	204	368	361	366	397	232	354	227	159	81	122	114
5	214	362	355	367	412	229	363	214	157	79	113	111
6	209	357	355	363	404	225	363	210	157	80	119	104
7	206	360	357	360	392	225	360	206	159	83	120	98
8	202	353	362	355	379	215	357	201	156	93	120	93
9	221	358	366	352	368	208	352	198	151	100	115	91
10	243	359	372	357	358	218	347	197	152	109	115	122
11	248	349	376	361	347	237	343	200	160	137	112	170
12	279	342	377	367	336	244	343	206	163	156	104	189
13	295	343	381	368	327	251	346	211	156	164	96	191
14	295	348	383	370	320	258	353	213	155	165	96	192
15	292	342	384	373	312	266	366	211	157	166	99	193
16	285	348	389	376	305	272	370	216	156	171	98	193
17	276	346	388	381	298	285	368	224	151	171	97	194
18	277	361	386	384	293	311	363	235	146	170	96	203
19	283	377	384	386	289	348	360	228	143	171	93	210
20	282	379	383	385	288	357	360	217	134	171	90	217
21	278	373	381	383	291	354	360	208	124	166	88	236
22	274	369	382	382	285	347	355	198	137	162	84	252
23	274	363	382	379	279	346	347	192	137	157	83	260
24	296	360	383	377	274	343	339	185	128	152	78	267
25	295	352	379	379	270	338	333	179	116	165	74	299
26	288	350	379	384	269	344	342	176	105	167	94	309
27	283	347	378	403	264	345	327	174	109	162	115	310
28	277	340	375	402	256	345	310	173	110	172	113	313
29	270	342	372	406	---	345	296	169	105	169	111	331
30	264	342	370	405	---	346	287	168	100	164	108	346
31	263	---	368	405	---	340	---	167	---	159	107	---
TOTAL	7952	10642	11624	11670	9217	8900	10402	6387	4272	4337	3284	5937
MEAN	257	355	375	376	329	287	347	206	142	140	106	198
MAX	296	379	389	406	412	357	370	278	166	172	151	346
MIN	192	315	355	352	256	208	287	167	100	79	74	91
CFSM	.79	1.09	1.15	1.15	1.01	.88	1.06	.63	.43	.43	.32	.61
IN.	.90	1.21	1.32	1.33	1.05	1.01	1.18	.73	.49	.49	.37	.68
CAL YR 1985	TOTAL	89129	MEAN	244	MAX	417	MIN	40	CFSM	.75	IN	10.14
WTR YR 1986	TOTAL	94624	MEAN	259	MAX	412	MIN	74	CFSM	.79	IN	10.76

ROCK RIVER BASIN

05430095 BADFISH CREEK AT COUNTY HIGHWAY A NEAR STOUGHTON, WI

LOCATION.--Lat 42°53'37", long 89°17'55", in NW 1/4 SE 1/4 sec.15, T.5 N., R.10 E., Dane County, Hydrologic Unit 07090001, on right bank 75 ft upstream from bridge on County Highway A, 4.4 mi southwest of Stoughton, and 9.5 mi upstream from mouth.

DRAINAGE AREA.--41.9 mi², of which 1.5 mi² is noncontributing.

PERIOD OF RECORD.--May 1956 to September 1966, December 1985 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 873.05 ft above National Geodetic Vertical Datum of 1929. May 1956 to September 1966, site 0.5 mi downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 1-5, Mar. 26 to Apr. 1, and June 16. Records are fair. Approximately 73 percent of flow is effluent from Nine Springs treatment plant. (Data provided by Madison Metropolitan Sewerage District.) The Sewerage District began discharging into the basin in December 1958.

AVERAGE DISCHARGE.--7 years (1959-66), 52.5 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 871 ft³/s Jan. 13, 1960, gage height, 4.60 ft; minimum, 3.4 ft³/s Nov. 26, 1958, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 272 ft³/s Sept. 28, gage height, 4.91 ft; minimum daily, 69 ft³/s Dec. 29 and May 26.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Apr. 25 to July 4, and Aug. 27-30.)

3.2	65	4.0	153
3.5	91	4.5	222

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			86	70	77	76	98	87	70	73	78	79
2			90	70	77	77	98	84	71	74	76	84
3			88	72	78	80	100	81	73	73	73	84
4			86	71	94	83	100	79	75	72	74	84
5			86	70	102	86	105	82	74	70	75	83
6			84	71	87	86	97	82	74	71	81	79
7			82	72	84	84	97	81	73	72	78	76
8			79	73	81	81	96	80	71	78	78	78
9			80	75	78	81	95	79	71	75	75	83
10			80	76	79	159	92	76	75	78	74	103
11			78	75	78	130	95	75	75	83	74	107
12			78	74	77	109	94	77	74	79	74	89
13			76	76	75	116	91	78	73	76	74	80
14			73	77	75	132	102	79	73	78	76	77
15			73	76	73	121	101	80	71	82	75	77
16			73	75	72	133	97	81	72	84	72	77
17			74	77	74	139	96	94	73	83	70	77
18			74	78	74	184	95	90	73	84	71	78
19			74	76	76	162	93	79	74	81	72	76
20			75	78	78	112	90	77	74	78	72	74
21			74	80	78	102	93	74	72	81	73	80
22			72	79	77	98	93	74	75	82	73	83
23			74	79	74	95	93	74	75	82	71	93
24			74	80	76	96	92	72	77	82	70	82
25			70	78	78	95	91	70	77	90	74	135
26			70	77	78	98	98	69	81	79	97	91
27			72	79	77	96	87	75	92	76	94	84
28			71	79	77	94	88	74	85	82	90	118
29			69	78	---	92	88	74	81	80	88	178
30			71	78	---	90	91	73	78	80	83	126
31			71	78	---	96	---	72	---	79	80	---
TOTAL			2377	2347	2204	3283	2846	2422	2252	2437	2385	2715
MEAN			76.7	75.7	78.7	106	94.9	78.1	75.1	78.6	76.9	90.5
MAX			90	80	102	184	105	94	92	90	97	178
MIN			69	70	72	76	87	69	70	70	70	74

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. Elevation of gage is 810 ft, from topographic map.

REMARKS.--Estimated daily discharges: Feb. 19 to Mar. 12, and ice periods listed in rating tables below. Records good except for estimated daily discharges, which are fair. Approximately 51 percent of flow is effluent from Nine Springs treatment plant. (Data provided by Madison Metropolitan Sewerage District.)

AVERAGE DISCHARGE.--9 years, 103 ft³/s.

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, 460 ft³/s Nov. 2, gage height, 6.59 ft; minimum daily, 82 ft³/s Sept. 1.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 14, 18-20, 24-30, Jan. 6-9, and 27-29.)

4.6	72	6.0	329
5.0	143	7.0	548

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	305	134	93	98	110	140	106	94	100	107	82
2	91	337	135	95	96	110	134	99	94	99	104	88
3	89	190	130	99	101	110	142	96	99	100	100	94
4	102	161	126	94	140	110	147	92	100	90	97	94
5	97	148	122	93	189	120	150	97	94	85	104	91
6	89	141	120	94	149	120	136	100	96	90	120	87
7	86	156	115	96	139	120	133	96	97	91	116	84
8	102	136	112	98	130	110	128	94	91	110	111	86
9	125	144	113	98	123	110	127	93	91	103	103	104
10	138	150	117	97	121	270	120	90	106	106	99	185
11	113	137	114	96	119	230	120	89	109	122	99	189
12	188	146	113	96	115	200	116	93	96	110	104	135
13	147	180	109	98	114	216	114	96	93	98	102	111
14	109	183	110	99	114	255	137	106	98	91	118	101
15	105	158	104	100	114	230	143	109	98	101	112	103
16	105	185	106	100	106	243	130	118	96	119	106	104
17	101	161	107	104	109	259	125	145	93	117	101	111
18	104	215	100	103	112	322	121	174	93	118	95	120
19	120	219	100	97	110	307	117	122	93	117	97	111
20	105	167	100	96	110	207	114	113	100	110	95	107
21	104	146	98	103	110	178	115	105	96	109	95	131
22	105	140	97	105	110	162	115	108	107	113	94	130
23	112	130	100	101	100	159	114	104	96	114	91	166
24	190	123	100	103	110	151	115	102	101	116	86	137
25	129	124	98	95	110	152	114	99	99	145	90	255
26	113	128	98	95	110	158	126	92	106	122	133	162
27	102	125	100	96	110	144	108	101	169	116	113	139
28	100	119	98	98	110	140	106	104	119	123	97	156
29	102	110	94	96	---	136	105	101	104	115	96	365
30	100	111	98	97	---	132	116	99	98	110	89	244
31	105	---	99	99	---	129	---	99	---	106	84	---
TOTAL	3473	4875	3367	3034	3279	5400	3728	3242	3026	3366	3158	4072
MEAN	112	163	109	97.9	117	174	124	105	101	109	102	136
MAX	190	337	135	105	189	322	150	174	169	145	133	365
MIN	86	110	94	93	96	110	105	89	91	85	84	82
CAL YR 1985	TOTAL	42223	MEAN	116	MAX	524	MIN	75				
WTR YR 1986	TOTAL	44020	MEAN	121	MAX	365	MIN	82				

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: None, except for ice periods listed in rating tables below. Records good except for ice-affected periods, which are fair. Diurnal fluctuation caused by powerplant at Stebbensville 1.5 mi upstream, and additional regulation from other dams and powerplants upstream.

AVERAGE DISCHARGE.--9 years, 374 ft³/s, 9.82 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, 1,220 ft³/s Nov. 2, gage height, 5.69 ft; maximum gage height, 6.16 ft Dec. 26, backwater from ice; minimum daily, 129 ft³/s Sept. 1, 7.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 13 to Jan. 16, and Jan. 26, 27.)

3.1	111	4.5	561
3.5	210	5.0	796
4.0	366	6.0	1,410

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	369	807	634	500	588	441	635	576	371	279	286	129
2	285	995	629	500	575	471	646	567	376	299	295	172
3	359	707	618	520	580	476	663	560	354	308	313	173
4	340	712	576	500	651	483	689	544	228	360	290	218
5	353	697	574	500	737	493	646	479	268	264	292	278
6	281	693	581	500	695	489	607	459	281	284	310	214
7	342	714	573	500	680	423	605	481	280	277	309	129
8	400	695	570	500	664	392	633	474	274	320	321	223
9	400	710	572	500	658	469	638	473	214	290	282	300
10	404	719	578	500	653	781	641	442	153	299	257	388
11	392	696	592	500	647	699	575	423	250	323	302	461
12	518	648	530	500	634	674	486	437	193	345	283	402
13	495	773	520	500	628	687	563	389	199	299	279	492
14	451	737	520	500	587	754	605	390	178	274	247	402
15	451	700	520	500	559	713	628	407	180	329	317	384
16	479	728	520	500	553	733	630	340	248	342	162	425
17	447	704	520	509	555	787	623	378	299	347	255	470
18	450	860	520	534	538	899	609	510	279	272	194	453
19	511	887	500	575	537	894	602	486	251	359	247	443
20	495	788	500	575	548	752	591	415	269	351	208	443
21	468	665	500	576	535	722	588	419	247	307	204	470
22	441	703	500	618	529	722	589	406	247	337	213	473
23	472	648	500	625	523	716	587	403	291	396	174	546
24	568	641	500	626	526	761	590	447	294	373	162	652
25	509	647	490	616	524	775	587	415	265	342	155	944
26	515	652	500	600	517	770	599	388	286	299	170	721
27	494	636	520	600	490	722	567	419	408	287	158	583
28	487	626	520	588	459	707	561	426	293	353	142	636
29	500	595	500	532	---	689	576	419	302	374	266	1070
30	494	543	520	592	---	595	594	398	299	301	180	875
31	499	---	520	601	---	613	---	382	---	321	215	---
TOTAL	13669	21326	16717	16787	16370	20302	18153	13752	8077	9911	7488	13569
MEAN	441	711	539	542	585	655	605	444	269	320	242	452
MAX	568	995	634	626	737	899	689	576	408	396	321	1070
MIN	281	543	490	500	459	392	486	340	153	264	142	129
CFSM	.85	1.38	1.04	1.05	1.13	1.27	1.17	.86	.52	.62	.47	.87
IN.	.98	1.53	1.20	1.21	1.18	1.46	1.31	.99	.58	.71	.54	.98

CAL YR 1985 TOTAL 166042 MEAN 455 MAX 1300 MIN 124 CFSM .88 IN 11.95
WTR YR 1986 TOTAL 176121 MEAN 483 MAX 1070 MIN 129 CFSM .93 IN 12.67

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 above 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.--Estimated daily discharges: None, except for ice periods listed in rating table below. Records are good except those for ice-affected periods, which are fair. Diurnal fluctuation caused by powerplants above station.

AVERAGE DISCHARGE.--72 years, 1,849 ft³/s, 7.52 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, 9,290 ft³/s Mar. 27, gage height, 10.58 ft; minimum daily, 1,380 ft³/s June 12 and 13.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 1-5, Dec. 13 to Jan. 19, Jan. 27 to Feb. 2, and Feb. 11-17.)

3.0	740	8.0	5,480
4.0	1,440	10.0	8,360
6.0	3,160	11.0	10,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1850	3980	6000	3100	2600	2620	9000	4040	2150	2380	2640	2070
2	1870	4460	5800	3100	2600	2600	8910	4020	2140	2470	2500	2100
3	1820	4470	5600	3100	2520	2560	8870	3910	1940	2530	2460	2140
4	1940	4500	5400	3000	2880	2510	8770	3700	1820	2510	2340	2100
5	1840	4750	5400	2900	3080	2570	8510	3450	1840	2450	2190	2090
6	1900	4920	5340	2800	3020	2530	8120	3380	1550	2490	2290	2100
7	1870	5110	5320	2700	2970	2430	7960	3380	1510	2480	2290	2090
8	1880	5250	5290	2600	2930	2460	7820	3380	1490	2480	2300	1950
9	2200	5580	5200	2600	2960	2520	7700	3250	1510	2550	2290	2060
10	2270	5830	5150	2600	2950	3840	7480	3110	1450	2440	2290	2450
11	2230	5740	5060	2600	3100	3920	7210	2940	1400	2500	2280	2580
12	2440	5650	4870	2600	3100	3820	6940	2760	1380	2450	2260	2790
13	2650	5730	4800	2600	3100	4160	6720	2690	1380	2390	2150	3150
14	2640	5880	4600	2500	3100	4800	6660	2630	1470	2410	2190	3550
15	2700	5920	4500	2400	3000	5080	6420	2570	1490	2670	2060	3900
16	2800	6040	4400	2500	3000	5450	6310	2550	1490	2960	2160	4180
17	2810	5950	4300	2500	3000	5920	6120	2620	1580	3130	2030	4470
18	2840	6460	4000	2500	2930	6470	5870	2850	1610	3260	2090	4740
19	2950	6800	3900	2500	2880	7130	5520	2900	1590	3310	1980	4930
20	3030	6500	3800	2520	2890	7490	5470	2830	1600	3450	1890	5070
21	3050	6840	3700	2500	2880	7770	5440	2730	1580	3520	1810	5310
22	3090	6990	3700	2460	2820	8070	5260	2700	1560	3440	1770	5330
23	3070	6980	3700	2520	2780	8400	5010	2690	1550	3390	1670	5510
24	3310	6890	3700	2540	2820	8650	4810	2670	1600	3330	1620	5810
25	3260	6910	3500	2520	2760	8900	4740	2660	1600	3300	1550	6630
26	3230	6770	3300	2500	2780	9130	4670	2640	1470	3260	1660	6860
27	3270	6630	3300	2500	2740	9250	4480	2620	1600	3030	1750	7030
28	3320	6530	3200	2600	2580	9260	4260	2560	1830	2940	1650	7190
29	3340	6390	3200	2600	---	9260	4100	2500	1870	2930	1760	8030
30	3330	6060	3100	2600	---	9190	4220	2400	2240	2820	1950	8450
31	3380	---	3100	2600	---	9060	---	2280	---	2730	1970	---
TOTAL	82180	176510	136230	81660	80770	177820	193370	91410	49290	88000	63840	126660
MEAN	2651	5884	4395	2634	2885	5736	6446	2949	1643	2839	2059	4222
MAX	3380	6990	6000	3100	3100	9260	9000	4040	2240	3520	2640	8450
MIN	1820	3980	3100	2400	2520	2430	4100	2280	1380	2380	1550	1950
CFSM	.79	1.76	1.32	.79	.86	1.72	1.93	.88	.49	.85	.62	1.26
IN.	.92	1.97	1.52	.91	.90	1.98	2.15	1.02	.55	.98	.71	1.41
CAL YR 1985	TOTAL	1132735	MEAN	3103	MAX	7710	MIN	358	CFSM	.93	IN	12.62
WTR YR 1986	TOTAL	1347740	MEAN	3692	MAX	9260	MIN	1380	CFSM	1.11	IN	15.01

05431014 JACKSON CREEK AT PETRIE ROAD NEAR ELKHORN, WI

LOCATION.--Lat 42°31'18", long 88°30'59", in SW 1/4 SW 1/4 sec.8, T.2 N., R.17 E., Walworth County, Hydrologic Unit 07090001, on left bank 5 ft upstream of Petrie Road bridge, 2.5 mi upstream from Delavan Lake inlet at Mounds Road, and 2.5 mi southeast of Elkhorn.

DRAINAGE AREA.--8.96 mi².

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 960 ft, from topographic map.

REMARKS.--Estimated daily discharges: None, except those for ice period listed below. Records good except for ice-affected period, which is fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 359 ft³/s Mar. 10, 1986, gage height, 8.84 ft; minimum daily, 0.07 ft³/s, Sept. 23, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 359 ft³/s Mar. 10, gage height, 8.84 ft; minimum daily, 0.14 ft³/s, Sept. 8.

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

Oct. 1 to Mar. 7					Mar. 8 to Sept. 30				
5.0	.12	6.1	11		5.0	.12	6.3	14	
5.1	.28	6.3	14		5.1	.38	6.5	19	
5.2	.61	6.5	19		5.2	.61	6.7	26	
5.3	1.2	6.7	26		5.3	1.2	7.0	46	
5.5	3.2	7.0	46		5.5	3.2	7.5	96	
5.7	5.4	7.5	89		5.7	5.4	8.0	170	
5.9	7.8	8.0	137		5.9	7.8	8.6	298	
					6.1	11			

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	71	82	.98	1.9	1.9	4.5	1.4	1.2	9.7	.52	.29
2	.15	93	52	.94	2.5	2.0	3.8	.84	.75	8.3	.43	.24
3	.15	33	21	.90	2.3	1.9	4.1	.69	.66	6.7	.35	.22
4	.62	17	14	.88	30	2.0	4.3	.78	.68	5.7	.28	.20
5	1.1	12	11	.86	27	2.1	4.0	.84	4.0	4.7	.26	.17
6	.50	10	9.1	.84	12	1.9	3.7	.74	4.1	4.7	3.0	.16
7	.32	11	8.0	.82	8.0	1.7	3.2	.53	3.1	18	5.1	.15
8	.63	9.2	7.0	.80	5.0	1.6	2.8	.42	2.1	13	3.4	.14
9	7.2	15	6.0	.80	4.0	25	2.4	.41	1.4	12	2.3	.21
10	13	37	5.2	.78	3.0	285	2.2	.41	2.0	8.7	1.7	1.1
11	7.1	18	4.5	.78	2.5	60	2.1	.45	2.6	14	1.2	2.3
12	9.9	15	4.0	.76	2.0	25	1.9	.67	1.8	10	.77	2.4
13	8.5	18	3.6	.76	1.6	55	1.8	.50	1.2	7.8	.60	1.6
14	5.7	20	3.2	.74	1.4	31	2.3	.50	2.1	6.0	.91	1.0
15	4.3	15	2.9	.74	1.2	17	3.1	.71	8.6	6.4	1.3	.71
16	3.1	39	2.7	.72	1.1	16	3.6	1.2	5.8	16	.94	.55
17	2.4	22	2.5	1.6	1.0	16	3.2	8.7	3.6	8.3	.69	.46
18	2.9	77	2.3	12	.96	25	2.8	22	2.8	6.1	.44	.41
19	14	66	2.1	13	2.0	26	2.7	10	2.3	4.7	.37	.41
20	9.0	37	1.9	11	5.4	13	2.5	6.4	1.7	3.7	.32	.41
21	7.2	16	1.8	9.0	4.3	8.4	2.3	4.7	1.2	2.7	.28	.98
22	5.8	12	1.7	11	3.5	7.4	1.8	3.7	1.5	2.3	.24	2.5
23	8.1	10	1.6	8.0	2.9	7.2	1.6	3.0	1.2	1.7	.21	9.7
24	50	8.5	1.5	5.6	2.5	6.4	1.5	2.4	.68	1.4	.18	7.0
25	16	7.6	1.4	4.1	2.2	6.4	1.5	2.0	.54	2.4	.17	92
26	11	8.0	1.3	2.9	2.7	11	1.4	1.7	.48	2.1	.61	87
27	7.7	7.3	1.2	2.3	2.3	8.7	1.1	3.4	120	1.5	1.2	51
28	6.1	6.9	1.2	1.9	2.0	7.3	1.0	3.3	54	1.6	.91	25
29	5.4	6.2	1.1	1.7	---	6.5	.79	2.7	20	1.1	.57	66
30	4.7	5.8	1.1	1.5	---	5.6	2.2	2.2	13	.72	.39	57
31	4.8	---	1.0	1.3	---	4.8	---	1.6	---	.66	.34	---
TOTAL	217.53	723.5	259.9	100.00	137.26	688.8	76.19	88.89	265.09	192.68	29.98	411.31
MEAN	7.02	24.1	8.38	3.23	4.90	22.2	2.54	2.87	8.84	6.22	.97	13.7
MAX	50	93	82	13	30	285	4.5	22	120	18	5.1	92
MIN	.15	5.8	1.0	.72	.96	1.6	.79	.41	.48	.66	.17	.14
CFSM	.78	2.69	.94	.36	.55	2.48	.28	.32	.99	.69	.11	1.53
IN.	.90	3.00	1.08	.42	.57	2.86	.32	.37	1.10	.80	.12	1.71
CAL YR 1985	TOTAL	2186.48	MEAN	5.99	MAX	93	MIN	.10	CFSM	.67	IN	9.08
WTR YR 1986	TOTAL	3191.13	MEAN	8.74	MAX	285	MIN	.14	CFSM	.98	IN	13.25

054310157 JACKSON CREEK TRIBUTARY NEAR ELKHORN, WI

LOCATION.--Lat 42°39'03", long 88°33'03", in NW 1/4 NE 1/4 sec.12, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, on left bank 200 ft downstream of State Highway 15, 1.1 mi upstream from Delavan Lake inlet at Mounds Road, and 1.5 mi south of Elkhorn.

DRAINAGE AREA.--4.34 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 930 ft, from topographic map.

REMARKS.--Estimated daily discharges: None except for ice period listed in rating tables below. Records good except for ice-affected period, which is fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 162 ft³/s Sept. 26, 1986, gage height, 9.55 ft; minimum daily, 0.25 ft³/s, July 10, 27, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 162 ft³/s Sept. 26, gage height, 9.55 ft; minimum daily, 0.43 ft³/s, Oct. 2.

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

Oct. 1 to Dec. 1

Dec. 1 (1045) to Sept. 30

5.2	.34	5.8	7.4	5.1	.33	5.8	8.2
5.3	.62	6.0	12	5.2	.50	6.0	12
5.4	1.0	6.5	23	5.3	.85	6.5	25
5.5	1.7	7.0	37	5.4	1.8	7.0	41
5.6	3.0	8.0	72	5.5	3.2	8.0	84
				5.6	4.8	9.0	140

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.47	69	62	.66	2.8	1.9	3.4	1.6	.79	3.1	.78	.66
2	.43	46	16	.64	1.6	2.5	2.4	1.2	.71	2.7	.75	.78
3	.61	13	6.0	.64	1.3	2.2	4.0	1.1	.75	2.2	.67	.68
4	10	9.2	5.0	.64	36	3.6	3.2	1.1	.85	2.0	.67	.64
5	4.2	7.6	4.7	.62	17	4.5	3.3	1.7	12	1.8	.70	.67
6	1.1	8.5	4.6	.62	7.4	3.8	2.5	1.2	2.8	26	8.8	.54
7	.85	9.1	4.5	.62	5.1	2.6	2.4	.92	1.9	25	2.2	.50
8	2.2	6.2	4.7	.60	4.0	1.9	1.9	.83	1.4	9.7	1.4	.64
9	35	20	4.5	.60	2.8	15	1.7	.83	1.0	10	.94	7.1
10	24	21	4.7	.58	2.4	110	1.5	.85	5.4	8.6	1.7	13
11	8.7	10	4.9	.58	2.3	18	1.5	.87	2.6	9.9	1.0	6.7
12	16	12	3.5	.58	1.9	10	1.4	1.4	1.5	5.9	.82	3.0
13	9.3	13	3.0	.56	1.5	24	1.3	.90	1.1	4.2	.69	1.5
14	4.5	11	2.6	.56	1.5	14	3.4	.90	8.3	3.3	3.9	1.2
15	3.0	8.2	2.2	.56	1.3	9.3	3.1	3.3	6.3	9.9	1.0	.98
16	1.9	23	2.0	.70	1.3	9.2	2.8	1.5	3.2	8.2	.74	.81
17	1.8	9.7	1.6	1.7	1.4	9.1	2.0	18	1.9	4.3	.66	.93
18	5.4	40	1.3	8.3	1.6	19	1.7	10	1.6	3.2	.71	1.4
19	18	19	1.1	6.0	4.0	14	1.5	3.9	1.4	2.7	.67	1.1
20	8.1	10	1.0	3.2	4.5	6.2	1.4	2.6	1.1	2.2	.57	.89
21	5.3	4.7	.90	4.2	3.6	4.6	1.5	2.1	1.0	1.9	.55	5.7
22	3.3	4.3	.86	5.5	2.5	4.2	1.3	1.6	2.9	1.8	.63	8.4
23	12	3.5	.84	3.1	2.3	4.2	1.2	1.4	1.0	1.3	.54	12
24	28	2.6	.82	2.2	2.5	3.9	1.2	1.2	.87	1.1	.47	12
25	6.0	2.7	.80	1.9	2.4	4.2	1.2	1.0	.72	4.6	.60	52
26	3.4	4.7	.78	1.4	2.4	11	1.2	1.1	.66	1.2	14	59
27	2.2	3.2	.76	1.3	2.0	5.6	.96	4.6	48	.97	2.5	13
28	1.8	2.7	.74	1.2	1.7	4.6	1.2	1.7	7.8	3.3	.99	28
29	1.5	2.2	.72	.94	---	3.9	.95	1.2	4.5	1.3	.90	69
30	1.4	2.1	.72	.75	---	3.3	5.8	1.1	4.2	.85	.74	21
31	3.8	---	.70	.73	---	2.7	---	.93	---	.79	.68	---
TOTAL	224.26	398.2	148.54	52.18	121.1	333.0	62.91	72.63	128.25	164.01	51.97	323.82
MEAN	7.23	13.3	4.79	1.68	4.33	10.7	2.10	2.34	4.28	5.29	1.68	10.8
MAX	35	69	62	8.3	36	110	5.8	18	48	26	14	69
MIN	.43	2.1	.70	.56	1.3	1.9	.95	.83	.66	.79	.47	.50
CFSM	1.67	3.07	1.10	.39	1.00	2.47	.48	.54	.99	1.22	.39	2.49
IN.	1.92	3.41	1.27	.45	1.04	2.85	.54	.62	1.10	1.41	.45	2.77
CAL YR 1985	TOTAL	1709.64	MEAN	4.68	MAX	69	MIN	.25	CFSM	1.08	IN	14.65
WTR YR 1986	TOTAL	2080.87	MEAN	5.70	MAX	110	MIN	.43	CFSM	1.31	IN	17.83

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1983 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1983 to current year.

TOTAL PHOSPHORUS DISCHARGE: October 1983 to current year.

INSTRUMENTATION.--Automatic pumping sampler since October 1983.

REMARKS.--Records good.

COOPERATION.--Observer furnished by Delavan Lake Sanitary District.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 5,520 mg/L Aug. 7, 1984; minimum observed, 1 mg/L on several days during 1984.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 58 tons Nov. 1, 1984; minimum daily, 0.01 ton on many days from 1984 to 1986.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum observed, 8.20 mg/L Aug. 7, 1984; minimum observed, 0.04 mg/L Oct. 12, 1984.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 216 lb May 25, 1984; minimum daily, 0.18 lb Oct. 11, 1984.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 1,760 mg/L July 6; minimum observed, 4 mg/L Nov. 4 and Feb. 6.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 82 tons Mar. 10; minimum daily, 0.01 ton Oct. 1-2, Sept. 6-7.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum observed, 2.30 mg/L June 5; minimum observed, 0.09 mg/L Feb. 12.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 391 lb Mar. 10; minimum daily, 0.40 lb on several days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
OCT , 1985					OCT , 1985				
04...	0915	19	.710	848	18...	2115	14	--	116
04...	0930	20	--	125	18...	2145	14	.600	--
04...	1000	23	--	81	18...	2200	14	--	84
04...	1030	26	1.20	--	18...	2315	14	--	68
04...	1045	27	--	95	18...	2345	15	--	85
04...	1115	28	--	71	19...	0015	22	--	216
04...	1130	28	1.60	--	19...	0100	28	--	443
04...	1215	28	--	57	19...	0130	34	--	110
04...	1245	25	--	56	19...	0145	34	.670	--
04...	1330	21	1.20	--	19...	0200	35	--	118
04...	1400	19	--	72	19...	0230	36	--	89
04...	1430	16	--	74	19...	0300	36	--	125
04...	1515	14	--	27	19...	0315	36	.710	--
04...	1530	13	.900	--	21...	0905	5.5	--	182
04...	1800	9.8	--	38	23...	0730	2.7	.240	112
05...	1100	3.4	--	7	24...	1140	16	.270	110
05...	1108	3.4	.380	--	24...	1141	16	.280	103
07...	0925	.84	--	8	24...	1215	15	--	184
09...	1346	85	.830	111	24...	1500	13	--	57
09...	1400	87	--	101	24...	1700	11	--	36
10...	1310	18	.400	25	24...	1830	10	--	58
10...	1530	20	--	84	31...	2015	11	--	173
10...	1630	20	--	53	31...	2020	12	.630	--
10...	1800	18	--	49	31...	2045	12	--	106
10...	1830	18	.460	--	31...	2130	13	--	78
10...	1930	18	--	35	31...	2215	14	--	66
10...	2130	16	--	33	31...	2300	16	--	63
10...	2300	13	--	26	31...	2400	17	--	54
10...	2330	13	.380	--	NOV				
11...	0801	10	.230	153	01...	0100	18	--	60
11...	1345	7.6	.210	46	01...	0115	19	.650	--
12...	1115	21	.640	--	01...	0130	20	--	57
12...	1130	21	--	66	01...	0200	20	--	59
12...	1200	19	--	78	01...	0245	22	--	64
12...	1245	18	--	64	01...	0905	56	.650	58
12...	1300	18	.490	--	01...	0930	56	--	61
12...	1330	17	--	67	01...	0945	56	--	67
12...	1415	17	--	82	01...	1015	56	--	68
12...	1500	17	--	76	01...	1045	57	--	65
12...	1515	16	.440	--	01...	1100	58	.640	--
12...	1545	16	--	74	01...	1115	58	--	66
12...	1615	14	--	76	01...	1415	76	--	117
12...	1645	14	--	87	01...	1715	106	--	215
14...	0920	4.9	--	73	01...	1915	111	--	166
14...	2400	3.6	.710	--	01...	2015	112	.590	--
18...	2100	14	--	193	01...	2115	108	--	78

054310157 JACKSON CREEK TRIBUTARY NEAR ELKHORN, WI--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
NOV , 1985					DEC , 1985					
01...	2215	104	.540	--	01...	0530	--	19	--	172
01...	2315	100	--	55	01...	0600	--	23	--	183
02...	0315	93	--	54	01...	0645	--	33	.530	134
02...	1100	36	.400	39	01...	0730	--	48	--	177
02...	1115	35	--	43	01...	0745	--	56	.290	--
02...	1315	28	--	40	01...	0800	--	64	--	207
02...	1615	22	--	35	01...	0900	--	85	--	257
02...	1815	20	--	55	01...	0945	--	98	--	181
02...	2015	19	--	28	01...	1015	--	102	--	207
02...	2111	18	.270	--	01...	1030	--	104	.440	--
02...	2315	17	--	35	01...	1045	--	129	--	209
03...	0315	15	--	30	01...	1115	--	128	--	211
03...	0815	14	--	9	01...	1130	--	128	.450	--
03...	0915	14	--	13	01...	1200	--	128	.560	127
03...	1015	13	.210	14	01...	1201	--	128	.430	--
03...	1016	13	.200	9	01...	1225	--	128	--	105
03...	1315	13	--	18	01...	1515	--	118	.430	--
04...	0930	9.3	.220	4	01...	2315	--	26	.300	--
12...	1615	17	.400	--	04...	0940	5.0	--	.190	163
12...	1630	18	--	140	09...	0735	4.5	--	--	206
12...	1700	18	--	154	16...	0905	2.0	--	--	235
12...	1745	18	--	46	23...	0805	.84	--	--	26
12...	1830	18	--	64	31...	0930	.70	--	--	61
12...	1845	18	--	66	JAN , 1986					
12...	1900	18	.470	--	06...	0825	.62	--	--	97
12...	1930	18	--	73	09...	1445	.60	--	.130	26
12...	2015	17	--	115	13...	0815	.56	--	--	61
12...	2115	17	--	87	20...	0820	--	3.3	--	6
12...	2130	17	1.00	--	27...	1245	--	1.3	--	58
12...	2145	17	--	131	FEB					
12...	2245	16	--	130	01...	1315	--	5.3	--	106
16...	0215	22	.900	--	01...	1415	--	6.2	--	89
16...	0230	23	--	268	01...	1615	--	5.5	--	49
16...	0300	27	--	189	01...	1915	--	3.5	--	30
16...	0330	30	--	185	01...	2215	--	2.7	--	29
16...	0345	31	.580	--	02...	0015	--	2.3	--	36
16...	0400	33	--	175	02...	0315	--	1.9	--	74
16...	0430	36	--	165	03...	0825	--	1.1	--	91
16...	0545	39	--	132	04...	1016	--	21	.680	568
16...	0615	40	--	132	04...	1030	--	23	--	605
16...	0630	40	.590	--	04...	1100	--	29	--	610
16...	0645	40	--	127	04...	1200	--	43	--	640
16...	0715	40	--	106	04...	1230	--	42	.470	--
16...	0745	38	--	109	04...	1315	--	48	--	371
16...	0830	36	--	94	04...	1330	--	55	--	426
16...	0845	35	.490	--	04...	1400	--	59	--	284
18...	0815	70	.490	--	04...	1430	--	64	.400	--
18...	0816	70	.600	270	04...	1445	--	71	--	267
18...	0845	81	--	232	04...	1515	--	82	--	257
18...	0900	84	.560	--	04...	1545	--	86	--	205
18...	0915	86	--	205	04...	1615	--	86	--	166
18...	0916	86	--	196	04...	1630	--	86	.490	--
18...	0945	88	.500	--	04...	1700	--	85	--	121
18...	1000	88	--	148	05...	0800	--	18	.370	37
18...	1030	88	--	139	05...	1400	--	13	.190	24
18...	1100	84	--	136	06...	0735	--	7.7	.180	4
18...	1300	69	.460	--	10...	0740	--	2.3	--	26
18...	1400	59	--	100	12...	1050	--	1.7	.090	30
18...	1600	43	--	88	17...	0845	--	1.2	--	39
18...	1800	36	--	101	24...	0730	--	1.9	--	56
18...	2000	34	--	51	MAR					
18...	2200	30	--	45	03...	0735	--	2.0	--	62
18...	2400	27	--	88	09...	1915	--	22	.580	--
19...	0100	24	.360	--	09...	1930	--	24	--	137
19...	0200	23	--	43	09...	2000	--	24	--	131
19...	1600	20	--	167	09...	2030	--	26	--	182
19...	1645	19	.450	--	09...	2100	--	33	--	150
19...	1800	23	--	51	09...	2130	--	41	.550	--
19...	1845	24	--	80	09...	2145	--	46	--	156
19...	1900	24	.400	--	09...	2215	--	58	--	302
19...	1915	24	--	77	09...	2245	--	72	--	323
19...	1945	24	--	44	09...	2315	--	93	--	234
19...	2015	24	--	38	09...	2330	--	103	.680	--
19...	2030	23	.510	--	09...	2345	--	116	--	286
19...	2045	23	--	37	10...	0015	--	131	--	544
19...	2130	22	--	102	10...	0100	--	139	--	566
19...	2230	21	--	31	10...	0130	--	141	--	697
21...	1240	4.4	.150	50	10...	0145	--	142	.690	--
25...	1030	4.6	--	45	10...	0800	--	133	.560	--

ROCK RIVER BASIN

054310157 JACKSON CREEK TRIBUTARY NEAR ELKHORN, WI--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
MAR , 1986					JUN , 1986				
10...	0801	133	.490	215	04...	1350	.67	.320	25
10...	0915	131	--	230	05...	0715	23	--	949
10...	1215	137	--	287	05...	0730	35	2.30	--
10...	1415	142	--	168	05...	0745	41	--	710
10...	1515	134	.800	--	05...	0800	42	--	371
10...	1615	124	--	90	05...	0815	41	--	247
10...	1715	103	--	80	05...	0830	41	.800	--
10...	2015	37	--	90	05...	0900	46	.810	--
10...	2315	22	--	57	05...	0930	42	--	172
11...	0015	20	.410	--	05...	0945	41	1.40	--
11...	1525	23	.500	57	05...	1000	39	--	139
13...	0245	27	--	387	05...	1100	28	--	58
13...	0345	31	--	226	05...	1115	26	1.10	--
13...	0400	31	--	--	05...	1215	18	--	52
13...	0415	30	--	207	05...	1330	13	--	53
13...	0500	28	--	171	05...	1345	13	.800	--
13...	0600	27	--	97	06...	0930	2.7	--	63
13...	0700	26	--	81	08...	0845	45	--	258
13...	0800	24	--	58	08...	0915	45	--	203
13...	0845	23	--	45	14...	1800	12	--	76
17...	0815	7.9	--	36	14...	1815	18	1.10	--
18...	1245	24	--	61	14...	1830	23	--	186
18...	1316	24	--	60	14...	1900	25	--	366
18...	1330	24	--	48	14...	1915	28	--	265
18...	1500	24	--	34	14...	1930	28	1.00	--
18...	1800	23	--	36	14...	1931	28	1.10	--
18...	1900	23	--	49	14...	1945	29	--	208
18...	2030	23	--	28	14...	2000	29	1.10	--
18...	2230	22	--	37	14...	2015	29	--	156
19...	0030	21	--	21	14...	2030	28	1.30	--
19...	0800	16	--	33	14...	2045	28	--	120
20...	0720	6.0	--	28	14...	2115	26	--	100
26...	0430	20	--	169	14...	2200	22	--	75
26...	0530	20	--	82	14...	2230	20	1.10	--
26...	1100	13	--	22	14...	2300	18	--	73
31...	0740	2.7	--	33	15...	1030	5.7	.300	8
APR					18...	1335	1.7	.270	37
07...	0810	2.4	--	105	22...	0915	13	--	168
14...	0735	1.2	--	140	22...	0930	13	.670	--
21...	0740	1.7	--	46	22...	0945	12	--	66
28...	0800	1.1	--	90	22...	1015	10	--	36
29...	0730	.93	.180	85	27...	0500	52	1.90	--
30...	0230	18	--	672	27...	0515	59	--	644
30...	0315	8.3	--	213	27...	0545	109	--	1540
30...	0430	3.6	--	149	27...	0615	125	.610	--
30...	0530	14	--	85	27...	0630	133	--	1030
30...	0600	12	--	64	27...	0700	143	--	666
30...	0700	9.6	--	34	27...	0730	149	--	542
30...	0735	8.3	1.20	28	27...	0745	149	.700	--
MAY					27...	1350	45	.540	--
06...	0940	1.2	--	52	27...	1355	44	--	81
12...	0930	1.5	--	26	27...	1430	36	--	140
15...	1915	12	--	282	27...	1500	31	--	108
15...	1930	11	1.20	--	27...	1545	25	.540	--
16...	0725	1.4	.760	29	27...	1630	22	--	105
17...	0400	11	--	542	27...	1715	20	--	139
17...	0430	9.8	.860	--	27...	1730	19	.500	--
17...	0840	3.5	1.30	26	30...	0900	6.4	.880	184
17...	1445	10	--	255	JUL				
17...	1630	19	--	393	06...	2000	110	.610	1760
17...	1700	27	--	300	06...	2030	129	--	1200
17...	1730	46	.900	--	06...	2045	138	.740	--
17...	1745	50	--	581	06...	2100	145	--	711
17...	1815	59	--	433	06...	2130	153	--	659
17...	1915	71	--	338	06...	2145	154	1.50	--
17...	1930	71	1.30	--	06...	2200	154	--	496
17...	1945	70	--	267	06...	2230	147	--	408
17...	2000	67	.840	239	06...	2315	132	--	337
17...	2001	67	.980	--	06...	2345	121	.740	--
19...	1410	3.6	.400	112	06...	2400	115	--	260
27...	0816	14	--	629	07...	0030	105	.630	211
27...	0820	15	1.10	319	07...	0115	90	--	165
27...	0845	16	--	233	07...	0200	73	--	121
27...	0846	16	1.60	--	07...	0230	63	--	101
27...	0915	14	--	92	07...	1010	15	.590	376
27...	0945	12	--	66	09...	1120	10	.570	127
27...	1015	11	--	61	10...	2030	26	.770	--
27...	1100	9.6	--	43	10...	2045	25	--	451

054310157 JACKSON CREEK TRIBUTARY NEAR ELKHORN, WI--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
JUL , 1986					SEP , 1986				
10...	2130	22	--	291	10...	0030	10	--	45
10...	2145	22	1.70	--	10...	0115	8.4	--	45
10...	2200	21	--	194	10...	0800	2.9	.230	15
10...	2245	21	--	146	10...	1130	28	.380	--
10...	2310	21	1.10	--	10...	1145	49	--	431
10...	2315	21	--	150	10...	1200	59	--	319
11...	0015	19	--	129	10...	1215	61	.360	--
11...	0030	18	.670	--	10...	1230	59	--	798
11...	0045	18	--	123	10...	1300	48	.490	--
11...	1025	9.5	.560	--	10...	1315	43	--	433
11...	1035	9.5	--	248	10...	1345	37	--	229
15...	1945	52	--	486	10...	1400	35	.940	166
15...	2100	43	--	152	10...	1401	35	.870	162
15...	2130	42	--	124	10...	1445	29	--	115
15...	2230	34	--	186	10...	1545	21	--	141
15...	2300	28	--	189	10...	1615	19	.540	--
15...	2400	21	--	145	10...	1645	16	--	187
16...	1305	6.9	.600	--	10...	1745	13	--	201
17...	2000	4.0	.620	--	10...	1945	9.0	.620	241
17...	2115	3.6	1.00	--	11...	0545	8.1	--	164
17...	2245	3.6	.880	--	11...	0825	6.4	.310	--
17...	2345	3.5	.820	--	11...	1715	7.7	--	47
22...	0940	1.8	.140	90	21...	0715	8.6	.660	--
AUG					21...	0730	9.0	--	100
05...	0730	.70	--	46	21...	0800	13	--	321
06...	1015	17	--	576	21...	0815	17	.840	--
06...	1030	20	.720	--	21...	0845	20	--	233
06...	1145	31	--	397	21...	0900	20	.500	--
06...	1200	34	.670	--	21...	0915	19	--	275
06...	1215	33	--	161	21...	0930	17	--	333
06...	1245	30	.670	78	21...	1000	14	--	247
06...	1246	30	.860	171	21...	1015	13	.480	--
06...	1315	24	--	53	21...	1030	12	--	142
06...	1515	15	--	45	21...	1115	11	.310	--
06...	1545	14	.560	--	21...	1130	11	--	61
06...	1615	12	--	45	21...	1200	10	--	75
07...	0820	2.4	.220	8	21...	1230	9.2	--	72
14...	0830	11	--	89	21...	1300	8.2	--	67
14...	0900	11	--	68	21...	1315	6.7	--	72
14...	0930	12	--	131	22...	0745	2.4	.200	--
14...	1000	14	--	164	22...	1700	14	1.60	--
14...	1030	13	--	131	22...	1730	17	--	461
14...	1100	11	--	129	22...	1830	16	--	433
19...	0950	.57	--	209	22...	1930	17	--	281
26...	0845	35	.730	--	22...	2030	17	--	223
26...	0900	37	--	225	22...	2130	19	.800	--
26...	0930	30	--	497	22...	2200	22	--	195
26...	1000	36	.630	--	22...	2300	37	--	295
26...	1030	34	--	198	22...	2330	40	.740	--
26...	1100	28	--	237	22...	2400	39	--	244
26...	1115	25	--	259	23...	0100	33	--	143
26...	1130	22	1.10	--	23...	0200	28	--	129
26...	1145	20	--	223	23...	0300	22	--	137
26...	1215	17	--	157	23...	0330	20	.600	--
26...	1300	34	--	365	23...	0400	18	--	142
26...	1315	35	.710	--	23...	0500	15	--	156
26...	1330	33	--	145	23...	0600	14	--	166
26...	1400	27	--	387	23...	0800	11	.540	--
26...	1430	22	--	288	24...	0100	5.0	.780	--
26...	1500	37	--	330	24...	0430	4.5	.560	--
26...	1515	38	.790	--	24...	0745	4.3	.180	--
27...	0745	2.7	.250	13	24...	0800	4.3	.330	--
SEP					24...	2030	9.0	--	91
09...	1845	27	--	646	24...	2100	10	.400	--
09...	1900	34	.610	--	24...	2200	25	--	366
09...	1930	43	--	424	24...	2300	97	.780	--
09...	1945	46	.640	--	24...	2330	120	--	856
09...	2000	45	--	550	24...	2400	139	--	1180
09...	2015	42	--	420	25...	0130	161	--	428
09...	2030	39	.330	--	25...	0200	155	--	349
09...	2045	36	--	329	25...	0300	138	--	230
09...	2115	30	--	228	25...	0400	118	--	172
09...	2145	24	--	145	25...	0500	102	--	112
09...	2215	20	--	104	25...	0600	85	--	94
09...	2245	17	--	78	25...	0700	69	--	80
09...	2315	15	.590	--	25...	0800	53	--	92
09...	2330	14	--	62	25...	0801	53	.370	--
09...	2400	12	--	46	25...	0900	40	--	108

ROCK RIVER BASIN

054310157 JACKSON CREEK TRIBUTARY NEAR ELKHORN, WI--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
SEP , 1986					SEP , 1986					
25...	1000	31	--	141	28...	2300	--	95	--	176
25...	1130	24	--	258	28...	2400	--	81	--	138
25...	1300	20	--	266	29...	0100	--	64	--	125
25...	1430	18	--	310	29...	0130	--	57	.500	--
25...	1500	17	.500	--	29...	0200	--	50	--	135
25...	1530	17	--	316	29...	0300	--	38	--	154
25...	1630	16	--	328	29...	0400	--	30	--	179
25...	1800	15	--	353	29...	0430	--	27	--	216
25...	1930	14	--	381	29...	0530	--	50	--	319
25...	2100	13	--	305	29...	0600	--	66	.680	--
25...	2200	12	.670	--	29...	0700	--	96	--	353
26...	1545	109	.510	--	29...	0800	--	105	--	258
26...	1630	97	--	175	29...	0900	--	104	--	192
26...	1700	90	--	127	29...	0930	--	100	.610	161
26...	1800	75	--	104	29...	0931	--	100	.650	--
26...	1830	66	.580	--	29...	1000	--	95	--	144
26...	1900	59	--	114	29...	1100	--	83	--	136
26...	2030	39	--	135	29...	1200	--	70	--	135
26...	2200	27	--	183	29...	1330	--	53	--	154
26...	2330	22	--	158	29...	1500	--	86	--	318
27...	0130	19	--	139	29...	1600	--	97	--	251
27...	0300	17	--	132	29...	1630	--	98	.770	--
27...	0430	16	--	136	29...	1800	--	91	--	157
27...	0530	15	--	127	29...	1900	--	81	--	157
27...	1130	12	--	311	29...	1930	--	75	.460	--
27...	1230	12	--	198	29...	2000	--	69	--	150
27...	1400	11	--	157	29...	2030	--	63	--	159
27...	1530	11	--	174	29...	2130	--	51	.460	--
27...	1700	11	--	151	29...	2200	--	46	--	187
27...	1830	10	--	118	29...	2330	--	34	--	218
27...	2000	9.6	--	117	30...	0100	--	27	--	186
27...	2130	9.2	--	135	30...	0300	--	22	--	155
27...	2230	9.0	--	127	30...	0530	--	19	--	120
27...	2330	9.0	--	116	30...	1300	--	22	--	127
28...	0030	8.8	--	112	30...	1330	--	24	--	101
28...	1000	7.5	.210	--	30...	1400	--	24	.500	--
28...	1830	10	--	313	30...	1415	--	24	--	94
28...	1900	72	.470	--	30...	1445	--	24	--	86
28...	1930	99	--	1690	30...	1515	--	25	--	106
28...	2000	110	--	943	30...	1600	27	--	.660	--
28...	2030	114	1.30	--	30...	1615	--	27	--	89
28...	2100	114	--	414	30...	1700	--	27	--	88
28...	2130	112	.850	--	30...	1800	--	25	--	85
28...	2200	107	--	253	30...	1845	--	24	--	82

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.92	236	141	.50	3.60	1.18	3.87	3.31	1.59	8.34	.80	.77
2	.95	112	24.00	.50	1.30	1.52	2.77	1.30	1.38	6.75	.68	.87
3	.90	16.00	7.80	.50	1.06	1.30	4.53	1.16	1.41	5.02	.53	.73
4	56.00	11.00	5.40	.50	94.00	4.90	3.62	1.18	1.65	4.22	.47	.66
5	12.00	7.87	4.80	.50	30.00	6.60	3.74	3.20	70.00	3.48	.42	.67
6	1.69	9.41	4.70	.50	7.43	5.30	2.82	1.21	7.82	137	29.00	.52
7	.90	11.00	4.40	.50	4.60	3.30	2.73	.93	4.66	84.00	3.12	4.46
8	2.59	5.96	4.30	.50	3.18	1.62	2.12	.82	2.93	25.00	1.53	.57
9	123	43.00	4.10	.50	2.01	45.00	1.91	.80	1.93	34.00	.90	18.00
10	68.00	46.00	4.10	.40	1.53	391	1.70	.81	14.00	37.00	3.20	38.00
11	12.00	21.00	4.20	.40	1.31	46.00	1.66	.81	5.60	33.00	1.10	19.00
12	44.00	34.00	3.00	.40	.98	21.00	1.56	2.50	3.37	15.00	.81	4.61
13	23.00	61.00	2.60	.40	.75	71.00	1.45	.79	2.35	8.24	.63	1.88
14	14.00	35.00	2.10	.40	.72	27.00	4.60	.78	47.00	5.10	9.50	1.32
15	9.29	17.00	1.80	.40	.63	13.00	4.10	18.00	17.00	37.00	1.40	1.04
16	3.34	61.00	1.60	.50	.60	9.79	3.60	6.05	5.23	31.00	1.01	.82
17	1.73	13.00	1.30	1.20	.66	8.40	3.07	103	3.02	12.00	.88	.91
18	10.00	100.00	1.10	14.00	.76	39.00	2.59	43.00	2.41	6.66	.94	1.30
19	56.00	41.00	.90	9.50	5.60	24.00	2.24	9.74	1.95	4.36	.86	.99
20	13.00	17.00	.80	4.30	6.60	5.46	2.01	5.41	1.44	2.80	.72	.78
21	8.14	4.36	.70	6.00	4.90	3.57	2.01	3.99	1.21	1.91	.68	13.00
22	4.78	3.50	.70	8.50	2.05	3.07	1.69	2.83	6.50	1.47	.77	37.00
23	23.00	2.74	.70	4.10	1.81	2.84	1.56	2.26	2.04	.92	.64	35.00
24	67.00	1.91	.70	1.63	1.91	2.49	1.51	1.79	1.65	.69	.55	38.00
25	8.74	1.93	.60	1.46	1.80	2.49	1.38	1.39	1.30	12.00	.69	172
26	4.54	3.24	.60	1.10	1.74	20.00	1.32	1.28	1.15	2.86	56.00	226
27	2.64	2.11	.60	1.00	1.38	6.38	1.04	20.00	182	1.64	4.23	42.00
28	1.98	1.71	.60	.93	1.10	5.21	1.22	4.51	17.00	7.60	1.34	111
29	1.55	1.30	.50	.75	---	4.43	.97	2.75	6.90	2.06	1.17	218
30	1.31	1.24	.50	.60	---	3.70	36.00	2.34	15.00	1.15	.93	61.00
31	10.00	---	.50	.59	---	3.10	---	1.94	---	.93	.82	---
TOTAL	587.99	922.28	230.70	63.06	184.01	783.65	105.39	249.88	431.49	533.20	126.32	1046.90
WTR YR 1986 TOTAL	5264.87											

ROCK RIVER BASIN

05431017 DELAVAN LAKE INLET AT U.S. HIGHWAY 50 AT LAKE LAWN, WI

LOCATION.--Lat 42°37'16", long 88°34'57", in NE 1/4 sec.22, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, on left bank at U.S. Highway 50 bridge, and 1.0 mi east of Lake Lawn.

DRAINAGE AREA.--21.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to September 1986.

GAGE.--Acoustical velocity meter and staff gage. Elevation of gage is 927 ft, from topographic map.

REMARKS.--1984 and 1985 water year discharges are unpublished, but available and were estimated based on discharges upstream at Jackson Creek at Petrie Road near Elkhorn (05431014) and Jackson Creek tributary near Elkhorn (054310157). In water year 1986, daily mean discharges less than 20 ft³/s were estimated based on discharges from upstream stations 05431014 and 054310157, and daily mean discharges of 20 ft³/s or greater are from acoustical velocity meter records. Instantaneous discharges are negative in many instances due to seiche affects caused by wind action. Records fair except estimated discharges less than 20 ft³/s, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 823 ft³/s Mar. 10; minimum daily (estimated), 0.8 ft³/s, Aug. 24, Sept. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	.80	149	151	2.6	6.5	5.6	12	4.3	3.3	26	1.8	1.2	
2	.80	197	100	2.5	6.4	6.4	9.9	2.8	2.3	24	1.6	1.2	
3	1.0	67	44	2.4	5.7	5.9	12	2.4	2.2	17	1.3	1.1	
4	12	43	33	2.4	58	7.5	12	2.6	2.3	13	1.2	1.0	
5	6.6	31	28	2.3	121	8.6	11	3.3	20	11	1.2	1.0	
6	2.2	34	25	2.3	47	7.5	9.7	2.7	11	50	15	.80	
7	1.6	36	22	2.2	32	5.9	8.7	2.0	8.4	75	12	.80	
8	3.6	38	19	2.2	24	5.0	7.3	1.7	5.9	35	8.0	.90	
9	49	45	17	2.2	16	19	6.4	1.7	4.0	36	5.5	7.5	
10	58	78	16	2.1	11	633	5.9	1.7	9.8	30	5.0	15	
11	31	40	15	2.1	8.5	174	5.6	1.8	8.3	36	3.4	11	
12	38	43	13	2.1	5.8	108	5.1	2.8	5.4	28	2.3	7.8	
13	37	47	11	2.0	4.6	164	4.8	1.9	3.9	22	1.9	4.7	
14	21	45	9.2	2.0	4.2	129	7.9	2.0	13	17	5.7	3.2	
15	13	44	8.2	2.0	3.6	81	9.1	4.9	24	23	3.6	2.4	
16	8.3	66	7.3	2.0	3.4	74	9.8	3.9	15	40	2.6	1.9	
17	6.9	53	6.5	4.8	3.4	74	8.2	39	9.5	21	2.0	1.8	
18	12	174	5.8	26	3.5	104	7.3	55	7.4	15	1.6	2.2	
19	46	150	5.2	45	7.9	100	6.8	23	6.4	12	1.4	1.9	
20	31	84	4.7	31	15	48	6.2	15	4.8	9.3	1.2	1.7	
21	23	38	4.4	24	12	37	6.0	12	3.9	7.3	1.1	7.6	
22	20	29	4.2	32	9.3	34	4.8	9.0	6.5	6.3	1.1	26	
23	28	24	4.0	24	7.9	35	4.3	7.4	3.8	4.7	.90	38	
24	94	20	3.7	16	7.4	27	4.2	6.1	2.6	3.8	.80	28	
25	37	18	3.5	9.9	6.7	33	4.1	5.1	1.9	9.3	.90	205	
26	30	21	3.3	7.1	7.7	52	3.9	4.5	1.7	5.2	15	209	
27	24	18	3.1	5.8	6.5	33	3.2	12	185	3.8	5.0	113	
28	15	17	3.1	4.9	5.6	27	3.1	8.4	66	6.4	2.8	86	
29	14	15	2.9	4.3	---	35	2.5	6.6	42	3.6	2.0	204	
30	12	20	2.9	3.7	---	30	10	5.5	29	2.3	1.5	137	
31	15	---	2.7	3.3	---	13	---	4.3	---	2.1	1.3	---	
TOTAL	691.80	1634	578.7	277.2	450.6	2116.4	211.8	255.4	509.3	595.1	110.70	1122.70	
MEAN	22.3	54.5	18.7	8.94	16.1	68.3	7.06	8.24	17.0	19.2	3.57	37.4	
MAX	94	197	151	45	121	633	12	55	185	75	15	209	
MIN	.80	15	2.7	2.0	3.4	5.0	2.5	1.7	1.7	2.1	.80	.80	
CFSM	1.02	2.50	.86	.41	.74	3.13	.32	.38	.78	.88	.16	1.72	
IN.	1.18	2.79	.99	.47	.77	3.61	.36	.44	.87	1.02	.19	1.92	
WTR YR 1986	TOTAL	8553.70		MEAN	23.4	MAX	633	MIN	.80	CFSM	1.07	IN.	14.60

05431017 DELAVAN LAKE INLET AT U.S. HIGHWAY 50 AT LAKE LAWN, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1983 to current year.

PERIOD OF DAILY RECORD.--

TOTAL PHOSPHORUS DISCHARGE: 1984 and 1985 water years (unpublished) to current year.

REMARKS.--Records good. Instantaneous discharges (00061) are from acoustical velocity meter records. When instantaneous discharge data are not available, estimated daily mean discharges (00060) are shown. Daily mean discharges are estimated based on discharges from upstream stations 05431014 and 054310157.

COOPERATION.--Observer furnished by Delavan Lake Sanitary District.

EXTREMES FOR PERIOD OF RECORD.--

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum observed, 3.8 mg/L May 27, 1985; minimum observed, 0.08 mg/L Jan. 24, 1985.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 1,088 lb Feb. 13, 1984; minimum daily, 1.0 lb on many days.

EXTREMES FOR CURRENT YEAR.--

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum observed, 0.82 mg/L Mar. 19; minimum observed, 0.09 mg/L Feb. 12.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 571 lb Mar. 11; minimum daily, 1.0 lb Oct. 1, 2.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)
OCT , 1985					JUN , 1986				
04...	1035	E12	--	.220	15...	0940	E24	--	.640
04...	1605	E12	--	.260	18...	1350	E7.4	--	.160
05...	1030	E6.6	--	.380	27...	1230	--	234	.770
05...	1145	E6.6	--	.150	27...	1450	--	226	.510
05...	1610	E6.6	--	.190	28...	1040	--	32	.410
10...	1035	--	59	.280	28...	1445	--	28	.370
10...	1510	--	43	.670	29...	1100	--	60	.310
11...	0840	--	5.6	.480	JUL				
12...	0745	--	23	.280	07...	1040	--	22	.440
12...	1545	--	49	.390	09...	1000	--	37	.560
23...	0800	--	27	.100	09...	1400	--	68	.500
NOV					11...	1140	--	1.8	.270
01...	1000	--	93	.240	11...	1450	--	-90	.270
01...	1505	--	161	.250	12...	0955	--	218	.280
02...	1200	--	157	.440	12...	1510	--	147	.310
03...	1100	--	107	.400	17...	0815	E21	--	.180
04...	1000	--	109	.270	22...	1000	E6.3	--	.640
18...	1135	--	189	.250	AUG				
19...	1335	E150	--	.270	07...	0855	E12	--	.370
21...	1320	E38	--	.510	07...	1300	E12	--	.370
DEC					08...	0810	E8.0	--	.310
01...	1115	--	155	.100	27...	0825	E5.0	--	.570
JAN , 1986					28...	1000	E2.8	--	.420
09...	1515	E2.2	--	.110	SEP				
FEB					10...	0835	E15	--	.270
06...	1130	--	47	.280	10...	1140	E15	--	.520
12...	1515	E5.8	--	.090	10...	1525	E15	--	.370
MAR					11...	0950	E11	--	.330
10...	0955	--	801	.380	11...	1515	E11	--	.220
10...	1355	--	823	.590	22...	0825	--	-13	.560
11...	1050	--	125	.610	23...	0835	--	17	.370
11...	1430	--	111	.550	23...	1155	--	-5.0	.170
12...	1515	--	99	.580	23...	1500	--	32	.210
13...	0755	--	149	.160	24...	0800	--	11	.210
18...	1410	--	112	.200	24...	1340	--	86	.380
19...	0835	--	114	.820	25...	0910	--	216	.480
19...	1300	--	110	.450	25...	1150	--	204	.470
20...	0750	--	42	.420	25...	1405	--	110	.300
APR					26...	0900	--	-187	.300
29...	0800	E2.5	--	.200	26...	1115	--	303	.470
30...	0820	E10	--	.180	26...	1620	--	418	.430
MAY					27...	1010	--	137	.390
16...	0805	E3.9	--	.300	27...	1535	--	112	.340
17...	0900	--	70	.250	28...	0930	--	-6.2	.280
19...	1440	--	-17	.310	28...	1600	--	47	.270
20...	0745	E15	--	.260	29...	1220	--	204	.190
21...	0730	E12	--	.300	29...	1530	--	221	.450
JUN					30...	0830	--	159	.160
04...	1415	E2.3	--	.200	30...	1145	--	136	.320
14...	2020	E13	--	.530	30...	1500	--	170	.330

E ESTIMATE.

05431017 DELAVAN LAKE INLET AT U.S. HIGHWAY 50 AT LAKE LAWN, WI--CONTINUED

PHOSPHORUS, TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

[illegible]

05431018 DELAVAN LAKE TRIBUTARY AT SOUTH SHORE DRIVE AT DELAVAN LAKE, WI

LOCATION.--43°35'08", long 88°37'19", in SE 1/4 SE 1/4 sec.32, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, on left bank at bridge on South Shore Drive, at Delavan Lake, and 0.3 mi upstream from Delavan Lake.

DRAINAGE AREA.--9.99 mi², of which 2.33 mi² is non-contributing.

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 930 ft, from topographic map.

REMARKS.--Artificial weir. Estimated daily discharges Oct. 13-18, Apr. 2-3, 5-12, 23-29, May 2-17, 22-26, May 29 to June 4, June 20-25, July 30 to Aug. 5, Aug. 12-13, 17-25, Aug. 30 to Sept. 8, Sept. 15-19, and ice periods listed in rating table below. Records good except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103 ft³/s Mar. 10, 1986, gage height, 7.49 ft; minimum daily discharge, 0.15 ft³/s Sept. 3, 4, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 103 ft³/s Mar. 10, gage height, 7.49 ft; minimum daily discharge, 0.16 ft³/s Sept. 7, 8.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 10 to Jan. 16, Jan. 26 to Feb. 4, Feb. 10-19, and Feb. 24 to Mar. 8.)

5.74	0.21	6.3	9.3
5.8	.47	6.4	13
5.9	1.2	6.5	17
6.0	2.4	6.7	28
6.1	4.1	6.9	42
6.2	6.4	7.1	59

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	5.4	6.4	.68	1.1	1.2	3.0	2.1	1.1	1.4	.50	.22
2	.22	12	8.7	.66	1.6	1.2	2.7	1.5	.98	1.4	.45	.21
3	.21	11	8.8	.64	1.5	1.3	2.8	1.2	.90	1.1	.42	.19
4	.58	8.6	7.6	.60	3.0	1.2	2.9	.86	1.0	1.2	.38	.18
5	.56	7.1	5.7	.58	8.4	1.4	2.5	.98	1.6	1.2	.54	.18
6	.49	6.3	4.1	.56	10	1.3	2.2	.88	1.5	1.5	1.3	.17
7	.47	4.8	3.6	.54	7.1	1.2	1.9	.74	1.5	1.5	.98	.16
8	.68	4.3	3.1	.52	5.6	1.0	1.8	.64	1.8	1.2	.84	.16
9	1.3	4.2	2.8	.50	3.9	2.7	1.7	.58	.98	1.2	.90	.39
10	2.5	4.8	2.6	.49	3.0	58	1.6	.54	.89	1.4	.87	.86
11	3.1	4.9	2.4	.48	2.2	41	1.5	.58	1.1	1.5	.91	.68
12	3.6	4.7	2.2	.47	1.7	36	1.5	.70	.83	1.6	.60	.61
13	4.6	5.0	2.1	.46	1.5	32	1.4	.64	.75	1.3	.45	.71
14	3.0	5.4	2.0	.45	1.2	28	1.6	.60	1.0	1.8	1.1	.65
15	2.1	4.6	1.8	.44	1.0	26	1.7	.70	1.4	3.8	1.1	.54
16	1.5	4.6	1.7	.60	.86	21	1.8	1.0	1.4	3.4	.74	.42
17	1.2	4.6	1.6	1.2	.74	17	1.8	2.5	1.3	2.7	.50	.35
18	1.1	6.5	1.5	1.5	.66	14	1.8	5.0	2.0	3.1	.45	.32
19	6.2	7.7	1.4	2.2	1.0	12	1.8	5.3	1.6	2.9	.38	.32
20	5.2	6.8	1.3	2.7	2.1	9.4	1.7	5.2	1.2	2.6	.34	.54
21	3.0	5.9	1.3	2.4	2.5	7.5	1.8	4.2	1.1	1.9	.31	1.1
22	2.6	5.4	1.2	2.7	2.6	6.2	1.8	3.0	1.2	1.4	.28	1.2
23	2.7	4.2	1.1	2.7	2.5	5.5	1.5	2.5	.90	1.2	.27	1.2
24	5.3	3.5	1.0	2.7	2.0	4.8	1.4	2.0	.70	1.2	.25	2.1
25	5.6	3.3	1.0	2.5	1.7	4.1	1.3	1.7	.64	1.2	.24	9.0
26	4.5	3.0	.94	2.1	1.5	4.8	1.2	2.0	1.3	1.1	.40	8.8
27	3.7	2.9	.90	1.6	1.7	5.6	1.1	3.0	1.8	1.0	.79	10
28	3.0	2.7	.82	1.3	1.4	5.1	1.0	2.7	1.2	1.1	.41	8.7
29	2.6	2.5	.80	1.1	---	3.9	.98	1.8	2.2	1.3	.29	9.2
30	2.3	2.4	.76	1.0	---	3.4	2.1	1.9	1.6	.70	.25	10
31	2.2	---	.71	.90	---	3.8	---	1.2	---	.60	.23	---
TOTAL	76.35	159.1	81.93	37.27	74.06	361.6	53.88	58.24	37.47	50.50	17.47	69.16
MEAN	2.46	5.30	2.64	1.20	2.65	11.7	1.80	1.88	1.25	1.63	.56	2.31
MAX	6.2	12	8.8	2.7	10	58	3.0	5.3	2.2	3.8	1.3	10
MIN	.21	2.4	.71	.44	.66	1.0	.98	.54	.64	.60	.23	.16
CFSM	.25	.53	.26	.12	.27	1.17	.18	.19	.13	.16	.06	.23
IN.	.28	.59	.31	.14	.28	1.35	.20	.22	.14	.19	.07	.26

CAL YR 1985 TOTAL 671.93 MEAN 1.84 MAX 15 MIN .15 CFSM .18 IN 2.50
WTR YR 1986 TOTAL 1077.03 MEAN 2.95 MAX 58 MIN .16 CFSM .30 IN 4.01

ROCK RIVER BASIN

423526088380101 DELAVAN LAKE AT SW END NEAR DELAVAN LAKE, WI

LOCATION.--Lat 42°35'26", long 88°38'01", sec.32, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, 2.6 mi southeast of Delavan.

DRAINAGE AREA.--41.2 mi².

PERIOD OF RECORD.--October 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	LAKE STAGE (FT ABOVE DATUM) (00065)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT , 1985								
23...	1115	--	--	--	--	--	1.00	--
23...	1120	30.5	4.97	520	8.10	13.5	--	7.9
23...	1125	3.00	4.97	520	8.10	13.5	--	7.9
NOV								
21...	1140	--	--	--	--	--	1.20	--
21...	1145	3.00	5.10	520	8.40	6.5	--	11.1
21...	1150	31.5	5.10	520	8.40	6.5	--	10.9
JAN , 1986								
09...	1250	3.00	4.22	520	8.50	1.0	--	11.7
09...	1255	30.5	4.22	540	8.30	2.0	--	10.7
FEB								
12...	1250	30.5	4.56	550	8.40	2.5	--	10.9
12...	1255	3.00	4.56	530	9.80	1.5	--	11.5
MAR								
20...	1115	28.5	5.24	540	8.10	3.0	--	9.2
20...	1120	3.00	5.24	550	8.60	3.0	--	10.5
APR								
29...	1050	--	--	--	--	--	1.60	--
29...	1055	3.00	4.66	520	8.70	11.0	--	10.4
29...	1100	30.5	4.66	530	8.70	10.5	--	9.7
MAY								
19...	1110	--	--	--	--	--	2.50	--
19...	1115	30.5	5.12	530	8.60	15.5	--	8.4
19...	1120	3.00	5.12	530	8.50	15.5	--	8.9
JUN								
04...	1010	--	--	--	--	--	2.80	--
04...	1015	30.5	5.02	530	8.70	17.0	--	9.0
04...	1020	3.00	5.02	530	8.90	18.5	--	11.4
23...	1025	--	--	--	--	--	1.70	--
23...	1030	3.00	5.12	518	9.00	22.0	--	12.2
23...	1040	29.5	5.12	553	8.10	17.0	--	.5
23...	1050	24.0	5.12	535	8.70	20.5	--	7.4

DATE	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70954)
OCT , 1985					
23...	--	--	--	--	--
23...	.151	--	.100	--	--
23...	.137	--	.095	5.00	.60
NOV					
21...	--	--	--	--	--
21...	.126	.088	--	14.0	.50
21...	.153	.090	--	--	--
JAN , 1986					
09...	.097	.094	--	.800	<.10
09...	.093	.091	--	--	--
FEB					
12...	.127	.130	--	--	--
12...	.113	.110	--	3.90	1.70
MAR					
20...	.108	--	.090	--	--
20...	.136	--	.077	17.0	2.80
APR					
29...	--	--	--	--	--
29...	.071	--	.033	7.60	.30
29...	.088	--	.035	--	--
MAY					
19...	--	--	--	--	--
19...	.096	--	.058	--	--
19...	.077	--	.055	8.10	1.40
JUN					
04...	--	--	--	--	--
04...	.058	--	.041	--	--
04...	.050	--	.025	19.0	2.30
23...	--	--	--	--	--
23...	.068	--	.012	36.0	1.70
23...	.139	--	.098	--	--
23...	.083	--	.041	--	--

423526088380101 DELAVAN LAKE AT SW END NEAR DELAVAN LAKE, WI--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	LAKE STAGE (FT ABOVE DATUM) (00065)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
JUL , 1986								
08...	1105	--	--	--	--	--	.80	--
08...	1110	3.00	--	500	8.90	23.5	--	12.5
08...	1155	29.5	5.15	530	8.40	21.0	--	4.7
22...	1305	--	--	--	--	--	.80	--
22...	1310	30.5	5.06	530	8.10	22.5	--	1.2
22...	1315	21.0	5.06	510	8.30	24.0	--	3.5
22...	1320	3.00	5.06	440	9.40	27.5	--	17.5
AUG								
05...	1045	--	--	--	--	--	1.00	--
05...	1050	3.00	4.96	462	9.10	25.0	--	7.6
05...	1055	24.0	4.96	480	8.60	24.0	--	2.0
05...	1100	30.5	4.96	530	8.10	21.5	--	.0
27...	1305	--	--	--	--	--	1.00	--
27...	1310	3.00	5.08	500	8.60	22.5	--	7.6
27...	1315	30.5	5.08	490	8.00	22.5	--	7.8
SEP								
11...	1040	--	--	--	--	--	1.20	--
11...	1045	30.5	5.10	500	8.50	20.0	--	2.4
11...	1050	21.0	5.10	490	8.60	21.0	--	6.0
11...	1055	3.00	5.10	490	8.50	20.0	--	6.4
24...	1120	--	--	--	--	--	1.20	--
24...	1125	30.5	5.00	490	8.00	18.5	--	6.7
24...	1130	3.00	5.00	490	8.60	19.0	--	8.4

DATE	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70954)
JUL , 1986					
08...	--	--	--	--	--
08...	.063	--	.048	160	3.40
08...	.067	--	.046	--	--
22...	--	--	--	--	--
22...	.060	--	.039	--	--
22...	.034	--	.005	--	--
22...	.064	--	.004	200	2.40
AUG					
05...	--	--	--	--	--
05...	.057	--	.004	32.0	.70
05...	.059	--	.007	--	--
05...	.103	--	.058	--	--
27...	--	--	--	--	--
27...	.064	--	.021	38.0	.70
27...	.062	--	.017	--	--
SEP					
11...	--	--	--	--	--
11...	.117	--	.073	--	--
11...	.086	--	.044	--	--
11...	.108	--	.049	35.0	.70
24...	--	--	--	--	--
24...	.179	--	.042	--	--
24...	.100	--	.043	19.0	.50

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	LAKE STAGE (FT ABOVE DATUM) (00065)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SILICA, DIS- SOLVED AS (MG/L SiO2) (00955)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
APR , 1986										
29...	1050	--	--	--	--	--	1.60	--	--	--
29...	1055	3.00	4.66	520	8.70	11.0	--	10.4	<.1	1.0
29...	1100	30.5	4.66	530	8.70	10.5	--	9.7	.2	1.0
APR , 1986										
29...	--	--	--	--	--	--	--	--	--	--
29...	.100	.70	.80	1.8	.071	--	.033	7.60	.30	--
29...	.100	.70	.80	1.8	.088	--	.035	--	--	--

ROCK RIVER BASIN

423560088365001 DELAVAN LAKE AT CENTER NEAR DELAVAN LAKE, WI

LOCATION.--Lat 42°35'60", long 88°36'50", sec.28, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, 2.6 mi southeast of Delavan.

DRAINAGE AREA.--41.2 mi².

PERIOD OF RECORD.--October 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	LAKE STAGE (FT ABOVE DATUM) (00065)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT , 1985								
23...	1140	--	--	--	--	--	1.20	--
23...	1145	52.5	4.97	520	8.10	13.0	--	6.7
23...	1150	32.0	4.97	520	8.10	13.5	--	8.0
23...	1155	3.00	4.97	510	8.20	13.5	--	8.2
NOV								
21...	1110	--	--	--	--	--	1.00	--
21...	1115	3.00	5.10	520	8.40	6.5	--	11.0
21...	1120	33.0	5.10	--	8.40	6.5	--	10.8
21...	1125	51.5	5.10	520	8.30	6.5	--	10.7
JAN , 1986								
09...	1150	51.5	4.22	--	--	--	--	--
09...	1155	33.0	4.22	--	--	--	--	--
09...	1200	3.00	4.22	--	--	--	--	--
FEB								
12...	1400	51.5	4.56	760	7.90	--	--	.9
12...	1405	33.0	4.56	550	9.00	3.0	--	6.7
12...	1410	3.00	4.56	530	9.00	1.5	--	11.1
MAR								
20...	1335	50.5	5.24	760	7.60	4.0	--	.8
20...	1340	30.0	5.24	720	7.60	4.0	--	.1
20...	1345	3.00	5.24	510	8.40	3.0	--	10.0
APR								
29...	1200	--	--	--	--	--	1.60	--
29...	1205	52.5	4.66	530	8.70	10.5	--	10.1
29...	1210	33.0	4.66	530	8.80	11.0	--	10.6
29...	1215	3.00	4.66	520	8.80	11.5	--	11.3
MAY								
19...	1155	--	--	--	--	--	3.2	--
19...	1200	52.5	5.12	550	7.80	--	--	.4
19...	1205	36.0	5.12	530	8.50	--	--	8.2
19...	1212	3.00	5.12	530	8.50	--	--	9.2

DATE	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70954)
OCT , 1985					
23...	--	--	--	--	--
23...	.161	--	.100	--	--
23...	.130	--	.089	--	--
23...	.145	--	.095	7.10	.90
NOV					
21...	--	--	--	--	--
21...	.119	.086	--	24.0	1.50
21...	.132	.084	--	--	--
21...	.136	.074	--	--	--
JAN , 1986					
09...	.300	.270	--	--	--
09...	.114	.107	--	--	--
09...	.119	.094	--	6.80	2.30
FEB					
12...	.320	.300	--	--	--
12...	.192	.180	--	--	--
12...	.116	.100	--	1.70	.50
MAR					
20...	.290	--	.230	--	--
20...	.193	--	.178	--	--
20...	.156	--	.109	15.0	3.10
APR					
29...	--	--	--	--	--
29...	.081	--	.033	--	--
29...	.079	--	.029	--	--
29...	.073	--	.029	9.50	.30
MAY					
19...	--	--	--	--	--
19...	.240	--	.182	--	--
19...	.083	--	.060	--	--
19...	.088	--	.057	2.70	.50

42356/088365001 DELAVAN LAKE AT CENTER NEAR DELAVAN LAKE, WI--CONTINUED

5 WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	LAKE STAGE (FT ABOVE DATUM) (00065)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
JUN , 1986								
04...	1050	--	--	--	--	--	2.60	--
04...	1055	52.5	5.02	560	7.90	14.0	--	.0
04...	1100	3.00	5.02	520	9.30	19.0	--	12.7
04...	1120	33.0	5.02	520	8.50	16.0	--	6.3
23...	0945	--	--	--	--	--	1.60	--
23...	0950	3.00	5.12	512	9.00	22.5	--	12.5
23...	1005	30.0	5.12	539	8.60	19.5	--	6.4
23...	1010	45.0	5.12	572	8.00	15.0	--	.2
JUL	1225	53.5	5.12	570	7.8	14.0	--	1.2
08...	1225	--	--	--	--	--	1.20	--
08...	1230	51.5	5.15	590	7.60	15.0	--	.0
08...	1235	33.0	5.15	530	8.20	19.5	--	3.6
08...	1240	3.00	5.15	500	8.90	23.5	--	10.0
22...	1350	--	--	--	--	--	.80	--
22...	1355	52.5	5.06	600	7.40	16.0	--	.0
22...	1357	36.0	5.06	540	8.00	21.0	--	.2
22...	1400	18.0	5.06	500	8.50	25.0	--	4.9
22...	1405	3.00	5.06	450	9.30	28.0	--	15.2
AUG								
05...	1140	--	--	--	--	--	.70	--
05...	1145	3.00	4.96	460	9.20	25.0	--	9.0
05...	1150	27.0	4.96	500	8.20	22.0	--	.2
05...	1155	42.0	4.96	560	7.80	18.0	--	.0
05...	1200	52.5	4.96	600	7.70	16.5	--	.0
27...	1355	--	--	--	--	--	1.20	--
27...	1400	3.00	5.08	490	8.80	22.5	--	7.2
27...	1405	36.0	5.08	490	8.80	22.5	--	6.3
27...	1410	42.0	5.08	570	7.70	19.5	--	.2
27...	1415	52.5	5.08	630	7.40	16.5	--	.0
SEP								
11...	1130	52.0	5.10	580	7.70	18.5	--	.0
11...	1135	45.0	5.10	500	8.70	20.0	--	5.4
11...	1140	33.0	5.10	490	8.80	20.0	--	6.4
11...	1145	3.00	5.10	490	8.80	20.0	--	7.0
24...	1200	--	--	--	--	--	1.20	--
24...	1205	52.5	5.00	520	8.20	18.0	--	.0
24...	1210	32.0	5.00	490	8.90	18.5	--	6.5
24...	1215	3.00	5.00	490	8.90	19.0	--	8.3

DATE	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70954)
JUN , 1986					
04...	--	--	--	--	--
04...	.250	--	.200	--	--
04...	.049	--	.024	17.0	2.00
04...	.089	--	.074	--	--
23...	--	--	--	--	--
23...	.073	--	.008	53.0	1.70
23...	.091	--	.050	--	--
23...	.340	--	.270	--	--
23...	.390	--	.310	--	--
JUL					
08...	--	--	--	--	--
08...	.610	--	.560	--	--
08...	.070	--	.061	--	--
08...	.067	--	.010	42.0	1.00
22...	--	--	--	--	--
22...	.540	--	.490	--	--
22...	.144	--	.115	--	--
22...	.050	--	.004	--	--
22...	.060	--	.005	83.0	1.90
AUG					
05...	--	--	--	--	--
05...	.074	--	.005	55.0	.90
05...	.064	--	.026	--	--
05...	.370	--	.370	--	--
05...	.600	--	.640	--	--
27...	--	--	--	--	--
27...	.068	--	.023	33.0	.70
27...	.071	--	.025	--	--
27...	.610	--	.460	--	--
27...	.910	--	.770	--	--
SEP					
11...	.530	--	.470	--	--
11...	.095	--	.046	--	--
11...	.096	--	.045	--	--
11...	.136	--	.044	54.0	.80
24...	--	--	--	--	--
24...	.250	--	.150	--	--
24...	.175	--	.048	--	--
24...	.090	--	.042	21.0	.50

ROCK RIVER BASIN

423560088365001 DELAVAN LAKE AT CENTER NEAR DELAVAN LAKE, WI--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	LAKE STAGE (FT ABOVE DATUM) (00065)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
APR , 1986										
29...	1200	--	--	--	--	--	1.60	--	--	--
29...	1205	52.5	4.66	530	8.70	10.5	--	10.1	<.1	1.0
29...	1210	33.0	4.66	530	8.80	11.0	--	10.6	--	--
29...	1215	3.00	4.66	520	8.80	11.5	--	11.3	<.1	1.0

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70954)
APR , 1986									
29...	--	--	--	--	--	--	--	--	
29...	.090	.81	.90	1.9	.081	--	.033	--	
29...	--	--	--	--	.079	--	.029	--	
29...	.060	.74	.80	1.8	.073	--	.029	9.50 .30	

423659088354401 DELAVAN LAKE AT NORTH END NEAR LAKE LAWN, WI

LOCATION.--Lat 42°36'59", long 88°35'44", sec.22, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, 2.6 mi southeast of Delavan.

DRAINAGE AREA.--41.2 mi².

PERIOD OF RECORD.--October 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	LAKE STAGE (FT ABOVE DATUM) (00065)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (00078)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT , 1985								
23...	1045	--	--	--	--	--	1.00	--
23...	1050	30.5	4.97	520	8.10	13.5	--	8.1
23...	1055	3.00	4.97	520	8.20	13.5	--	8.3
NOV								
21...	1025	--	--	--	--	--	1.00	--
21...	1030	3.00	5.10	520	8.70	6.0	--	11.1
21...	1035	31.5	5.10	510	8.50	6.0	--	11.0
JAN , 1986								
09...	1115	30.5	4.22	540	--	1.5	--	11.3
09...	1120	3.00	4.22	520	--	1.0	--	11.5
FEB								
12...	1435	30.5	4.56	550	8.20	2.5	--	10.7
12...	1440	3.00	4.56	510	8.30	1.5	--	9.7
MAR								
20...	1445	30.5	--	560	8.20	2.5	--	8.2
20...	1450	3.00	5.24	500	8.50	3.0	--	10.8
APR								
29...	1245	--	--	--	--	--	1.00	--
29...	1250	31.5	4.66	530	9.00	12.0	--	11.3
29...	1255	3.00	4.66	510	9.60	12.5	--	11.1
MAY								
19...	1205	--	--	--	--	--	2.20	--
19...	1230	30.5	5.12	540	8.20	14.0	--	5.6
19...	1235	3.00	5.12	530	8.40	15.0	--	8.3
JUN								
04...	1130	--	--	--	--	--	1.40	--
04...	1135	30.5	5.02	550	8.20	15.5	--	2.8
04...	1140	3.00	5.02	520	9.10	19.0	--	13.6
04...	1150	27.0	5.02	550	8.20	15.5	--	4.0
23...	0840	--	--	--	--	--	1.50	--
23...	0845	3.00	5.12	511	9.00	22.0	--	11.5
23...	0915	24.0	5.12	522	8.80	21.5	--	9.6
23...	0920	28.5	5.12	548	8.40	18.5	--	4.6

DATE	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70954)
OCT , 1985					
23...	--	--	--	--	--
23...	.121	--	.083	--	--
23...	.135	--	.091	9.50	1.20
NOV					
21...	--	--	--	--	--
21...	.125	.091	--	11.0	.40
21...	.129	.087	--	--	--
JAN , 1986					
09...	.101	.086	--	--	--
09...	.107	.090	--	1.40	.20
FEB					
12...	.105	.100	.077	--	--
12...	.125	.120	--	3.30	1.60
MAR					
20...	.105	--	.093	--	--
20...	.167	--	.105	21.0	2.80
APR					
29...	--	--	--	--	--
29...	.106	--	.019	--	--
29...	.065	--	.017	23.0	.60
MAY					
19...	--	--	--	--	--
19...	.137	--	.083	--	--
19...	.090	--	.064	4.40	1.00
JUN					
04...	--	--	--	--	--
04...	.140	--	.125	--	--
04...	.092	--	.028	62.0	4.20
04...	.110	--	.088	--	--
23...	--	--	--	--	--
23...	.072	--	.017	44.0	1.70
23...	.069	--	.030	--	--
23...	.125	--	.060	--	--

ROCK RIVER BASIN

423659088354401 DELAVAN LAKE AT NORTH END NEAR LAKE LAWN, WI--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

		SAM- PLING DEPTH (FEET) (000003)	LAKE STAGE (FT ABOVE DATUM) (000065)	SPE- CIFIC CON- DUC- TANCE (US/CM) (000095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (000078)	OXYGEN, DIS- SOLVED (MG/L) (00300)		
JUL , 1986										
08...	1105	--	--	--	--	--	.50	--		
08...	1110	31.5	5.15	530	8.50	21.5	--	5.8		
08...	1300	3.00	5.15	480	8.90	24.0	--	11.2		
22...	1420	--	--	--	--	--	.80	--		
22...	1425	3.00	5.06	450	9.30	27.5	--	16.2		
22...	1430	21.0	5.06	500	8.40	23.5	--	3.3		
22...	1455	30.5	5.06	530	8.20	21.0	--	.3		
AUG										
05...	1240	--	--	--	--	--	.70	--		
05...	1245	3.00	4.96	450	9.30	25.5	--	10.4		
05...	1250	30.5	4.96	520	--	22.0	--	.4		
27...	1425	--	--	--	--	--	1.00	--		
27...	1430	3.00	5.08	500	8.80	22.5	--	6.3		
27...	1435	30.5	5.08	520	8.00	22.0	--	.0		
SEP										
11...	1200	--	--	--	--	--	.60	--		
11...	1205	30.5	5.10	490	8.90	20.0	--	7.7		
11...	1210	18.0	5.10	480	8.90	20.5	--	8.2		
11...	1215	3.00	5.10	480	8.90	20.5	--	8.1		
24...	1235	--	--	--	--	--	.80	--		
24...	1240	30.5	5.00	500	--	18.5	--	5.4		
24...	1245	3.00	5.00	490	8.90	19.0	--	9.8		
		PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70954)				
JUL , 1986										
08...		--	--	--	--	--				
08...		.144	--	.009	--	--				
08...		.153	--	.004	170	3.40				
22...		--	--	--	--	--				
22...		.050	--	.007	150	3.50				
22...		.007	--	.011	--	--				
22...		.103	--	.079	--	--				
AUG										
05...		--	--	--	--	--				
05...		.104	--	.005	59.0	.70				
05...		.130	--	.092	--	--				
27...		--	--	--	--	--				
27...		.075	--	.035	22.0	.60				
27...		.151	--	.140	--	--				
SEP										
11...		--	--	--	--	--				
11...		.102	--	.034	--	--				
11...		.132	--	.034	--	--				
11...		.111	--	.035	62.0	.80				
24...		--	--	--	--	--				
24...		.209	--	.062	--	--				
24...		.160	--	.033	54.0	1.30				
		SAM- PLING DEPTH (FEET) (000003)	LAKE STAGE (FT ABOVE DATUM) (000065)	SPE- CIFIC CON- DUC- TANCE (US/CM) (000095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TRANS- PAR- ENCY (SECCHI DISK) (M) (000078)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SILICA, DIS- SOLVED AS SiO2) (00955)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
APR , 1986										
29...	1245	--	--	--	--	--	1.00	--	--	--
29...	1250	31.5	4.66	530	9.00	12.0	--	11.3	<.1	.90
29...	1255	3.00	4.66	510	9.60	12.5	--	11.1	<.1	.90
		NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L) (70954)
APR , 1986										
29...		--	--	--	--	--	--	--	--	--
29...	.030	.97	1.0	1.9	.106	--	.019	--	--	--
29...	.030	.77	.80	1.7	.065	--	.017	23.0	.60	--

423706088363400 DELAVAN LAKE NEAR DELAVAN, WI

LOCATION.--Lat 42°37'06", long 88°36'34", in SW 1/4 NE 1/4 sec.21, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, at upstream right wingwall of bridge, on North Shore Drive, 0.7 mi northeast of outlet, and 2.0 mi southeast of Delavan.

DRAINAGE AREA.--41.4 mi², of which 2.3 mi² is non-contributing.

PERIOD OF RECORD.--October 1983 to current year. October 1983 to September 1985 data published in Water Resources Investigation series report "Water Quality and Hydrology of Delavan Lake in Southeastern Wisconsin" by Stephen J. Field (in preparation).

GAGE.--Staff gage read by Delavan Lake Sanitary District personnel. Datum of gage is 922.92 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Lake was ice covered from December 21 to March 28. Lake levels controlled by Town of Delavan. Lake levels drawn down about 0.75 ft during winter operation from October to May.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 5.85 ft, Sept. 30, 1986; minimum observed, 3.78 ft, Dec. 9, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 5.85 ft, Sept. 30; minimum observed, 4.20 ft, Jan. 9-17, 19-20.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.92	5.02	4.72	---	---	4.34	4.80	4.78	5.06	5.15	5.06	5.00
2	4.90	5.40	4.81	---	4.28	4.30	4.80	4.80	5.06	5.08	5.06	5.00
3	4.88	5.46	4.90	4.22	4.26	4.28	4.72	4.80	5.06	5.05	5.06	4.98
4	4.90	5.42	4.88	---	4.30	4.28	4.86	4.80	5.06	5.05	4.96	4.98
5	4.96	5.39	4.84	---	4.50	4.27	4.73	4.80	5.10	4.98	4.96	4.98
6	4.96	5.34	4.79	4.22	4.55	4.28	4.68	4.82	5.10	4.98	5.00	4.97
7	4.96	5.29	4.80	4.21	4.55	4.27	4.68	4.84	5.08	5.14	5.00	4.97
8	4.96	5.22	---	4.21	4.60	4.27	4.66	4.88	5.08	5.15	5.02	4.94
9	5.00	5.20	4.68	4.20	4.58	4.28	4.62	4.85	5.06	5.18	5.01	4.94
10	5.22	---	4.60	4.20	4.58	4.60	4.58	4.85	5.00	5.10	5.00	5.02
11	5.20	5.24	4.56	4.20	4.58	5.22	4.56	4.85	4.97	5.16	5.00	5.10
12	5.20	5.16	4.52	4.20	4.56	5.24	4.58	4.88	4.97	5.12	5.00	5.09
13	5.20	5.16	4.40	4.20	4.55	5.36	4.62	4.89	4.95	5.10	4.98	5.13
14	5.28	5.10	4.42	4.20	4.54	5.34	4.68	4.90	4.97	5.05	5.02	5.00
15	5.18	5.10	4.42	4.20	4.50	5.34	4.66	4.92	5.07	4.98	5.04	5.02
16	5.09	5.02	4.39	4.20	4.46	5.30	4.68	5.01	5.10	5.14	5.04	4.98
17	5.00	5.04	4.37	4.20	4.42	5.26	4.68	5.02	5.10	5.12	5.04	4.80
18	5.00	5.08	4.36	---	4.38	5.24	4.70	5.12	5.10	5.08	5.05	4.79
19	5.09	4.99	4.36	4.20	4.36	---	4.68	5.12	5.10	5.06	5.02	4.79
20	5.08	5.20	4.36	4.20	4.36	5.22	4.65	5.10	5.10	5.06	5.02	4.82
21	5.05	5.24	4.35	4.22	4.40	5.14	4.67	5.06	5.09	5.06	5.00	4.90
22	5.02	5.00	4.34	4.26	4.40	5.09	4.65	5.04	5.12	5.04	4.99	4.89
23	4.98	5.02	4.34	4.29	4.38	5.04	4.64	5.05	5.11	5.04	5.00	5.00
24	5.11	5.00	---	4.30	4.37	4.86	4.65	5.05	5.12	5.04	4.95	4.98
25	5.10	4.96	---	4.30	4.36	4.94	4.66	5.06	5.10	5.06	4.96	5.32
26	5.08	4.86	---	4.30	4.37	4.94	4.68	5.06	5.09	5.06	5.05	5.49
27	5.08	4.79	---	4.31	4.35	4.90	4.68	5.12	5.30	5.06	5.06	5.68
28	5.05	4.75	---	4.31	4.34	4.90	4.69	5.11	5.35	5.06	5.02	5.65
29	5.00	4.66	---	4.30	---	4.90	4.69	5.06	5.34	5.06	5.04	5.77
30	4.98	4.64	---	4.31	---	4.86	4.78	5.06	5.30	5.06	5.02	5.85
31	4.96	---	4.22	4.30	---	4.82	---	5.08	---	5.06	5.00	---
MEAN	5.04	---	---	---	---	---	4.68	4.96	5.10	5.08	5.01	5.09
MAX	5.28	---	---	---	---	---	4.86	5.12	5.35	5.18	5.06	5.85
MIN	4.88	---	---	---	---	---	4.56	4.78	4.95	4.98	4.95	4.79

ROCK RIVER BASIN

05431022 DELAVAN LAKE OUTLET AT BORG ROAD NEAR DELAVAN, WI

LOCATION.--Lat 42°36'53", long 88°37'29", in SW 1/4 SE 1/4 sec.20, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, on right bank 25 ft upstream from bridge on Borg Road, 1.4 mi southeast of Delavan, and 0.2 mi downstream from Delavan Lake dam outlet.

DRAINAGE AREA.--42.1 mi², of which 2.3 mi² is non-contributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 920 ft, from topographic map

REMARKS.--Estimated daily discharges: Sept. 25-27. Records for Feb. 1 to Apr. 2 were based on twice-daily observer readings. Records good except for estimated daily discharges, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 226 ft³/s Sept. 30, 1986, gage height, 7.90 ft; minimum daily discharge, 0.18 ft³/s May 22, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 226 ft³/s Sept. 30, gage height, 7.90 ft; minimum daily discharge, 0.32 ft³/s May 1, 2.

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

5.10	0.15	6.00	40
5.15	0.57	6.50	78
5.20	1.1	7.00	124
5.30	2.5	7.50	178
5.40	4.6	8.00	239
5.50	7.9		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.59	62	81	19	22	29	49	.32	4.7	128	2.4	2.4
2	.56	81	92	19	23	29	50	.32	4.1	84	2.2	2.5
3	.57	88	89	19	25	28	48	.36	3.4	55	2.1	2.4
4	1.0	90	88	19	56	27	46	.46	3.9	53	2.2	2.3
5	1.2	89	85	20	62	27	44	.60	4.9	53	2.2	2.3
6	1.4	98	82	19	45	28	43	.76	29	55	3.0	2.2
7	1.5	102	79	18	43	15	42	.73	48	56	3.0	1.9
8	1.5	99	76	18	44	7.0	41	.68	49	66	2.9	1.7
9	1.9	98	79	19	43	15	39	.71	48	72	2.9	1.9
10	53	99	86	17	43	41	16	.80	47	70	2.6	3.2
11	70	97	82	17	41	86	3.8	.84	28	70	2.4	45
12	70	93	76	17	41	110	4.0	.83	2.3	69	2.5	64
13	69	97	51	17	39	120	4.1	.87	2.5	66	2.3	62
14	66	104	37	17	37	110	4.1	1.2	2.9	65	2.5	59
15	63	103	37	17	34	110	4.1	2.1	3.8	42	2.5	57
16	61	99	36	17	30	110	4.5	28	4.1	72	2.9	56
17	59	100	35	17	32	110	4.6	42	4.5	67	3.4	54
18	59	104	34	17	32	110	22	45	3.7	36	3.3	23
19	61	107	33	17	32	110	30	44	3.9	2.3	2.9	.56
20	61	105	33	17	33	110	31	43	4.7	2.3	2.5	.40
21	60	105	32	18	34	100	14	42	3.9	2.2	2.7	.72
22	59	101	32	18	33	150	4.0	22	4.2	2.1	2.5	1.1
23	58	97	32	19	33	150	2.5	3.4	4.5	2.0	2.5	38
24	62	92	31	21	32	94	.46	3.4	4.3	2.1	2.3	58
25	62	89	30	23	32	68	.41	4.1	4.0	2.2	2.0	78
26	61	85	30	23	32	52	.38	3.7	4.1	2.3	2.8	160
27	59	82	26	22	32	54	.45	24	94	2.3	3.2	160
28	59	78	21	22	32	54	.41	39	142	2.6	2.8	159
29	57	75	20	22	---	52	.36	40	135	2.5	2.4	177
30	56	73	20	22	---	52	.45	21	130	2.5	2.4	212
31	55	---	20	22	---	50	---	4.1	---	2.7	2.4	---
TOTAL	1367.32	2792	1585	589	1017	2208.0	553.62	420.28	828.4	1209.1	80.7	1487.58
MEAN	44.1	93.1	51.1	19.0	36.3	71.2	18.5	13.6	27.6	39.0	2.60	49.6
MAX	70	107	92	23	62	150	50	45	142	128	3.4	212
MIN	.56	62	20	17	22	7.0	.36	.32	2.3	2.0	2.0	.40
CFSM	1.05	2.21	1.21	.45	.86	1.69	.44	.32	.66	.93	.06	1.18
IN.	1.21	2.47	1.40	.52	.90	1.95	.49	.37	.73	1.07	.07	1.31
CAL YR 1985	TOTAL	11382.05	MEAN	31.2	MAX	107	MIN	.18	CFSM	.74	IN	10.06
WTR YR 1986	TOTAL	14138.00	MEAN	38.7	MAX	212	MIN	.32	CFSM	.92	IN	12.49

05431022 DELAVAN LAKE OUTLET AT BORG ROAD NEAR DELAVAN, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1983 to current year.

PERIOD OF DAILY RECORD.--

TOTAL PHOSPHORUS DISCHARGE: October 1983 to current year.

INSTRUMENTATION.--Automatic pumping sampler from October to December 1983. Observer sampler from January 1984 to present.

REMARKS.--Records good.

COOPERATION.--Observer furnished by Delavan Lake Sanitary District.

EXTREMES FOR PERIOD OF RECORD.--

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum observed, 4.60 mg/L Apr. 22, 1984; minimum observed, 0.05 mg/L Apr. 30 and May 1, 1986.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 432 lb May 28, 1984; minimum daily, 0.06 lb May 22, 28, 1985.

EXTREMES FOR CURRENT YEAR.--

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum observed, 1.30 mg/L Oct. 4; minimum observed, 0.05 mg/L Apr. 30 and May 1.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 281 lb Sept. 29; minimum daily, 0.09 lb May 1, 2.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)
OCT , 1985					JUN , 1986				
04...	1050	--	1.2	1.30	04...	1405	--	3.9	.200
04...	1750	--	1.4	.190	14...	2000	--	3.7	.140
05...	1130	--	1.2	.110	15...	0930	--	3.7	.130
05...	1550	--	1.2	.080	18...	1405	--	3.7	.180
06...	1015	--	1.4	.090	27...	1310	--	141	.290
10...	0955	--	33	.100	27...	1510	--	143	.290
10...	1450	--	74	.100	28...	1055	--	142	.150
11...	0830	--	70	.120	29...	1045	--	136	.120
11...	1430	--	70	.130	30...	0920	--	131	.120
12...	0730	--	70	.150	JUL				
17...	1530	--	59	.130	07...	1050	--	56	.130
23...	0815	--	57	.130	09...	1315	--	73	.190
24...	1350	--	62	.120	11...	1445	--	70	.120
NOV					12...	0945	--	70	.240
01...	1015	--	59	.170	12...	1205	--	70	.250
01...	1450	--	64	.240	12...	1455	--	69	.650
02...	1145	--	80	.130	17...	0800	--	68	.160
03...	1040	--	88	.110	22...	1020	--	2.0	.220
04...	0950	--	90	.130	AUG				
18...	0910	--	106	.130	07...	0910	--	2.9	.380
18...	1115	--	105	.120	07...	1240	--	2.9	.360
19...	1310	--	108	.130	08...	0745	--	2.9	.280
21...	1300	--	105	.120	27...	0805	--	3.3	.340
DEC					28...	1355	--	2.7	.250
01...	1100	--	85	.190	SEP				
JAN , 1986					10...	0825	--	2.5	.180
01...	1533	--	19	.090	10...	1450	--	3.7	.350
FEB					11...	0850	--	68	.320
06...	1030	43	--	.090	11...	1530	--	67	.250
12...	1150	46	--	.120	22...	0810	--	.77	.080
MAR					23...	0820	--	56	.110
10...	0835	41	--	.910	23...	1515	--	56	.100
11...	1035	92	--	.320	24...	0820	--	56	.100
11...	1445	114	--	.390	24...	1530	--	56	.150
12...	0810	112	--	.360	25...	0855	--	76	.150
12...	1530	114	--	.330	25...	1335	--	94	.130
13...	0740	117	--	.280	26...	0845	--	114	.140
18...	1350	112	--	.170	26...	1125	--	169	.380
APR					26...	1420	--	159	.140
29...	0745	--	.30	.080	27...	1000	--	160	.160
30...	0810	--	.38	.050	27...	1045	--	160	.330
MAY					27...	1520	--	160	.170
01...	0925	--	.30	.050	28...	0915	--	157	.130
16...	0745	--	2.3	.190	29...	1205	--	167	.760
17...	0935	--	41	.180	29...	1540	--	172	.290
19...	1435	--	45	.100	30...	0815	--	201	.220
20...	0735	--	43	.100	30...	1445	--	224	.180
20...	1425	--	43	.090					
21...	0720	--	41	.110					

05431022 DELAVAN LAKE OUTLET AT BORG ROAD NEAR DELAVAN, WI--CONTINUED

PHOSPHORUS, TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

[illegible]

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 mi², of which 2.33 mi² is noncontributing.

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 and crest-stage gage. Elevation 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.--Estimated daily discharge: Mar. 10-12, 14-17, 19, and ice periods listed in rating table below. Records good except those for estimated daily discharges, which are fair. Some seasonal regulation caused by dams used to maintain levels of Turtle and Delavan Lakes.

AVERAGE DISCHARGE.--47 years, 124 ft³/s, 8.55 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.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Mar. 10	Unknown	*3,120	*9.10	Sept. 27	0030	1,410	7.38
Sept. 25	1415	1,380	7.34				

Minimum discharge, 30 ft³/s Jan. 27, gage height, 3.22 ft, result of freezeup.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 3 to Jan. 20, Jan. 24 to Feb. 3, Feb. 8-18, Feb. 26 to Mar. 3, Mar. 8 and 9.)

3.5	60	6.0	726
4.0	140	7.0	1,180
4.5	246	8.0	1,880
5.0	374	9.0	2,980

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	500	568	150	140	160	235	138	110	228	85	74
2	76	1020	621	150	140	160	228	126	104	208	81	72
3	75	605	440	150	140	160	222	120	102	192	81	72
4	87	424	340	150	354	169	224	117	101	161	78	72
5	122	366	300	150	557	191	223	112	101	146	77	69
6	107	329	280	150	401	199	214	115	109	144	90	69
7	97	312	260	140	282	175	208	110	134	283	98	69
8	90	292	240	150	230	160	198	107	142	245	91	69
9	161	304	230	150	190	160	188	104	137	258	85	71
10	400	440	230	150	180	2100	184	102	134	206	84	122
11	330	370	220	160	180	1300	160	99	149	214	84	147
12	313	345	210	160	170	820	136	104	143	225	79	147
13	319	390	200	150	170	863	136	105	115	198	77	135
14	260	358	180	150	170	780	143	113	122	170	89	127
15	214	331	170	150	170	540	152	115	158	178	96	127
16	194	372	170	160	160	480	152	148	147	246	88	127
17	183	360	170	170	160	490	151	215	127	207	83	127
18	179	526	170	180	160	569	148	435	113	174	79	129
19	291	620	170	180	177	620	155	291	109	148	79	114
20	283	488	170	180	215	460	160	239	103	109	74	95
21	250	385	170	185	209	394	160	207	100	100	74	105
22	227	347	170	214	207	342	139	188	104	96	73	113
23	207	319	170	200	188	329	125	163	104	93	73	284
24	322	294	160	180	181	318	123	131	93	88	72	255
25	279	275	150	170	172	316	122	128	93	93	72	1110
26	248	267	150	140	170	353	123	124	88	97	93	1020
27	220	264	150	120	160	324	118	130	155	93	115	1080
28	200	259	150	130	160	293	119	149	270	91	94	540
29	189	248	150	130	---	275	119	154	262	93	86	783
30	181	239	150	140	---	260	151	152	239	90	82	902
31	178	---	150	140	---	245	---	129	---	85	77	---
TOTAL	6361	11649	7059	4879	5793	14005	4916	4670	3968	4959	2589	8226
MEAN	205	388	228	157	207	452	164	151	132	160	83.5	274
MAX	400	1020	621	214	557	2100	235	435	270	283	115	1110
MIN	75	239	150	120	140	160	118	99	88	85	72	69
CFSM	1.03	1.95	1.15	.79	1.04	2.27	.82	.76	.66	.80	.42	1.38
IN.	1.19	2.18	1.32	.91	1.08	2.62	.92	.87	.74	.93	.48	1.54

CAL YR 1985	TOTAL	66233	MEAN 181	MAX 1020	MIN 60	CFSM .91	IN 12.38
WTR YR 1986	TOTAL	79074	MEAN 217	MAX 2100	MIN 69	CFSM 1.09	IN 14.78

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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: None, except for ice period listed in rating table below. Records good except for ice-affected period, which is fair.

AVERAGE DISCHARGE.--47 years, 189 ft³/s, 9.40 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.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
Mar. 20	0300	*2,420	*13.18	No other peak greater than base discharge.			
Minimum discharge, 98 ft ³ /s Mar. 7, result of freezeup.							

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 9 to Dec. 2; stage-discharge relation affected by ice Dec. 3 to Mar. 8.)

2.2	104	8.0	804
3.0	172	9.0	966
4.0	270	10.0	1,160
5.0	385	11.0	1,450
6.0	512	12.0	1,830
7.0	653	13.0	2,320

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190	427	271	170	160	150	479	306	213	172	123	113
2	155	753	235	170	160	160	468	271	203	169	119	110
3	142	484	210	170	160	160	460	257	195	164	116	109
4	140	361	250	170	170	170	525	253	195	157	114	123
5	141	305	230	170	210	170	492	254	217	154	114	118
6	133	285	200	170	210	150	471	267	205	150	150	110
7	127	291	190	170	200	130	434	252	202	152	150	108
8	130	259	190	170	180	160	410	241	198	186	141	107
9	167	258	180	170	170	193	388	233	186	174	131	115
10	242	275	180	170	160	307	371	228	209	171	127	207
11	210	237	170	180	160	558	364	228	273	184	129	567
12	370	233	170	180	160	451	364	243	243	181	120	276
13	378	269	170	170	160	449	363	237	214	166	117	178
14	250	290	170	170	160	563	380	291	204	151	158	155
15	214	267	170	180	160	582	468	278	241	146	178	149
16	196	298	170	190	160	627	395	353	222	149	131	141
17	179	323	170	190	170	787	356	377	201	149	123	134
18	181	409	170	180	170	1140	337	453	186	138	119	135
19	219	618	170	180	180	1830	331	342	185	133	115	136
20	205	464	170	180	180	2180	324	292	179	130	112	140
21	182	354	170	170	170	1430	317	271	171	127	112	158
22	172	344	170	170	170	980	303	259	185	126	109	183
23	184	325	170	170	170	886	293	251	258	125	108	193
24	274	272	170	170	160	794	287	244	190	122	107	171
25	224	289	170	170	160	726	287	242	175	143	106	391
26	191	301	170	160	160	715	311	237	169	147	148	330
27	177	275	170	160	150	627	309	250	171	131	251	243
28	163	257	170	160	140	574	290	257	178	135	142	270
29	154	203	170	160	---	552	295	235	168	134	122	363
30	150	228	170	160	---	522	305	227	171	125	118	381
31	151	---	170	160	---	486	---	222	---	126	116	---
TOTAL	5991	9954	5706	5310	4720	19209	11177	8351	6007	4617	4026	5914
MEAN	193	332	184	171	169	620	373	269	200	149	130	197
MAX	378	753	271	190	210	2180	525	453	273	186	251	567
MIN	127	203	170	160	140	130	287	222	168	122	106	107
CFSM	.71	1.22	.67	.63	.62	2.27	1.37	.99	.73	.55	.48	.72
IN.	.82	1.36	.78	.72	.64	2.62	1.52	1.14	.82	.63	.55	.81
CAL YR 1985	TOTAL	88272	MEAN 242	MAX	3220	MIN 93	CFSM .89	IN 12.03				
WTR YR 1986	TOTAL	90982	MEAN 249	MAX	2180	MIN 106	CFSM .91	IN 12.40				

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 above 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.--Estimated daily discharges: None, except for ice period, Nov. 26 to Mar. 9. Records good except for ice-affected period, which is fair.

AVERAGE DISCHARGE.--47 years, 146 ft³/s, 8.97 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.--Peak discharges greater than base discharge 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)
Mar. 19	2000	*1,450	*11.60	No other peak greater than base discharge.			
Minimum discharge, 128 ft ³ /s, Oct. 7 and 8, gage height, 4.41 ft.							

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	138	431	190	160	140	130	328	230	197	167	139	133
2	132	664	200	160	140	130	319	215	193	167	137	133
3	131	307	190	160	140	130	313	209	191	168	136	133
4	133	232	180	160	150	140	349	209	190	163	134	137
5	133	203	180	160	160	140	334	209	190	162	134	136
6	129	197	180	160	160	140	317	213	190	159	145	134
7	128	225	180	160	150	130	298	203	190	158	144	135
8	131	191	170	150	150	140	284	200	189	176	145	133
9	142	187	160	150	140	160	274	196	182	177	139	135
10	177	197	160	150	140	245	267	195	187	170	138	186
11	149	177	150	150	130	353	263	195	221	188	139	439
12	228	178	140	150	130	305	261	201	197	184	133	243
13	239	222	180	150	130	305	263	200	188	167	133	155
14	157	231	170	150	130	361	275	230	185	158	148	148
15	150	199	170	150	130	359	319	216	205	156	151	147
16	145	266	170	140	130	382	272	325	191	172	137	144
17	141	255	170	140	130	475	254	306	181	158	134	141
18	143	354	170	140	130	741	246	394	178	153	133	142
19	162	531	170	140	130	1320	244	266	177	152	132	142
20	152	309	170	140	140	1140	238	240	175	150	131	144
21	148	242	170	140	140	644	235	229	171	149	131	162
22	145	231	170	140	140	537	228	222	182	148	131	177
23	150	229	170	140	140	537	225	220	186	146	130	180
24	286	214	170	140	130	482	223	215	170	145	130	160
25	173	206	160	140	130	461	222	213	167	152	130	366
26	155	200	160	130	130	452	250	208	167	148	164	245
27	150	190	160	130	130	408	242	214	178	142	227	179
28	145	180	160	150	130	383	227	216	180	146	138	178
29	144	180	160	150	---	369	228	206	168	142	133	253
30	142	180	160	150	---	349	235	203	166	140	133	294
31	143	---	160	140	---	329	---	199	---	142	133	---
TOTAL	4821	7608	5250	4570	3850	12177	8033	6997	5532	4905	4342	5434
MEAN	156	254	169	147	138	393	268	226	184	158	140	181
MAX	286	664	200	160	160	1320	349	394	221	188	227	439
MIN	128	177	140	130	130	130	222	195	166	140	130	133
CFSM	.71	1.15	.77	.67	.62	1.78	1.21	1.02	.83	.72	.63	.82
IN.	.81	1.28	.88	.77	.65	2.05	1.35	1.18	.93	.83	.73	.91
CAL YR 1985	TOTAL	72436	MEAN 198	MAX	1700	MIN 123	CFSM .90	IN 12.19				
WTR YR 1986	TOTAL	73519	MEAN 201	MAX	1320	MIN 128	CFSM .91	IN 12.38				

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 above 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.--Estimated daily discharge: None, except for ice period listed in rating table below. Records good except those for ice-affected period, and Mar. 11 to May 12, which are fair.

AVERAGE DISCHARGE.--47 years, 730 ft³/s, 9.59 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.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)	DATE	TIME	DISCHARGE (ft ³ /s)	GAGE HEIGHT (ft)
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Mar. 23	1000	*4,770	*15.22	No other peak greater than base discharge.			
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Minimum daily discharge, 482 ft³/s Sept. 8.

RATING TABLES (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 1 to Nov. 2, and Mar. 11; stage-discharge relation affected by ice Dec. 2 to Mar. 10.)

Oct. 1 to Mar. 11

Mar. 12 to Sept. 30

4.0	396	4.0	396	10.0	1,860
5.0	643	5.0	626	12.0	2,460
7.0	1,160	6.0	856	14.0	3,650
9.0	1,710	8.0	1,340	16.0	5,550
11.0	2,280				

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	585	1280	1240	820	660	680	1690	1050	895	711	547	515
2	609	2080	1300	800	660	720	1620	1040	862	710	535	504
3	576	2220	1100	800	660	740	1580	994	832	704	523	498
4	551	2200	1300	800	700	760	1590	954	821	689	513	499
5	544	1890	1500	800	880	760	1640	939	887	666	505	510
6	542	1530	1300	780	900	740	1630	935	903	648	544	511
7	526	1440	1200	780	880	720	1570	931	863	644	614	502
8	505	1390	1100	780	820	700	1480	913	838	661	645	482
9	585	1310	1100	780	760	760	1390	883	813	816	612	528
10	804	1380	1000	760	700	1400	1330	863	792	816	587	885
11	891	1350	980	760	660	2110	1280	852	824	758	552	1030
12	964	1250	940	760	640	2230	1250	850	907	764	550	1440
13	1140	1250	920	760	640	2210	1230	864	888	769	540	1340
14	1200	1300	920	760	640	2300	1260	968	854	724	575	914
15	976	1310	920	740	640	2330	1330	1020	902	670	649	734
16	816	1360	920	740	660	2330	1380	1140	934	644	685	681
17	744	1440	920	740	660	2380	1320	1310	902	647	606	652
18	711	1600	920	720	660	2620	1230	1630	834	642	555	648
19	727	1930	900	720	680	2850	1170	1630	791	605	542	636
20	773	2100	900	720	700	3150	1140	1460	768	587	517	633
21	774	2060	880	720	700	3790	1110	1250	747	584	507	669
22	728	1840	880	700	680	4490	1090	1130	739	569	510	757
23	703	1610	880	700	680	4740	1060	1060	754	561	492	887
24	1100	1490	860	700	680	4440	1060	1020	801	554	495	918
25	1290	1390	860	680	700	3860	1060	989	763	554	489	2080
26	1070	1330	860	680	720	3320	1040	975	714	588	523	2170
27	882	1310	860	680	720	2900	1050	979	704	599	616	1820
28	797	1270	840	680	680	2540	1060	1010	710	574	759	1340
29	740	1210	840	680	---	2250	1050	1010	729	583	653	1600
30	701	1120	820	680	---	2000	1050	967	716	574	555	2020
31	689	---	820	680	---	1820	---	926	---	553	530	---
TOTAL	24243	46240	30780	22900	19760	68640	38740	32542	24487	20168	17525	28403
MEAN	782	1541	993	739	706	2214	1291	1050	816	651	565	947
MAX	1290	2220	1500	820	900	4740	1690	1630	934	816	759	2170
MIN	505	1120	820	680	640	680	1040	850	704	553	489	482
CFSM	.76	1.49	.96	.72	.68	2.14	1.25	1.02	.79	.63	.55	.92
IN.	.87	1.66	1.11	.82	.71	2.47	1.39	1.17	.88	.73	.63	1.02
CAL YR 1985	TOTAL	369290	MEAN	1012	MAX	8500	MIN	404	CFSM .98	IN	13.29	
WTR YR 1986	TOTAL	374428	MEAN	1026	MAX	4740	MIN	482	CFSM .99	IN	13.47	

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 above National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1938, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: None, except for ice periods listed in rating table below. Records good except those for periods of ice effect, which are fair. Some regulation from dam and powerplant upstream.

AVERAGE DISCHARGE.--72 years, 351 ft³/s, 9.11 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 greater than base discharge 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)
Nov. 3	2200	1,730	4.91	Sept. 25	1600	1,330	3.98
Mar. 20	1600	*2,010	*5.42	Sept. 30	2400	A 1,330	4.00

A Rising stage.

Minimum discharge, 258 ft³/s Mar. 8, Aug. 25, 26, gage height, 0.68 ft; minimum gage height, 0.67 ft, Sept. 8.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 3 to Jan. 19, Jan. 22 to Feb. 2, and Feb. 7 to Mar. 10.)

0.60	236	4.0	1,310
1.0	319	6.0	2,320
2.0	592		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	306	672	583	430	360	340	626	465	411	347	283	287
2	305	1310	592	420	370	340	606	453	395	342	280	279
3	300	1590	480	420	388	350	609	431	386	335	272	275
4	303	1590	500	410	438	350	623	421	381	326	268	274
5	313	1160	520	410	600	350	656	420	376	317	266	292
6	314	808	500	400	667	350	678	418	382	314	281	278
7	306	658	500	390	660	340	659	411	379	314	307	271
8	306	652	490	400	600	340	605	400	375	311	320	266
9	352	659	490	400	500	370	559	395	361	329	314	290
10	467	740	480	420	430	700	531	386	360	361	305	515
11	540	725	470	450	400	1430	518	379	378	362	292	718
12	625	672	450	480	380	1670	505	392	384	384	285	794
13	691	638	380	490	370	1530	501	401	372	385	280	772
14	704	668	420	470	360	1380	523	451	372	360	287	650
15	611	712	450	470	350	1340	580	555	393	336	319	468
16	464	772	460	470	350	1300	633	610	407	359	319	388
17	406	767	470	500	350	1290	609	698	381	399	296	368
18	385	861	460	520	350	1470	551	968	361	360	282	392
19	396	1020	450	520	360	1820	519	971	347	325	278	397
20	422	1090	450	494	360	1970	497	942	340	316	274	378
21	455	1070	450	450	370	1810	483	754	332	296	268	413
22	418	872	450	440	360	1430	460	570	338	286	266	508
23	419	686	450	420	350	1150	437	495	349	286	263	544
24	591	604	450	410	350	966	444	477	348	282	260	519
25	721	568	440	400	350	898	446	460	335	287	259	1090
26	765	556	440	390	340	895	443	453	327	301	285	1040
27	635	548	440	380	340	842	462	458	328	299	371	949
28	442	519	440	380	340	788	485	472	379	296	436	827
29	413	485	430	370	---	724	449	475	408	298	382	960
30	398	478	430	370	---	686	453	450	362	294	322	1190
31	387	---	430	360	---	650	---	430	---	291	297	---
TOTAL	14160	24150	14445	13334	11443	29869	16150	16061	11047	10098	9217	16392
MEAN	457	805	466	430	409	964	538	518	368	326	297	546
MAX	765	1590	592	520	667	1970	678	971	411	399	436	1190
MIN	300	478	380	360	340	340	437	379	327	282	259	266
CFSM	.87	1.54	.89	.82	.78	1.84	1.03	.99	.70	.62	.57	1.04
IN.	1.01	1.72	1.03	.95	.81	2.12	1.15	1.14	.79	.72	.66	1.17

CAL YR 1985	TOTAL	183620	MEAN 503	MAX 4140	MIN 247	CFSM .96	IN 13.06
WTR YR 1986	TOTAL	186366	MEAN 511	MAX 1970	MIN 259	CFSM .98	IN 13.26

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: Water years 1979-82, October 1983 to current year.

REMARKS.--Sediment records are good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 623 mg/L July 11, 1983; minimum daily mean, 1 mg/L Dec. 20-23, 1979. Maximum observed, 786 mg/L July 10, 1984; minimum observed, 1 mg/L Dec. 20, 30, 1979, Jan. 9, 1986.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,160 tons July 13, 1984; minimum daily, 0.65 ton Dec. 20, 1979.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 119 mg/L June 22; minimum daily mean, 7 mg/L Nov. 25. Maximum observed, 123 mg/L Aug. 3; minimum observed, 1 mg/L Jan. 9.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 320 tons Nov. 3; minimum daily, 7.3 tons Feb. 26-28.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
OCT , 1985					APR , 1986				
31...	1100	368	600	9.0	24...	0940	449	600	11.5
DEC					JUN				
17...	1415	464	630	.0	04...	1340	382	590	19.5
JAN , 1986					AUG				
29...	1200	394	700	.0	11...	0929	294	560	21.0
MAR					SEP				
12...	1100	1720	322	.5	19...	1417	398	560	16.5

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
OCT , 1985					NOV , 1985				
04...	0812	--	301	58	09...	0809	--	652	19
07...	0834	--	308	32	09...	1158	--	649	17
10...	1012	--	460	56	10...	0820	--	747	19
12...	1100	--	580	49	10...	0831	--	747	21
13...	0814	--	674	52	10...	1707	--	742	21
14...	0831	--	692	68	11...	1715	--	715	16
15...	0926	--	631	53	12...	0817	--	680	10
16...	1042	--	464	41	12...	1710	--	665	8
17...	0817	--	413	36	13...	0824	--	639	14
21...	0834	--	433	39	13...	1705	--	631	11
24...	0852	--	576	60	14...	0831	--	660	15
24...	1745	--	639	71	14...	1704	--	681	17
25...	0850	--	719	97	15...	0825	--	710	17
25...	1820	--	736	83	15...	1709	--	719	17
26...	0820	--	772	62	16...	0839	--	759	10
26...	1918	--	764	53	16...	1703	--	802	32
27...	1727	--	572	36	17...	0811	--	765	23
28...	0809	--	443	37	17...	1703	--	765	23
30...	0810	--	403	26	18...	0818	--	814	29
31...	1100	--	382	27	18...	1705	--	905	32
31...	1101	--	382	76	19...	0748	--	990	41
NOV					19...	1711	--	1030	48
01...	0837	--	545	40	20...	0836	--	1070	36
01...	1712	--	814	72	20...	1703	--	1110	31
02...	0800	--	1290	88	21...	0807	--	1100	22
02...	1306	--	1360	70	21...	1714	--	1030	21
02...	1814	--	1410	64	22...	0810	--	910	13
03...	0820	--	1530	62	22...	1702	--	830	13
03...	1233	--	1610	64	23...	0818	--	701	15
03...	1715	--	1700	95	23...	1703	--	658	3
04...	0823	--	1670	79	24...	0826	--	614	10
04...	1234	--	1600	45	24...	1710	--	595	7
04...	1711	--	1520	55	28...	0915	--	532	9
05...	0804	--	1230	41	28...	1720	--	501	9
05...	1227	--	1150	22	DEC				
05...	1704	--	1070	38	01...	0849	--	562	8
06...	0814	--	837	26	01...	1701	--	595	8
06...	1700	--	755	25	02...	0822	--	574	10
07...	0822	--	659	20	02...	1703	--	571	11
07...	1711	--	643	20	04...	0807	--	480	13
08...	0813	--	652	20	05...	0848	--	631	11
08...	1715	--	653	24	08...	0810	--	535	9

05436500 SUGAR RIVER NEAR BRODHEAD, WI--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
DEC , 1985					MAR , 1986				
12...	0837	450	--	22	20...	1652	--	2000	20
15...	0816	450	--	26	21...	0817	--	1860	14
17...	1415	470	--	13	21...	1203	--	1820	23
17...	1416	470	--	21	21...	1720	--	1750	16
19...	0831	450	--	11	22...	0831	--	1470	24
22...	0809	450	--	28	22...	1208	--	1410	10
26...	0807	440	--	56	22...	1726	--	1350	7
29...	0806	430	--	15	23...	0830	--	1190	24
JAN , 1986					23...	1711	--	1110	29
03...	0814	420	--	5	24...	0852	--	972	21
05...	0831	410	--	9	24...	1706	--	940	21
09...	0822	400	--	1	25...	0803	--	908	13
12...	0844	480	--	9	25...	1712	--	882	35
15...	0818	470	--	31	26...	0810	--	893	17
18...	0920	520	--	4	26...	1739	--	897	31
20...	1705	482	--	8	27...	0821	--	849	15
22...	0812	440	--	17	27...	1656	--	833	28
25...	0824	400	--	15	28...	1211	--	792	29
29...	1220	370	--	7	29...	1214	--	722	29
29...	1221	370	--	32	30...	0832	--	694	38
30...	0838	370	--	26	31...	0904	--	652	37
FEB					APR				
04...	1648	--	460	11	01...	0914	--	636	45
05...	0821	--	597	15	02...	0822	--	607	44
05...	1707	--	613	18	03...	1211	--	610	30
06...	0803	--	655	20	07...	0826	--	665	34
07...	0836	660	--	29	10...	0830	--	534	66
07...	1713	660	--	8	13...	0810	--	502	57
08...	0816	600	--	12	16...	0807	--	628	31
08...	1722	600	--	10	20...	0816	--	498	65
09...	0844	500	--	4	24...	0856	--	449	62
12...	1640	380	--	4	24...	1100	--	449	48
13...	0903	370	--	2	24...	1101	--	449	51
16...	0942	350	--	14	29...	0810	--	460	71
20...	0904	360	--	12	MAY				
23...	0841	350	--	7	01...	0821	--	466	66
27...	0903	340	--	5	04...	0805	--	422	60
MAR					08...	0820	--	403	74
02...	0930	340	--	19	11...	0821	--	376	86
05...	0903	350	--	14	14...	0812	--	446	81
08...	1330	340	--	2	15...	0900	--	526	67
10...	0842	--	694	56	16...	0832	--	610	69
10...	1206	--	880	103	16...	1715	--	613	40
10...	1732	--	1340	104	17...	0848	--	649	65
11...	0510	--	1360	60	17...	1714	--	735	38
11...	0802	--	1310	45	18...	0810	--	998	58
11...	1221	--	1420	32	18...	1721	--	964	38
12...	0832	--	1720	44	19...	0840	--	969	45
12...	1100	--	1710	93	19...	1712	--	975	39
12...	1101	--	1710	87	20...	0848	--	962	61
12...	1231	--	1700	9	21...	0820	--	792	37
12...	1712	--	1670	24	22...	0850	--	580	85
13...	0844	--	1570	39	23...	0808	--	511	60
13...	1214	--	1520	43	24...	0844	--	482	74
13...	1700	--	1480	35	25...	0850	--	460	84
14...	0903	--	1400	36	27...	0826	--	454	56
14...	1210	--	1360	11	29...	0850	--	479	86
14...	1706	--	1310	9	JUN				
15...	0807	--	1340	39	01...	0841	--	412	103
15...	1231	--	1350	10	04...	1340	--	382	104
15...	1745	--	1340	18	04...	1341	--	382	67
16...	0810	--	1320	28	05...	0822	--	376	87
16...	1241	--	1290	14	08...	0822	--	376	98
16...	1738	--	1270	17	10...	0813	--	361	99
17...	0803	--	1300	44	12...	0808	--	384	87
17...	1236	--	1270	14	15...	0812	--	389	57
17...	1717	--	1260	40	17...	0817	--	384	74
18...	0836	--	1380	39	19...	0808	--	349	87
18...	1228	--	1440	30	22...	0821	--	335	121
18...	1628	--	1530	40	26...	0811	--	328	102
19...	0831	--	1790	49	29...	1000	--	416	73
19...	1207	--	1810	22	JUL				
19...	1506	--	1840	51	03...	0931	--	335	18
20...	0906	--	1980	10	06...	1510	--	310	55
20...	1211	--	1980	16	10...	0808	--	356	57

ROCK RIVER BASIN

05436500 SUGAR RIVER NEAR BRODHEAD, WI--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
JUL , 1986					SEP , 1986				
13...	0805	--	387	93	13...	1750	--	758	40
17...	0833	--	403	76	14...	0850	--	688	69
20...	0950	--	326	76	14...	1838	--	590	78
24...	0803	--	284	86	15...	0805	--	474	52
27...	0811	--	301	82	15...	1848	--	436	55
31...	0820	--	289	82	18...	0819	--	387	47
AUG					19...	1318	--	395	54
03...	0833	--	270	123	19...	1319	--	395	53
07...	0853	--	304	74	21...	0832	--	396	31
10...	0821	--	306	65	22...	0808	--	488	64
11...	0840	--	293	54	22...	1748	--	524	54
11...	0841	--	293	56	23...	0821	--	550	55
14...	0803	--	287	56	23...	1755	--	529	51
17...	0842	--	297	68	24...	0834	--	499	47
21...	0849	--	268	60	24...	1710	--	512	53
24...	0807	--	260	50	25...	0813	--	1020	79
28...	0816	--	438	60	25...	1210	--	1220	103
31...	0907	--	299	43	25...	2021	--	1210	117
SEP					26...	0808	--	1020	46
04...	0811	--	274	64	26...	1711	--	1030	66
07...	0844	--	272	71	27...	0838	--	954	58
10...	0809	--	472	84	27...	1747	--	935	63
10...	1854	--	559	65	28...	0916	--	846	64
11...	0816	--	700	68	28...	1749	--	802	52
11...	1905	--	765	71	29...	0804	--	923	106
12...	0810	--	784	62	29...	1720	--	1030	57
12...	1820	--	806	67	30...	0814	--	1150	77
13...	0841	--	782	38	30...	1220	--	1180	33
					30...	1907	--	1250	94

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	102	84	57	110	8	13	8	9.3	18	17	12	11
2	84	69	74	261	10	16	8	9.1	18	18	12	11
3	69	56	74	320	12	17	8	9.1	18	19	12	11
4	56	46	64	278	13	17	8	8.8	18	21	12	11
5	46	39	36	115	11	19	8	8.8	18	29	12	11
6	38	32	26	58	10	19	8	8.6	18	32	12	11
7	34	28	20	36	10	15	8	8.4	18	32	12	11
8	40	33	22	38	9	13	8	8.6	12	19	12	11
9	47	45	19	33	12	16	8	8.6	8	11	13	15
10	55	69	20	40	15	20	8	9.1	8	9.3	73	215
11	52	76	17	33	18	24	8	9.7	8	8.6	45	174
12	50	84	10	18	22	29	8	10	8	8.2	35	158
13	55	103	12	21	23	25	8	11	8	8.0	36	151
14	73	138	16	28	25	33	8	10	8	7.8	22	84
15	54	90	16	32	24	37	8	10	8	7.6	21	77
16	41	52	19	41	18	28	8	10	8	7.6	21	74
17	36	40	24	50	16	27	8	11	8	7.6	33	113
18	37	38	30	71	15	27	8	11	8	7.6	38	153
19	38	40	43	117	12	20	8	11	8	7.8	39	189
20	38	44	34	100	16	25	8	11	8	7.8	16	87
21	40	49	22	63	22	34	12	15	8	8.0	17	84
22	46	52	14	32	29	43	15	18	8	7.8	14	57
23	53	60	9	17	34	50	15	17	8	7.6	23	72
24	66	105	8	13	41	63	15	17	8	7.6	21	55
25	87	169	7	11	48	78	15	16	8	7.6	22	53
26	60	124	8	12	51	77	15	16	8	7.3	23	56
27	44	78	8	12	34	53	15	15	8	7.3	22	50
28	36	43	9	13	22	35	15	15	8	7.3	29	61
29	30	34	9	12	15	23	18	18	---	---	30	59
30	26	28	8	10	12	19	18	18	---	---	37	69
31	46	48	---	---	9	15	18	17	---	---	38	67
TOTAL	---	1996	---	1995	---	930	---	375.1	---	346.4	---	2261

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	44	75	66	82	103	114	50	47	96	73	48	37
2	41	67	64	78	103	110	50	46	110	83	53	40
3	31	52	62	72	104	108	50	45	119	87	59	44
4	31	52	61	69	90	93	50	44	106	77	64	47
5	32	57	64	72	86	87	50	43	94	67	67	53
6	33	61	67	76	91	94	52	44	83	63	69	52
7	36	63	71	79	95	97	55	47	74	61	72	52
8	44	72	75	81	98	99	56	47	70	61	76	54
9	55	82	78	84	99	96	57	50	67	57	80	63
10	64	92	82	86	98	95	59	58	63	52	75	104
11	62	87	85	87	92	94	69	67	56	44	69	133
12	59	81	84	89	85	88	81	84	56	43	63	136
13	55	74	82	89	74	74	91	95	56	42	43	89
14	45	64	78	95	64	64	88	85	57	44	68	118
15	37	58	68	102	59	63	83	76	60	52	56	70
16	33	56	56	93	66	73	79	77	64	55	53	55
17	38	63	50	94	75	77	76	82	67	54	50	49
18	46	69	47	122	81	79	76	74	66	50	48	51
19	56	78	43	112	89	83	76	67	64	48	51	55
20	64	86	53	134	99	91	76	65	62	46	40	41
21	64	84	46	92	110	99	79	63	59	43	37	42
22	63	79	75	116	119	109	81	63	56	40	57	78
23	63	74	64	86	115	109	84	65	53	37	53	78
24	56	67	75	96	110	104	86	65	51	36	52	73
25	58	69	80	99	106	96	84	65	53	37	92	282
26	64	77	67	82	100	88	83	67	55	43	61	172
27	70	88	59	73	90	80	82	66	58	58	61	156
28	70	91	72	91	81	82	82	66	58	69	61	136
29	68	83	86	110	70	77	82	66	53	55	77	197
30	67	82	92	112	50	49	82	65	47	41	68	221
31	---	---	98	114	---	---	85	66	44	35	---	---
TOTAL	---	2183	---	2867	---	2672	---	1960	---	1653	---	2778
TOTAL LOAD FOR YEAR:		22016.5 TONS.										

ROCK RIVER BASIN

05437500 ROCK RIVER AT ROCKTON, IL

LOCATION.--Lat 42°26'55", long 89°04'11", in SW 1/4 NE 1/4 sec.24, T.46 N., R.1 E., Winnebago County, Hydrologic Unit 07090005, on right bank 750 ft 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" 1903-9; as "at Rockford" 1914-19. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORD.--WSP 325: 1903-9. WSP 895: 1904(M). WSP 1508: 1915, 1916-17(M). WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 707.94 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1906, nonrecording gage at site 800 ft upstream at datum about 1 ft higher. Oct. 1, 1906, to Mar. 31, 1909, nonrecording gage at site 800 ft upstream 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.--Estimated daily discharges: Nov. 3, 4, and Dec. 15 to Feb. 5. Water-discharge records good except those for estimated daily discharges, which are poor. Low flow regulated by powerplant above station.

AVERAGE DISCHARGE.--54 years (water years 1904-5, 1915-19, 1940-86), 4,083 ft³/s, 8.71 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 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, 16,700 ft³/s, Mar. 28, gage height, 10.50 ft; maximum gage height, 13.28 ft, Dec. 19 (backwater from ice); minimum daily, 2,830 ft³/s, Aug. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	3600	7290	10600	6400	4500	5190	15500	7240	5050	4620	4380	3560	
2	3520	10400	11900	6300	4500	5190	15100	7100	4850	4710	4070	3450	
3	3500	13100	11500	6200	4500	5190	14700	6940	4550	4600	4000	3570	
4	3640	13000	11600	6000	4800	5270	14200	6720	4250	4710	3850	3570	
5	3650	11500	11300	5900	7500	5700	13800	6300	4270	4520	3610	3460	
6	3560	11300	10300	5800	8020	6110	13100	6100	3970	4540	3780	3480	
7	3500	11400	9950	5700	7930	5940	12700	6020	3770	4670	3890	3440	
8	3440	11100	9780	5700	7750	5570	12300	5980	3900	4700	3950	3300	
9	3860	10700	9460	5600	7640	5540	12100	5850	3940	5060	3980	3350	
10	4770	10800	9200	5600	7240	9800	11700	5640	3810	4990	4020	3840	
11	5040	10700	9000	5700	7190	13700	11300	5390	3630	5110	3870	4280	
12	5280	10400	8540	5700	6830	12600	10800	5150	3680	5080	3840	5070	
13	5690	10400	7860	5700	6500	12800	10400	5090	3590	4960	3740	5440	
14	5870	10600	6840	5600	6350	14300	10200	5120	3770	4740	3780	6190	
15	5860	10500	5800	5500	6470	14400	10200	5230	3980	4840	3680	6540	
16	5920	10700	6400	5400	6360	14300	10000	5650	3980	5300	3780	6580	
17	5710	10800	5600	5300	6010	14700	9920	5950	4110	5060	3660	6450	
18	5380	11600	6000	5200	5810	14900	9590	7400	4300	5380	3770	6670	
19	5640	12700	6800	5000	5690	15600	9190	7770	4130	5380	3500	6790	
20	5920	12800	7800	4750	5770	15800	8920	7900	3990	5440	3360	6900	
21	5910	12700	9000	4750	5930	16000	8890	7770	3840	5320	3230	7150	
22	5900	12900	8000	4700	5820	16300	8640	7570	3710	5470	3220	7490	
23	5760	12900	7400	4700	5830	16400	8310	7140	3770	5110	3140	8070	
24	6170	12600	7200	4850	5700	16300	8030	6490	3550	5080	2830	8640	
25	6300	12200	7100	4650	5670	16300	7850	6120	3790	4900	2940	11600	
26	6440	11700	7000	4400	5520	16300	7840	5870	3450	4970	2990	13200	
27	6550	11200	6900	4200	5520	16500	7540	5850	3580	4800	3220	13800	
28	6560	10900	6700	4500	5370	16600	7310	5920	3860	4750	3210	13800	
29	6330	10500	6600	4500	---	16500	7070	5800	4040	4590	3180	14700	
30	5980	10100	6500	4500	---	16300	7400	5640	4340	4420	3630	16400	
31	5860	---	6400	4500	---	15900	---	5300	---	4350	3600	---	
TOTAL	161110	339490	255030	163300	172720	382000	314600	194010	119450	152170	111700	210780	
MEAN	5197	11320	8227	5268	6169	12320	10490	6258	3982	4909	3603	7026	
MAX	6560	13100	11900	6400	8020	16600	15500	7900	5050	5470	4380	16400	
MIN	3440	7290	5600	4200	4500	5190	7070	5090	3450	4350	2830	3300	
CFSM	.82	1.78	1.29	.83	.97	1.94	1.65	.98	.63	.77	.57	1.10	
IN.	.94	1.98	1.49	.95	1.01	2.23	1.84	1.13	.70	.89	.65	1.23	
CAL YR 1985	TOTAL	2223460		MEAN	6092	MAX	20400	MIN	1580	CFSM	.96	IN.	13.00
WTR YR 1986	TOTAL	2576360		MEAN	7059	MAX	16600	MIN	2830	CFSM	1.11	IN.	15.00

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, on right bank at upstream side of Russell Road bridge, 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-75-1: Drainage area. WDR IL-76-1: 1960-68(M), 1973(M).

GAGE.--Water-stage recorder. Datum of gage is 662.00 ft above 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.--Estimated daily discharges: Dec. 12 to Feb. 7, Feb. 13-21, and Aug. 9-19. Water-discharge records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--19 years, 101 ft³/s, 11.15 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, and Sept. 27, 1986; no flow at times during several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,640 ft³/s, Sept. 27, gage height, 10.75 ft; minimum daily, 3.0 ft³/s, Oct. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	60	316	31	37	70	122	44	145	223	47	20
2	3.0	178	400	31	43	66	106	44	125	232	42	15
3	3.0	251	418	31	56	66	95	39	93	232	34	13
4	4.0	301	439	31	100	77	87	34	62	226	28	11
5	5.2	336	463	32	180	114	83	30	58	213	22	10
6	11	358	462	32	250	153	78	27	67	196	30	8.7
7	8.3	367	435	30	290	166	73	25	78	193	70	8.6
8	8.7	355	396	28	304	167	65	21	73	201	93	8.0
9	17	336	352	28	279	160	57	18	59	225	88	7.1
10	58	336	311	28	241	345	51	16	50	220	75	19
11	84	327	271	28	183	615	47	14	65	242	64	106
12	98	317	220	28	122	871	43	14	71	275	57	158
13	106	317	180	28	76	974	40	17	63	304	38	177
14	101	316	150	27	60	887	39	18	51	302	37	186
15	93	308	120	26	50	764	51	17	50	289	36	185
16	75	319	95	26	45	656	69	20	56	287	32	170
17	54	338	80	30	40	560	76	35	56	273	27	137
18	41	369	66	48	38	492	72	126	47	256	22	92
19	98	477	55	80	40	462	64	161	37	239	19	61
20	161	582	52	100	65	429	55	169	38	225	17	51
21	188	647	49	120	90	390	50	172	40	208	15	48
22	211	682	47	130	116	351	47	170	39	191	14	63
23	222	676	46	150	120	316	43	159	34	171	12	217
24	223	628	45	140	109	275	41	137	28	144	11	251
25	213	566	41	125	94	245	40	107	23	120	10	529
26	193	507	39	100	84	218	40	78	21	104	12	1080
27	163	439	37	80	77	194	40	70	93	87	44	1600
28	128	384	35	64	73	183	38	104	178	73	66	1500
29	93	336	34	54	---	173	32	131	193	62	56	1470
30	65	300	33	43	---	156	37	145	207	52	37	1430
31	51	---	32	35	---	138	---	151	---	44	27	---
TOTAL	2782.4	11713	5719	1764	3262	10733	1781	2313	2200	6109	1182	9631.4
MEAN	89.8	390	184	56.9	117	346	59.4	74.6	73.3	197	38.1	321
MAX	223	682	463	150	304	974	122	172	207	304	93	1600
MIN	3.0	60	32	26	37	66	32	14	21	44	10	7.1
CFSM	.73	3.17	1.50	.46	.95	2.81	.48	.61	.60	1.60	.31	2.61
IN.	.84	3.54	1.73	.53	.99	3.25	.54	.70	.67	1.85	.36	2.91
CAL YR 1985	TOTAL	45771.3	MEAN	125	MAX	933	MIN	1.1	CFSM	1.02	IN.	13.84
WTR YR 1986	TOTAL	59189.8	MEAN	162	MAX	1600	MIN	3.0	CFSM	1.32	IN.	17.90

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 above National Geodetic Vertical Datum of 1929 (levels by city of Waukesha).

REMARKS.--Estimated daily discharge: None, except for ice periods listed in rating table below. Records good except for ice-affected periods, which are fair. There is occasional regulation from mill dam 1.0 mi upstream.

AVERAGE DISCHARGE.--23 years, 98.6 ft³/s, 10.63 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, 955 ft³/s Sept. 28, gage height, 5.61 ft; minimum, 9.2 ft³/s Aug. 22, gage height, 1.78 ft.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Stage-discharge relation affected by ice Dec. 14 to Jan. 10, Jan. 14, and Jan. 26 to Feb. 3.)

1.9	15	3.0	166
2.1	30	4.0	411
2.4	64	5.0	729
		5.5	912

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	187	272	74	56	86	226	84	43	175	86	92
2	20	350	347	72	60	87	213	78	41	165	77	78
3	22	382	353	70	64	89	202	71	40	153	69	67
4	51	341	316	68	133	95	177	68	41	125	64	63
5	63	297	291	68	189	109	191	52	40	98	49	62
6	44	272	278	66	143	112	182	59	38	87	152	59
7	35	250	260	64	135	89	178	57	50	83	302	54
8	34	233	241	64	134	101	168	50	45	163	276	53
9	67	241	227	66	121	98	160	46	41	156	236	56
10	110	281	220	68	111	370	156	43	55	130	259	198
11	77	290	216	71	102	592	144	42	75	133	272	443
12	103	288	191	70	92	659	131	50	89	144	258	546
13	117	314	160	66	84	708	121	50	76	183	227	648
14	89	336	150	64	79	720	137	47	66	171	210	731
15	70	327	130	60	75	643	180	51	66	188	180	670
16	66	336	120	64	73	557	144	53	66	245	142	570
17	68	340	120	68	67	518	156	86	56	243	113	497
18	66	398	110	72	66	578	144	128	48	204	89	434
19	80	459	100	80	105	655	130	114	45	177	70	385
20	77	462	96	79	121	564	121	89	44	149	61	328
21	71	432	94	80	105	557	118	77	38	128	64	294
22	67	389	90	87	106	488	112	69	49	115	44	296
23	85	335	90	86	101	413	104	64	55	105	46	339
24	148	288	88	83	97	355	99	59	60	88	46	375
25	163	260	86	82	95	325	98	55	52	126	45	446
26	135	237	84	70	95	326	121	51	44	119	155	622
27	115	219	82	66	93	329	138	57	320	95	239	718
28	100	201	80	62	89	308	127	62	322	151	192	703
29	88	177	80	60	---	286	100	57	260	131	147	834
30	79	176	78	58	---	271	89	50	198	103	123	900
31	76	---	76	56	---	246	---	47	---	93	109	---
TOTAL	2410	9098	5126	2164	2791	11334	4367	1966	2463	4426	4402	11561
MEAN	77.7	303	165	69.8	99.7	366	146	63.4	82.1	143	142	385
MAX	163	462	353	87	189	720	226	128	322	245	302	900
MIN	20	176	76	56	56	86	89	42	38	83	44	53
CFSM	.62	2.41	1.31	.55	.79	2.91	1.16	.50	.65	1.14	1.13	3.06
IN.	.71	2.69	1.51	.64	.82	3.35	1.29	.58	.73	1.31	1.30	3.41

CAL YR 1985 TOTAL 44887 MEAN 123 MAX 635 MIN 14 CFSM .98 IN 13.25
WTR YR 1986 TOTAL 62108 MEAN 170 MAX 900 MIN 20 CFSM 1.35 IN 18.34

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 above National Geodetic Vertical Datum of 1929 (South-eastern Wisconsin Regional Planning Commission bench mark). Prior to Oct. 19, 1981, at datum 0.85 ft higher.

REMARKS.--Estimated daily discharges: Oct. 1-7, Jan. 1-28, June 18, and ice period listed in rating table below. Records good except for estimated daily discharges, which are poor. Discharge affected by manipulation of gates at dams 800 ft and 11.4 mi upstream.

AVERAGE DISCHARGE.--13 years, 59.7 ft³/s, 10.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 300 ft³/s Mar. 5, 1976, gage height, 2.50 ft; maximum gage height, 3.55 ft, Sept. 29, 1986; minimum daily, 1.8 ft³/s Dec. 23, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 278 ft³/s Sept. 29, gage height, 3.55 ft; minimum daily, 15 ft³/s Dec. 24.

RATING TABLE (gage height, in feet, and discharge, in cubic feet per second).
(Shifting-control method used Oct. 15 to Nov. 23 and Sept. 10-16, 22-30; stage-discharge relation affected by ice Nov. 24 and Dec. 28.)

2.0	15	2.6	103
2.2	34	3.0	199
2.4	64	3.3	271

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	79	88	47	60	67	105	61	63	98	34	33
2	27	125	92	45	60	67	99	59	52	58	24	34
3	26	133	96	45	60	64	96	58	41	56	24	33
4	30	174	100	44	91	64	95	60	42	57	25	32
5	41	191	103	44	110	62	96	58	45	55	25	31
6	38	148	101	44	111	60	95	57	49	54	33	29
7	37	125	97	44	106	69	94	57	56	51	62	30
8	42	112	91	44	103	72	91	56	60	56	78	38
9	66	102	87	44	96	66	77	33	77	76	80	46
10	97	100	84	45	92	105	61	19	84	83	79	88
11	98	75	81	48	88	145	60	23	74	124	75	115
12	126	82	80	52	81	195	60	29	68	128	68	118
13	143	92	78	52	74	178	60	36	65	124	63	116
14	133	93	78	52	69	152	62	41	64	116	61	113
15	124	91	76	52	65	155	64	90	63	69	58	109
16	64	133	75	54	65	157	66	129	53	57	57	105
17	40	149	74	60	51	156	68	117	29	62	56	54
18	45	132	72	64	35	157	70	114	34	61	27	40
19	51	110	68	64	42	180	72	68	38	56	18	46
20	55	120	66	64	50	186	67	56	37	54	22	52
21	59	142	62	64	59	152	70	60	37	52	23	58
22	62	126	62	62	65	116	71	61	37	48	25	96
23	89	87	34	62	66	133	68	78	36	41	26	122
24	125	86	15	62	65	127	66	78	40	42	26	97
25	115	84	24	62	61	116	64	71	41	44	25	107
26	101	86	33	60	63	120	63	49	39	42	60	134
27	91	83	38	50	65	118	60	46	73	41	74	134
28	84	80	54	52	66	120	61	53	61	42	69	157
29	53	76	56	52	---	120	60	67	64	40	47	258
30	43	76	55	54	---	116	59	69	118	41	29	237
31	44	---	50	59	---	111	---	66	---	42	32	---
TOTAL	2177	3292	2170	1647	2019	3706	2200	1919	1640	1970	1405	2662
MEAN	70.2	110	70.0	53.1	72.1	120	73.3	61.9	54.7	63.5	45.3	88.7
MAX	143	191	103	64	111	195	105	129	118	128	80	258
MIN	26	75	15	44	35	60	59	19	29	40	18	29
CFSM	.95	1.48	.95	.72	.97	1.62	.99	.84	.74	.86	.61	1.20
IN.	1.09	1.65	1.09	.83	1.01	1.86	1.10	.96	.82	.99	.71	1.34
CAL YR 1985	TOTAL	22115.9	MEAN	60.6	MAX	191	MIN	9.9	CFSM	.82	IN	11.10
WTR YR 1986	TOTAL	26807.0	MEAN	73.4	MAX	258	MIN	15	CFSM	.99	IN	13.46

ILLINOIS RIVER BASIN

424848088083100 WIND LAKE AT WIND LAKE, WI

LOCATION.--Lat 42°48'48", long 88°08'31", in NE 1/4 NW 1/4 sec.16, T.4 N., R.20 E., Racine County, Hydrologic Unit 07120006, at Wind Lake.

DRAINAGE AREA.--40.2 mi².

LAKE-STAGE RECORDS

PERIOD OF RECORD.--March 6, 1985, to current year.

GAGE.--Lake stages read at the outlet of the lake by M. Reisner.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage-height observed, 8.54 ft Apr. 17, 24, 29, 1985; minimum observed, 6.95 ft Mar. 28, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum gage-height observed, 8.48 ft, Aug. 3; minimum observed, 6.95 ft, Mar. 28.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---				---	---	---	8.29	---	---	---
2	---	---				---	7.83	---	---	8.15	---	---
3	---	---				---	---	8.22	---	---	8.48	---
4	---	---				---	---	---	---	---	---	---
5	---	---				---	---	---	---	---	---	---
6	---	---				---	---	---	---	8.19	---	8.23
7	7.20	---				---	---	---	---	---	---	---
8	---	7.82				---	8.35	---	8.29	8.19	---	---
9	---	---				---	---	---	---	---	---	---
10	---	---				---	---	8.17	---	---	---	---
11	---	---				---	---	---	---	---	8.25	---
12	7.39	---				---	---	---	---	---	---	---
13	---	---				7.90	8.00	---	---	---	---	8.06
14	---	---				---	---	---	---	---	---	---
15	---	---				---	---	---	8.27	---	8.29	---
16	---	8.43				---	---	---	---	---	---	---
17	7.42	---				---	---	---	---	---	---	---
18	---	---				---	---	---	---	---	---	---
19	---	---				8.15	8.17	8.30	---	8.44	---	---
20	---	---				---	---	---	---	---	---	8.27
21	---	---				---	---	---	---	---	---	---
22	---	---				---	---	---	8.25	---	---	---
23	---	8.30				---	---	---	---	---	---	---
24	---	---				---	---	---	---	---	8.43	---
25	7.56	---				---	---	---	---	---	---	---
26	---	---				7.06	---	---	8.22	---	---	---
27	---	---				---	8.23	---	---	8.42	---	---
28	---	---				6.95	---	8.33	---	---	---	8.43
29	7.46	---				---	---	---	---	---	---	---
30	---	7.83				---	---	---	---	---	---	---
31	---	---				---	---	---	---	---	8.24	---

424915088083900 WIND LAKE AT WIND LAKE, WI--CONTINUED

WATER-QUALITY RECORDS

LOCATION.--Lat 42°49'15", long 88°08'39", in NW 1/4 SW 1/4 sec.9, T.4 N., R.20 E., Racine County, Hydrologic Unit 07120006, at Wind Lake.

PERIOD OF RECORD.--February 20, 1984, to current year.

REMARKS.--Lake sampled near center at a depth of 52 feet.

WATER QUALITY DATA, MARCH 4 TO AUGUST 20, 1986
(Milligrams per liter unless otherwise indicated)

	Mar. 4		Apr. 18		June 18		July 24		Aug. 20	
Depth of sample (ft)	3	51	3	51.5	3	51	3	52	3	51
Specific conductance (uS)	664	833	570	580	569	618	530	648	537	674
pH	8.2	7.4	9.2	8.6	8.8	7.3	8.6	7.0	8.8	7.7
Water temperature (°C)	2.0	4.0	9.5	8.0	22.5	14.0	27.5	15.0	23.5	15.0
Color (Pt-Co. scale)	--	--	40	40	--	--	--	--	--	--
Turbidity (NTU)	--	--	5.6	12	--	--	--	--	--	--
Secchi-disc (meters)	--	--	--	0.6	1.2	--	0.4	--	0.4	--
Dissolved oxygen	11.7	0.0	11.7	9.2	11.0	0.0	7.2	0.0	7.9	0.0
Hardness, as CaCO ₃	--	--	230	230	--	--	--	--	--	--
Calcium, dissolved (Ca)	--	--	48	49	--	--	--	--	--	--
Magnesium, dissolved (Mg)	--	--	27	27	--	--	--	--	--	--
Sodium, dissolved (Na)	--	--	23	24	--	--	--	--	--	--
Potassium, dissolved (K)	--	--	2.7	2.7	--	--	--	--	--	--
Alkalinity as CaCO ₃	--	--	161	161	--	--	--	--	--	--
Sulfate, dissolved (SO ₄)	--	--	70	70	--	--	--	--	--	--
Chloride, dissolved (Cl)	--	--	48	48	--	--	--	--	--	--
Silica, dissolved (SiO ₂)	--	--	0.0	0.0	--	--	--	--	--	--
Solids, dissolved, at 180 C	--	--	346	340	--	--	--	--	--	--
Nitrogen, nitrate, total (as N)	--	--	.38	.38	--	--	--	--	--	--
Nitrogen, nitrite, total (as N)	--	--	.02	.02	--	--	--	--	--	--
Nitrogen, ammonia, total (as N)	--	--	.10	.13	--	--	--	--	--	--
Nitrogen, organic, total (as N)	--	--	1.4	1.4	--	--	--	--	--	--
Nitrogen, total (as N)	--	--	1.9	1.9	--	--	--	--	--	--
Total phosphorus (as P)	--	--	.067	.073	.043	.370	.041	.470	.042	.560
Phosphorus, ortho, diss (as P)	--	--	.003	.003	--	.310	--	.430	--	.360
Iron, dissolved (Fe) ug/L	--	--	24	9	--	--	--	--	--	--
Manganese, dissolved (Mn) ug/L	--	--	11	4	--	--	--	--	--	--
Chlorophyll <i>a</i> , phyto. (ug/L)	--	--	58 ^{1/}	--	37	--	36	--	34	--

1/ Adjusted from 37 ug/L by the Wisconsin State Laboratory of Hygiene.

3-4-86

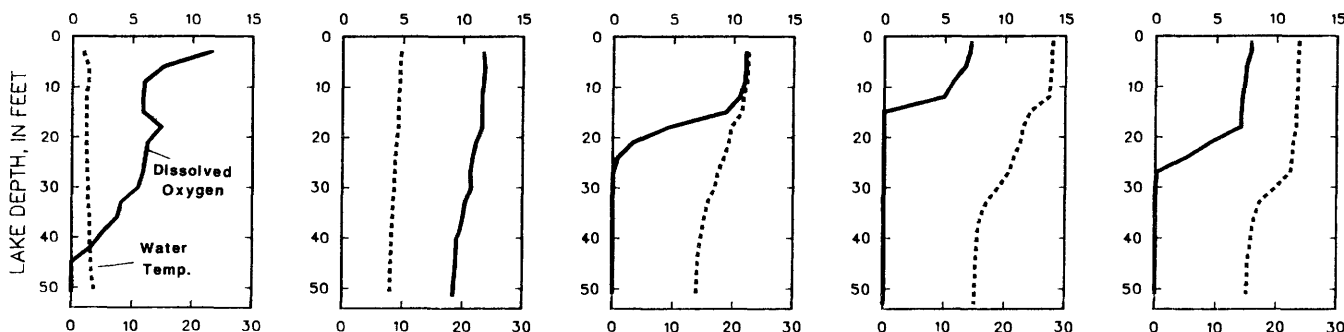
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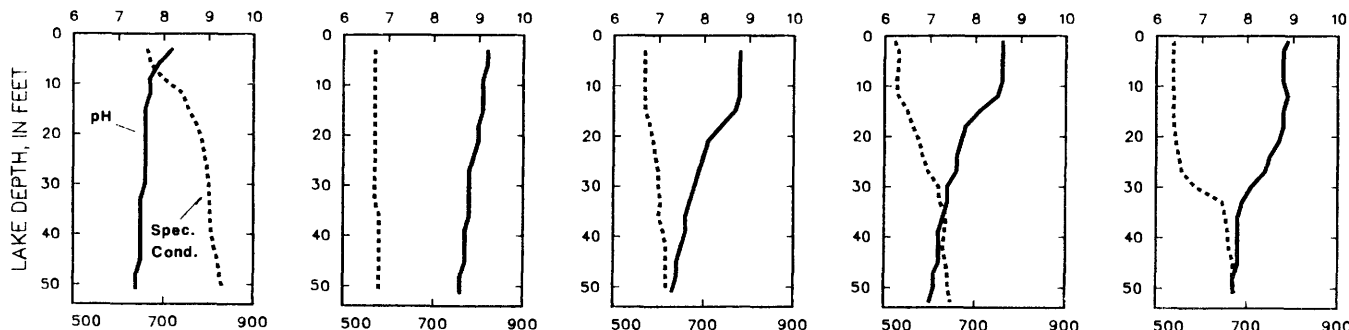
8-20-86

DISSOLVED OXYGEN, IN MILLIGRAMS PER LITER



WATER TEMPERATURE, IN DEGREES CELSIUS

PH, IN STANDARD UNITS



SPECIFIC CONDUCTANCE, IN MICROSIEMENS PER CENTIMETER

ILLINOIS RIVER BASIN

424727088332300 PLEASANT LAKE NEAR LA GRANGE, WI

LAKE-STAGE RECORDS

LOCATION.--Lat 42°47'27", long 88°33'23", in SW 1/4 sec.24, T.4N., R.16 E., Walworth County, Hydrologic Unit 07120006, 2.6 mi southeast of LaGrange.

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Staff gage read by Gordon Dobbs. Elevation of gage is 879 ft, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 8.60 ft, Sept. 29, 1986; minimum observed, 7.69 ft, Oct. 6, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 8.60 ft, Sept. 29; minimum observed, 7.80 ft, Oct. 6.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT	DATE	GAGE HEIGHT
OCT. 6	7.80	NOV. 3	8.26	MAY 25	8.40	JUNE 22	8.35	JULY 20	8.38	SEPT. 1	8.20
OCT. 12	8.04	NOV. 10	8.26	MAY 31	8.40	JUNE 29	8.50	JULY 27	8.30	SEPT. 7	8.10
OCT. 20	8.05	NOV. 17	8.30	JUNE 8	8.35	JULY 3	8.38	AUG. 3	8.20	SEPT. 14	8.25
OCT. 26	8.10	MAY 18	8.50	JUNE 15	8.25	JULY 13	8.50	AUG. 9	8.36	SEPT. 21	8.30
								AUG. 17	8.30	SEPT. 29	8.60

WATER-QUALITY RECORDS

LOCATION.--Lat 42°47'16", long 88°33'02", in SE 1/4 sec.24, T.4N., R.16 E., Walworth County, Hydrologic Unit 07120006, near center of lake, and 2.7 mi southeast of LaGrange.

PERIOD OF RECORD.--June 1985 to current year.

REMARKS.--Secchi disc readings made by Gordon Dobbs.

SECCHI DISC TRANSPARENCY (IN METERS) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH	DATE	SECCHI DEPTH
OCT. 6	2.4	NOV. 10	3.4	MAY 25	4.3	JUNE 29	2.7	AUG. 3	2.3	SEPT. 1	1.9
OCT. 12	2.4	NOV. 17	4.3	MAY 31	4.0	JULY 3	3.2	AUG. 9	2.4	SEPT. 7	1.8
OCT. 20	2.4	MAY 6	2.1	JUNE 8	2.7	JULY 13	1.8	AUG. 17	2.1	SEPT. 14	2.0
OCT. 26	2.7	MAY 11	2.4	JUNE 15	3.4	JULY 20	2.8	AUG. 23	2.0	SEPT. 21	2.6
NOV. 3	3.0	MAY 18	3.7	JUNE 22	3.7	JULY 27	2.9				

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 above National Geodetic Vertical Datum of 1929. Prior to Sept. 1, 1956, nonrecording gage and concrete dam.

REMARKS.--Estimated daily discharges: None, except for ice-affected periods, Dec. 2-5 and 15-20. Records good except for ice-affected periods, 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 and data-collection platform at station.

AVERAGE DISCHARGE.--47 years, 544 ft³/s, 8.51 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, 3,630 ft³/s Sept. 30, stage rising, peak occurred Oct. 2, 1986; maximum peak discharge, 3,600 ft³/s, Mar. 13, gage height, 7.84 ft; maximum gage height, 8.09 ft, Dec. 4 (backwater from ice); minimum daily, 197 ft³/s Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	206	716	1330	380	461	668	1310	608	515	1420	477	463
2	201	1280	1600	333	507	678	1200	593	521	1270	478	389
3	197	1600	2000	302	528	681	1170	544	489	1110	387	375
4	220	1680	2600	363	611	692	1140	487	449	938	350	352
5	292	1590	2400	389	1030	746	1090	379	491	770	325	334
6	324	1490	2030	409	1200	804	1040	405	675	720	516	308
7	306	1440	1590	428	1240	692	1020	439	654	831	1150	248
8	295	1360	1450	431	1190	739	988	432	603	1030	1240	210
9	341	1300	1370	453	1120	810	932	407	545	1110	1070	223
10	606	1410	1320	463	1010	1450	895	379	495	1120	887	374
11	689	1530	1300	460	945	2820	831	362	500	1090	770	841
12	692	1510	1240	448	904	3410	552	359	524	1070	685	1190
13	799	1480	848	440	833	3360	573	367	534	1120	653	1180
14	763	1490	840	432	765	3310	563	331	524	1130	669	1070
15	691	1500	820	429	701	3140	666	371	584	1050	702	868
16	634	1490	820	425	670	3000	822	452	604	1080	702	934
17	573	1560	800	430	642	2780	804	534	559	1120	663	908
18	534	1630	800	476	617	2700	744	783	484	1050	616	924
19	653	1800	780	585	609	2800	689	926	441	1230	557	1000
20	740	2030	760	634	674	2810	660	864	423	1270	443	986
21	699	2080	731	620	724	2600	666	782	415	1080	408	1010
22	641	2000	719	634	738	2480	656	700	394	762	381	1100
23	587	1870	719	660	730	2360	604	632	388	715	350	1640
24	646	1720	700	647	715	2220	525	616	403	578	265	1820
25	789	1550	626	622	702	2050	538	559	379	586	244	2260
26	774	1470	600	595	688	1980	556	514	330	672	273	2720
27	759	1460	596	508	700	1960	537	545	737	645	574	2900
28	720	1400	579	493	669	1860	516	733	1520	614	595	2860
29	656	1370	580	498	---	1740	515	799	1670	600	565	2960
30	619	1290	565	471	---	1620	561	718	1570	565	531	3430
31	591	---	496	461	---	1490	---	589	---	524	500	---
TOTAL	17237	46096	33609	14919	21923	60450	23363	17209	18420	28870	18026	35877
MEAN	556	1537	1084	481	783	1950	779	555	614	931	581	1196
MAX	799	2080	2600	660	1240	3410	1310	926	1670	1420	1240	3430
MIN	197	716	496	302	461	668	515	331	330	524	244	210
CFSM	.64	1.77	1.25	.55	.90	2.25	.90	.64	.71	1.07	.67	1.38
IN.	.74	1.98	1.44	.64	.94	2.59	1.00	.74	.79	1.24	.77	1.54

CAL YR 1985	TOTAL	283756	MEAN	777	MAX	3020	MIN	69	CFSM	.90	IN	12.16
WTR YR 1986	TOTAL	335999	MEAN	921	MAX	3430	MIN	197	CFSM	1.06	IN	14.40

ILLINOIS RIVER BASIN

05548164 POWERS LAKE AT POWERS LAKE, WI

LOCATION.--Lat 42°32'40", long 88°18'41", in NW 1/4 SE 1/4 sec.13, T.1 N., R.18 E., Walworth County, Hydrologic Unit 07120006, 50 ft upstream of Powers Lake outlet at Powers Lake.

DRAINAGE AREA.--3.12 mi².

LAKE-STAGE RECORDS

PERIOD OF RECORD.--January 14 to September 29, 1986.

GAGE.--Staff gage read by Robert Tucker, Roland Laughlin, and Ms. Thompson.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 11.05 ft, Sept. 29; minimum observed, 9.98 ft, Sept. 5.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	---	---	---	---	---	---	---	10.02
2				---	---	10.16	---	---	---	10.35	---	10.03
3				---	---	---	---	---	10.14	---	10.13	10.02
4				---	---	10.13	---	---	---	---	10.10	10.00
5				---	10.20	---	---	---	---	10.33	---	9.98
6				---	---	---	---	---	---	---	10.22	---
7				---	---	---	10.36	10.19	---	---	---	---
8				---	---	---	---	---	---	10.45	10.20	---
9				---	---	---	---	---	---	---	10.17	---
10				---	10.19	---	---	---	---	10.55	10.15	10.06
11				---	---	---	---	---	10.11	---	10.12	---
12				---	---	10.37	---	---	---	---	10.10	10.07
13				---	---	---	---	---	---	---	10.08	10.06
14				10.08	---	---	---	10.14	---	---	10.10	10.05
15				---	---	---	10.30	---	---	---	10.11	10.05
16				---	10.15	---	---	---	---	---	---	10.05
17				---	---	10.47	10.29	---	---	10.50	10.12	---
18				---	---	---	---	---	10.09	---	10.11	10.03
19				---	---	---	---	---	10.09	---	10.09	---
20				---	---	10.52	---	---	---	---	10.08	---
21				10.05	---	---	10.28	10.26	---	---	10.08	---
22				---	10.08	---	---	---	---	10.43	---	---
23				---	---	---	---	---	---	---	10.05	10.58
24				---	10.17	10.44	---	---	---	---	10.03	10.60
25				---	---	---	---	---	---	---	10.04	10.90
26				10.05	---	---	---	---	10.08	---	10.11	11.02
27				---	---	---	---	---	---	---	---	---
28				---	---	---	10.20	10.24	---	---	10.06	---
29				---	---	---	---	---	---	---	10.04	11.05
30				---	---	---	---	---	---	10.23	10.02	---
31				---	---	10.40	---	---	---	---	10.02	---

ILLINOIS RIVER BASIN

423246088175800 POWERS LAKE AT POWERS LAKE, WI--CONTINUED

WATER-QUALITY RECORDS

LOCATION.--Lat 42°32'46", long 88°17'58", in NW 1/4 SE 1/4 sec.13, T.1 N., R.18 E., Walworth County, Hydrologic Unit 07120006, at Powers Lake.

DRAINAGE AREA.--3.42 mi².

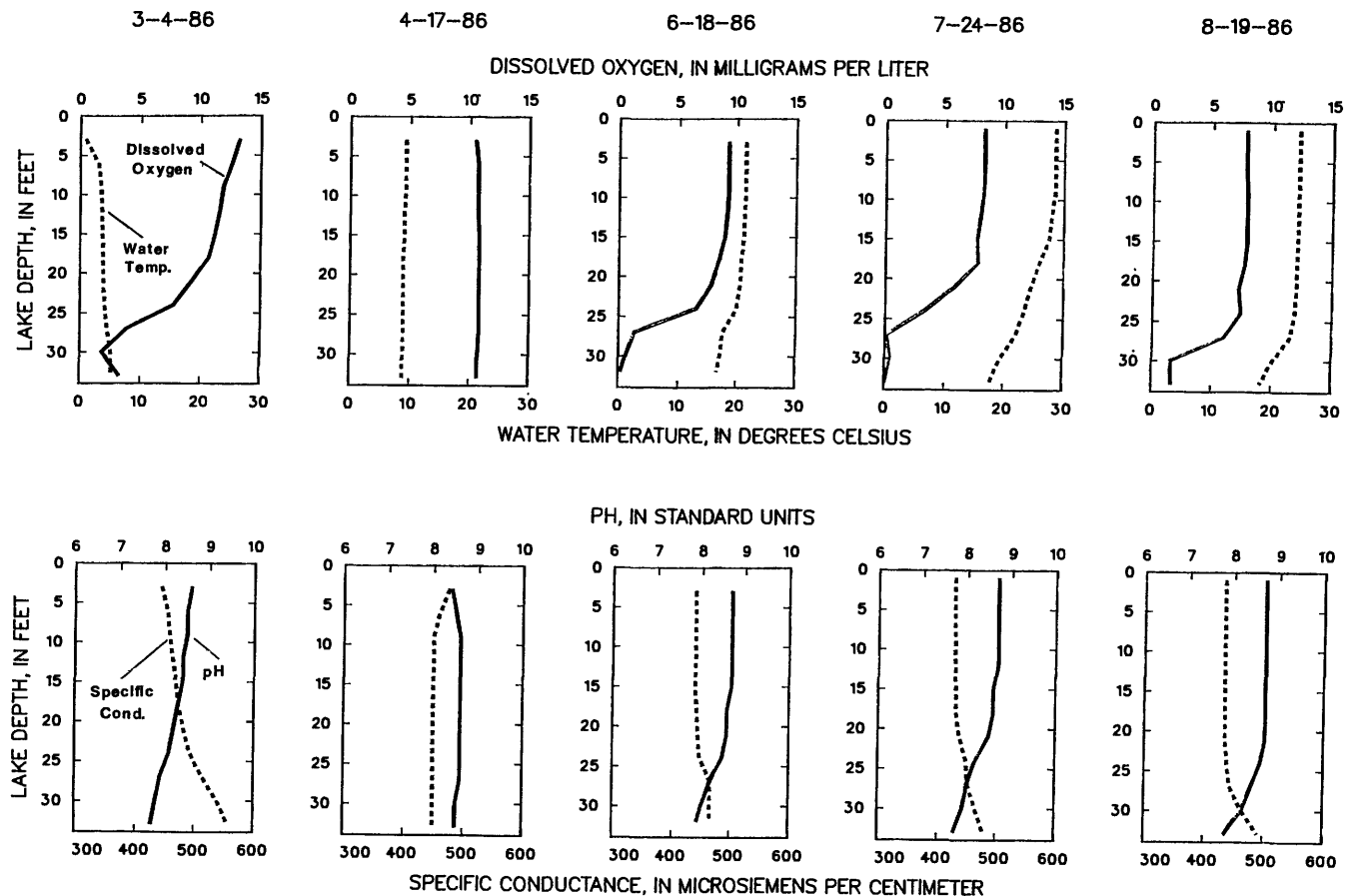
PERIOD OF RECORD.--March 4 to August 19, 1986

REMARKS.--Lake sampled near center at a depth of 33 ft.

WATER-QUALITY DATA, MARCH 4 TO AUGUST 19, 1986
(Milligrams per liter unless otherwise indicated)

	Mar. 4		Apr. 17		June 18		July 24		Aug. 19	
Depth of sample (ft)	3.0	33.0	3.0	31.5	3.0	32.0	3.0	32.5	3.0	33.5
Specific conductance (uS)	444	558	476	450	439	466	428	480	435	492
pH	8.6	7.7	8.4	8.5	8.7	7.9	8.7	7.7	8.7	7.8
Water temperature (°C)	1.0	5.5	9.5	9.0	21.5	17.0	28.5	18.0	24.5	18.0
Color (Pt-Co. scale)	--	--	5	5	--	--	--	--	--	--
Turbidity (NTU)	--	--	2.1	10	--	--	--	--	--	--
Secchi-disc (meters)	--	--	--	5.0	--	--	--	--	--	--
Dissolved oxygen	13.2	3.3	10.5	10.7	9.3	0.2	8.3	0.0	7.8	1.7
Hardness, as CaCO ₃	--	--	220	220	--	--	--	--	--	--
Calcium, dissolved (Ca)	--	--	37	37	--	--	--	--	--	--
Magnesium, dissolved (Mg)	--	--	30	30	--	--	--	--	--	--
Sodium, dissolved (Na)	--	--	10	10	--	--	--	--	--	--
Potassium, dissolved (K)	--	--	2.3	2.3	--	--	--	--	--	--
Alkalinity as CaCO ₃	--	--	179	152	--	--	--	--	--	--
Sulfate, dissolved (SO ₄)	--	--	27	32	--	--	--	--	--	--
Chloride, dissolved (Cl)	--	--	22	22	--	--	--	--	--	--
Silica, dissolved (SiO ₂)	--	--	9.5	9.4	--	--	--	--	--	--
Solids, dissolved, at 180 C	--	--	255	250	--	--	--	--	--	--
Nitrogen, nitrate, total (as N)	--	--	.995	.045	--	--	--	--	--	--
Nitrogen, nitrite, total (as N)	--	--	<.010	<.010	--	--	--	--	--	--
Nitrogen, ammonia, total (as N)	--	--	.020	.020	--	--	--	--	--	--
Nitrogen, organic, total (as N)	--	--	.38	.58	--	--	--	--	--	--
Nitrogen, total (as N)	--	--	1.40	--	--	--	--	--	--	--
Total phosphorus (as P)	--	--	.007	.011	.009	.010	.006	.037	.018	.022
Phosphorus, ortho, diss (as P)	--	--	.003	.004	--	.004	.003	.002	.006	.008
Iron, dissolved (Fe) ug/L	--	--	10	6	--	--	--	--	--	--
Manganese, dissolved (Mn) ug/L	--	--	<1	<1	--	--	--	--	--	--
Chlorophyll <i>a</i> , phyto. (ug/L)	--	--	5 ^{1/}	--	3	--	4	--	6	--

1/ Adjusted from 3 ug/L by the Wisconsin State Laboratory of Hygiene.



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 1986

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1986						ANNUAL MAXIMUM	
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)
STREAMS TRIBUTARY TO LAKE SUPERIOR							
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	1959-86	08-07-86	16.03	240
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	1957-86	09-19-86	12.31	230
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	1959-86	03-31-86	12.72	223
*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# 1967-86	06-12-86	10.79	225
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# 1976-86	03-31-86	4.52	717
*04027200	PEARL CREEK AT GRANDVIEW, WIS.	LAT 46°22'05", LONG 91°05'27", IN NE 1/4 SEC.22, T.45 N., R.6 W., BAYFIELD COUNTY, AT BOX CULVERT ON U.S. HIGHWAY 63, 0.8 MI EAST OF GRANDVIEW.	16.9	1960-86	03-31-86	14.75	320
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	1960-86	06-12-86	10.69	12
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# 1970-86	03-31-86	2.58	70
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	1970-86	03-31-86	12.04	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	1958-86	03-30-86	11.82	310
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	1970-86	03-30-86	15.57	650
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	1970-86	03-30-86	14.68	1,330

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1986

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1966						ANNUAL MAXIMUM	
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)
STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED							
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	1958-86	03-30-86	10.62	152
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 INTER-SECTION WITH STATE HIGHWAY 32 AT WABENO.	34.1	1970-86	03-30-86	12.18	178
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	1958-86	03-25-86	13.57	390
*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	1961-86	11-02-85	15.83	1,300
*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	1959-86	09-22-86	12.58	140
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	1970-86	12-01-85	13.30	78
*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	1958-86	09-27-86	12.67	155
*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	1970-86	03-19-86	9.86	43
*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# 1973-86	11-02-85	11.0	51
*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# 1967-86	09-12-86	10.99	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	1961-86	09-11-86	17.47	2,080
*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	1960-86	03-23-86	14.91	1,250
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	1959-86	03-24-86	14.74	560
*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	1961-86	09-11-86	13.49	1,380
*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	1958-86	09-11-86	13.28	360

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1986

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							
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	1959-86	06-27-86	21.47	660
*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	1958-86	03-05-86	16.12	410
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	1962-86	09-11-86	12.68	168
*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	1960-86	09-11-86	16.82	170
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	1961-86	03-31-86	16.08	515
*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# 1967-86	03-31-86	13.63	225
*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	1958-86	03-30-86 D	14.18	220
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	1959-86	09-09-86	13.82	1,900
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	1970-86	04-01-86	12.67	565
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	1970-86	04-01-86	11.76	123
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	1970-86	04-01-86	13.75	278
*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# 1967-86	03-31-86	13.98	245
*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	1961-86	03-31-86	14.47	1,090
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	1970-86	09-27-86	14.21	745

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1986

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1986						ANNUAL MAXIMUM	
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)
CHIPPEWA RIVER BASIN--CONTINUED							
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	1970-86	03-31-86	12.01	137
*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# 1962-86	07-27-86	15.82	16,600
05364100	SETH CREEK NEAR CADOTT, WIS.	LAT 44°59'24", LONG 91°08'48", IN SW 1/4 SEC.17, T.29 N., R.6 W., CHIPPEWA COUNTY, AT CULVERT ON STATE HIGHWAY 27, 3.1 MI NORTH OF CADOTT.	3.04	1962-86	09-22-86	18.00	785
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# 1958-86	09-22-86	8.04	1,230
*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	1958-86	09-22-86	17.89	1,660
*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# 1958-86	09-21-86	17.77	20,800
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	1958-86	09-22-86	13.37	325
*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	1960-86	09-18-86	13.35	203
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	1958-86	03-28-86	11.34	630
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	1959-86	09-22-86	12.72	250
*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	1962-86	06-22-86	13.54	355
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	1960-86	09-22-86	11.87	106
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	1974-86	09-22-86	12.96	1,380
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	1961-86	07-05-86	15.65	1,460

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1986							
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	ANNUAL MAXIMUM GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)
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	1960-86	04-01-86	11.54	120
*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# 1967-86	09-22-86	19.32	10,500
*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	1961-86	09-22-86	20.62	7,880
*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	1960-86	09-22-86	11.34	490
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	1961-86	09-10-86	7.11	90
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# 1967-86	08-26-86	12.54	710
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	1970-86	04-03-86	12.75	96
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	1970-86	07-12-86	12.47	73
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	1970-86	07-12-86	12.54	91
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	1970-86	09-22-86	11.07	26
*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	1958-86	09-22-86	10.45	76
*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# 1967-86	09-22-86	9.94	100
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	1970-86	03-30-86	13.22	165

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1986

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1986						ANNUAL MAXIMUM	
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)
WISCONSIN RIVER BASIN--CONTINUED							
*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	1961-86	03-31-86	13.36	400
05395020	LLOYD CREEK NEAR DOERING, WIS.	LAT 45°13'57", LONG 89°22'04", IN SE 1/4 SEC.21, T.32 N., R.9 E., LANGLADE COUNTY, AT BRIDGE ON COUNTY TRUNK HIGHWAY C, 4.5 MI EAST OF DOERING.	7.80	1970-86	09-22-86	15.23	610
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	1959-86	07-31-86	16.27	355
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	1962-86	03-29-86	14.85	670
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	1982-86	09-22-86	7.15	335
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	1959-86	03-26-86	11.87	310
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	1973-86	03-26-86 08-13-85 E	15.19 14.35 E	1,150 E 700
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	1959-86	09-23-86	13.34	660
*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	1961-86	09-23-86	13.85	285
*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	1958-86	03-19-86	15.41	900
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# 1978-86	03-19-86	3.84	110
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# 1983-86	05-15-86	5.62	200
*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# 1967-86	03-05-86	14.76	2,220
*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	1961-86	09-11-86	13.58	430
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	1960-86	03-05-86 06-28-67 08-26-72	11.00 17.20 17.40	55 E 850 E 870

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1986							
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	ANNUAL MAXIMUM GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /3)
WISCONSIN RIVER BASIN--CONTINUED							
*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	1958-86	03-05-86	14.72	510
*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	1959-86	1986	B	<100
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# 1967-86	03-19-86	11.45	255
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	1958-86	03-19-86	11.60	200
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	1960-86	1986	B	<200
05414915	MADDEN BRANCH NEAR BELMONT, WIS.	LAT 42°40'03", LONG 90°19'45", IN NE 1/4 NE 1/4 SEC.11, T.2 N., R.1 E., LAFAYETTE COUNTY, AT STATE HIGHWAY 81, 4.7 MI SOUTH OF BELMONT.	2.83	1981-82# 1984-86	1986	B	<100
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	1960-86	09-11-86	13.04	325
*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	1960-86	09-11-86	14.04	312
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	1973-86	03-03-86	12.21	425
*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	1958-86	08-26-86	9.00	15
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# 1982-86	03-03-86	12.93	305
05430403	FISHER CREEK TRIBUTARY AT JANESVILLE, WI	LAT 42°40'18", LONG 89°03'31", IN SW 1/4 SE 1/4 SEC.34, T.3 N., R.12 E., ROCK COUNTY, AT CULVERT ON ROCKPORT ROAD, 0.4 MI WEST OF SOUTH CROSBY AVENUE, AND 0.6 MI UPSTREAM FROM COUNTY TRUNK HIGHWAY D, AT JANESVILLE.	1.95	1982-86	07-25-86	6.47	320

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1986

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE DURING WATER YEAR 1980					ANNUAL MAXIMUM		
STATION NO.	STATION NAME	LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	DATE	GAGE HEIGHT (FT)	DIS-CHARGE (FT ³ /S)
ROCK RIVER BASIN--CONTINUED							
*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	1962-86	03-08-86	12.80	560
*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	1959-86	1986	B	<100
*05433500	YELLOWSTONE RIVER NEAR BLANCHARDVILLE, WIS.	LAT 42°46'55", LONG 89°59'50", IN NE 1/4 SEC.34, T.4 N., R.4 E., LAFAYETTE COUNTY, 0.6 MI UPSTREAM FROM BRIDGE ON COUNTY TRUNK HIGHWAY F, 7.0 MI WEST-SOUTHWEST OF BLANCHARDVILLE.	28.5	1954-65# 1966-86	03-16-86 02-20-55 06-11-57 04-01-59 03-29-60 10-29-61 03-16-63 08-20-64 09-04-65 02-08-66 01-24-67 01-31-68 06-26-69 03-03-70 01-10-72 03-07-73 03-22-75 03-12-76 02-24-77 07-20-78 09-08-80 08-28-81 08-04-82 02-16-83 02-21-85	4.56 9.50 E 2,100 9.65 E 2,500 10.00 E 3,100 10.47 E 4,500 9.13 E 1,700 9.70 E 2,700 9.30 E 1,900 9.64 E 2,500 9.51 E 2,100 10.25 E 3,600 7.69 E 825 9.97 E 3,050 2.99 E 114 9.20 E 1,750 9.51 E 2,100 9.68 E 2,550 9.18 E 1,750 8.29 E 1,100 9.96 E 3,050 9.80 E 2,600 10.45 E 4,500 9.39 E 2,450 7.17 E 695 8.93 E 1,450	275 2,100 2,500 3,100 4,500 1,700 2,700 1,900 2,500 2,100 3,600 825 3,050 114 1,750 2,100 2,550 1,750 1,100 3,050 2,600 4,500 2,450 695 1,450
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	1961-86	10-24-85	11.79	95
*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	1961-86	09-12-86 03-31-65 06-16-67 06-16-81 09-09-85	12.73 15.06 14.61 14.31 13.61	80 E 370 E 260 E 230 E 150
*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	1958-86	03-05-86	12.42	160
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	1962-86	03-09-86	12.70	190
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	1958-86	08-07-86	12.87	185
*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	1962-86	03-09-86	12.97	375

* Also a low-flow partial-record station.
 # Operated as a continuous-record station.
 B Peak did not reach bottom of gage.
 D Backwater from beaver dam.
 E Revised.

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 1986

Stream	Tributary to	Location	Drainage Area (mi ²)	Measured Previously (Water Years)	Date	Discharge (ft ³ /s)
STREAMS TRIBUTARY TO LAKE MICHIGAN						
Wolf River	Fox River	Lat 45°07'38", long 88°39'45", in SE 1/4 NE 1/4 sec.31, T.31 N., R.15 E., Langlade County, at CTY "M" bridge.	--	1985	11-15-85 05-27-86	835 368
Elton Creek	Evergreen Creek	Lat 45°06'08", long 88°49'59", in NE 1/4 NW 1/4 sec.8, T.30 N., R.13 E., Menominee County, at trail crossing.	--	1985	05-28-86	31.3
Evergreen Creek	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 CTH "WW", 8.2 mi south of Langlade.	54.6	1966 1983-85	05-29-86	75.0
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, 3.0 mi northeast of Neopit.	41.8	1982-85	05-28-86	62.3
Little West Branch Wolf River	West Branch Wolf River	Lat 45°05'02", long 88°58'55", in NE 1/4 NE 1/4 sec.13, T.30 N., R.12 E., Langlade County, at county line between Langlade and Menominee Counties, and 6.2 mi northwest of Zoar.	9.19	1985	05-28-86	7.83
West Branch Wolf River	Wolf River	Lat 44°58'54", long 88°49'04", in SE 1/4 NE 1/4 sec.20, T.29 N., R.14 E., Menominee County, 0.6 mi downstream from reservoir outlet at Neopit.	98.6		05-29-86	119
ST. CROIX RIVER BASIN						
North Fork Wood River	Wood River	Lat 45°48'30", long 92°33'48", in SE 1/4 NW 1/4 sec.2, T.38 N., R.18 W., Burnett County, at CTH "D", 6.2 mi northeast of Grantsburg.	17.9	1985	10-14-85 01-02-86 04-29-86 05-29-86 06-25-86 07-14-86 08-27-86 09-18-86	42.6 9.31 144 10.0 7.2 7.07 14.4 20.8
North Fork Wood River	Wood River	Lat 45°48'35", long 92°36'03", in SE 1/4 NW 1/4 sec.4, T.38 N., R.18 W., Burnett County, at CTH "D", 4.4 mi northeast of Grantsburg.	53.4	1985	10-14-85 01-02-86 01-30-86 04-29-86 05-29-86 06-25-86 07-14-86 08-27-86 09-18-86	66.7 15.0 13.6 250 60.2 17.8 19.0 57.2 63.7
Whiskey Creek	Wood River	Lat 45°47'40", long 92°39'09", in NE 1/4 SE 1/4 sec.12, T.38 N., R.19 W., Burnett County, at CTH "D", 1.9 mi northeast of Grantsburg.	--	1985	10-14-85 01-02-86 01-30-86 04-29-86 05-29-86 06-25-86 07-14-86 08-27-86 09-18-86	25.6 1.18 0.59 33.3 59.0 42.6 18.0 14.3 14.1
Hay Creek	Wood River	Lat 45°47'34", long 92°41'33", in NW 1/4 SW 1/4 sec.11, T.38 N., R.19 W., Burnett County, at Borg Road, 1.2 mi northwest of Grantsburg.	--	1985	10-14-85 01-02-86 04-29-86 05-29-86 06-25-86 07-14-86 08-27-86 09-18-86	17.3 4.66 47.5 36.8 12.7 11.6 16.1 22.3

DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1986

Stream	Tributary to	Location	Drainage Area (mi ²)	Measured Previously (Water Years)	Measurements	
					Date	Discharge (ft ³ /s)
WISCONSIN RIVER BASIN						
South Fork Baraboo River	Baraboo River	Lat 43°39'11", long 90°20'07", in NE 1/4 NE 1/4 sec.35, T.14N., R.1 E., Vernon County, at bridge on County Trunk Highway FF, in Hillsboro.	--	--	09-17-86	12.8
Black Earth Creek	Blue Mounds Creek	Lat 43°05'15", long 89°34'52", in NW 1/4 NW 1/4 sec.17, T.7 N., R.8 E., Dane County, at bridge on Twin Valley Road, 3.7 mi southeast of Cross Plains.	3.32	1985	11-12-85 02-19-86 05-07-86	2.31 2.07 2.72
Black Earth Creek	Blue Mounds Creek	Lat 43°00'01", long 89°37'32", in SE 1/4 NE 1/4 sec.11, T.7 N., R.7 E., Dane County, on bridge on private road.	--	1985	12-11-85 02-19-86 05-07-86	3.13 2.50 3.48
Black Earth Creek	Blue Mounds Creek	Lat 43°05'17", long 89°35'25", in SW 1/4 SE 1/4 sec.7, T.7 N., R.8 E., Dane County, on bridge on Low Road.	--	1985	12-11-85 02-19-86 05-07-86	2.65 2.21 3.01
Black Earth Creek	Blue Mounds Creek	Lat 43°00'39", long 89°38'16", in NW 1/4 NW 1/4 sec.11, T.7 N., R.7 E., Dane County.	--	1985	12-11-85 02-19-86 05-07-86	13.73 5.49 12.60
Brewery Creek	Black Earth Creek	Lat 43°07'57", long 89°37'00", in NW 1/4 NW 1/4 sec.36, T.7 N., R.7 E., Dane County, at bridge on county road.	--	1985	12-11-85 02-19-86 05-07-86	1.90 3.80 5.00
Black Earth Creek	Blue Mounds Creek	Lat 43°01'55", long 89°39'37", in SW 1/4 NW 1/4 sec.3, T.7 N., R.7 E., Dane County, at bridge on CTH "KP" in Cross Plains.	26.1	1972-73 1975 1985	12-11-85 02-19-86 05-07-86	22.30 19.80 22.30
Black Earth Creek	Blue Mounds Creek	Lat 43°02'30", long 89°40'12", in NW 1/4 NE 1/4 sec.4, T.7 N., R.7 E., Dane County, on U.S. Highway 14, 0.3 mi west of the sewage disposal plant at Cross Plains.	26.7	1958 1964 1985	12-11-85 02-19-86 05-07-86	25.00 23.00 25.60
Black Earth Creek	Blue Mounds Creek	Lat 43°03'17", long 89°40'59", in NE 1/4 NE 1/4 sec.5, T.7 N., R.7 E., Dane County, just upstream from tributary, 2.0 mi west of Cross Plains.	27.0	1964 1985	12-11-85 02-19-86 05-07-86	29.00 26.40 27.60
Black Earth Creek Tributary	Black Earth Creek	Lat 43°07'05", long 89°40'58", in NE 1/4 NE 1/4 sec.5, T.7 N., R.7 E., Dane County, at mouth, 2.2 mi west of Cross Plains.	--	1973 1985	12-11-85 02-19-86 05-07-86	4.30 3.19 4.98
Black Earth Creek	Blue Mounds Creek	Lat 43°03'39", long 89°41'24", in NW 1/4 NE 1/4 sec.5, T.7 N., R.7 E., Dane County, at bridge on town road, 2.2 mi west of Cross Plains.	39.1	1958 1964 1974 1985	12-11-85 02-19-86 05-07-86	39.20 36.50 37.40
Black Earth Creek	Blue Mounds Creek	Lat 43°05'06", long 89°42'36", in NW 1/4 SE 1/4 sec.31, T.8 N., R.7 E., Dane County, at bridge on town road, 2.1 mi southeast of Black Earth.	40.6	1973 1985	12-11-85 02-19-86 05-07-86	41.00 41.40 42.30
Black Earth Creek Tributary	Black Earth Creek	Lat 43°07'19", long 89°42'54", in SE 1/4 SW 1/4 sec.31, T.8 N., R.7 E., Dane County, at bridge on CTH "KP".	--	1985	12-11-85 02-19-86 05-07-86	0.291 0.289 0.387
Unnamed Tributary to Black Earth Creek	Blue Mounds Creek	Lat 43°07'47", long 89°43'05", in SW 1/4 NW 1/4 sec.31, T.8 N., R.6 E., Dane County, at bridge on U.S. Highway 14.	--	1985	12-11-85 05-07-86	0.291 0.305

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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
STREAMS TRIBUTARY TO LAKE SUPERIOR									
04025500 - BOIS BRULE RIVER AT BRULE, WI (LAT 46 32 16 LONG 091 35 43)									
OCT , 1985					APR , 1986				
09...	1110	246	100	7.0	07...	1615	462	90	8.0
DEC					JUN				
04...	1145	160	127	.5	02...	1620	178	114	17.5
JAN , 1986					JUL				
09...	1405	138	122	.5	29...	1245	196	122	18.5
MAR									
04...	1515	150	123	4.5					
04027000 - BAD RIVER NEAR ODANAH, WI (LAT 46 29 15 LONG 090 41 45)									
OCT , 1985					APR , 1986				
10...	1430	1780	65	7.5	08...	1130	3310	80	6.5
DEC					JUN				
19...	1250	354	120	.0	03...	1440	169	150	18.0
MAR , 1986					JUL				
07...	1210	221	170	.0	28...	1420	1410	95	20.0
04027500 - WHITE RIVER NEAR ASHLAND, WI (LAT 46 29 50 LONG 090 54 15)									
OCT , 1985					APR , 1986				
09...	1735	433	124	8.0	08...	0930	684	100	7.0
DEC					JUN				
05...	1015	168	150	1.0	04...	0835	187	153	18.5
JAN , 1986					JUL				
09...	1115	185	182	.5	29...	0815	475	140	20.0
MAR					AUG				
04...	1700	188	190	1.0	13...	0945	335	151	17.5
STREAMS TRIBUTARY TO LAKE MICHIGAN									
04066003 - MENOMINEE RIVER BELOW PEMENE CRK NR PEMBINE, WI (LAT 45 34 46 LONG 087 47 13)									
OCT , 1985					JUN , 1986				
02...	1820	6120	194	11.0	24...	1130	1470	303	18.0
JAN , 1986					SEP				
03...	1535	14600	188	2.0	17...	1230	2500	273	13.0
04069500 - PESHTIGO RIVER AT PESHTIGO, WI (LAT 45 02 49 LONG 087 44 40)									
OCT , 1985									
22...	1550	857	280	9.5					
04071000 - OCONTO RIVER NEAR GILLET, WI (LAT 44 51 53 LONG 088 18 00)									
OCT , 1985					APR , 1986				
23...	0905	743	140	8.0	01...	1515	2800	165	2.0
JAN , 1986					JUL				
03...	1145	657	305	.0	30...	1000	435	277	23.0
04071858 - PENSANKEE RIVER NEAR PENSANKEE, WI (LAT 44 49 08 LONG 087 57 12)									
OCT , 1985					MAR , 1986				
22...	1315	55	450	9.0	06...	1440	42	460	.0
JAN , 1986									
16...	1250	47	440	.0					
04073500 - FOX RIVER AT BERLIN, WI (LAT 43 57 14 LONG 088 57 08)									
NOV , 1985					JUN , 1986				
15...	1330	2370	455	2.0	06...	1310	929	330	19.5
JAN , 1986					JUL				
09...	1245	1240	430	.0	24...	1645	1040	355	28.0
FEB					SEP				
13...	1005	1260	350	.0	10...	1100	752	305	16.5
MAR									
21...	1225	3410	310	.5					

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED									
04074538 - SWAMP CREEK ABOVE RICE LAKE, AT MOLE LAKE, WI (LAT 45 29 18 LONG 088 57 49)									
OCT , 1985					APR , 1986				
01...	1620	85	129	7.5	11...	1600	65	140	8.5
24...	1045	40	184	9.5	MAY				
NOV					04...	1540	16	226	19.0
12...	1350	38	190	.5	13...	1155	32	203	13.5
DEC					JUN				
16...	1500	38	205	.0	17...	1540	17	212	20.0
JAN , 1986					AUG				
28...	1520	30	205	.0	28...	1030	22	205	12.5
MAR					SEP				
10...	1700	26	233	.0	16...	1155	42	178	9.0
APR									
02...	1740	152	80	5.0					
04074950 - WOLF RIVER AT LANGLADE, WI (LAT 44 11 25 LONG 088 44 00)									
OCT , 1985					APR , 1986				
01...	1250	1030	135	8.0	01...	1610	1490	112	6.5
DEC					JUN				
16...	1250	558	170	.5	19...	1330	292	210	23.5
JAN , 1986					AUG				
28...	1130	366	240	.0	13...	1345	382	196	18.0
04077400 - WOLF RIVER NEAR SHAWANO, WI (LAT 44 50 09 LONG 088 37 30)									
OCT , 1985					APR , 1986				
23...	1110	830	130	9.0	02...	0955	2830	100	4.0
JAN , 1986					JUL				
10...	1040	1000	120	.0	29...	1505	606	268	24.0
04079000 - WOLF RIVER AT NEW LONDON, WI (LAT 44 23 32 LONG 088 44 25)									
JAN , 1986					JUL , 1986				
09...	1540	1730	300	.0	31...	1420	2720	350	24.0
04085200 - KEWAUNEE RIVER NEAR KEWAUNEE, WI (LAT 44 27 30 LONG 087 33 23)									
OCT , 1985					MAR , 1986				
03...	1420	59	640	13.5	26...	1910	4980	230	2.0
NOV					27...	0910	3420	230	1.5
18...	1430	594	490	4.0	28...	1150	1370	305	4.5
DEC					JUN				
19...	1200	67	550	.0	05...	1135	27	550	18.5
JAN , 1986					JUL				
22...	1240	57	710	.0	23...	1555	27	690	28.5
FEB					SEP				
26...	1430	43	715	.0	09...	0915	18	640	14.0
04085281 - EAST TWIN RIVER AT MISHICOT, WI (LAT 44 14 16 LONG 087 38 11)									
NOV , 1985					MAR , 1986				
18...	1540	624	460	4.0	28...	1025	1220	290	3.0
JAN , 1986					JUN				
22...	1500	62	635	.0	05...	1325	27	610	18.0
FEB					JUL				
26...	1140	44	700	.0	22...	1705	48	535	23.5
MAR					SEP				
26...	2135	2100	285	2.0	09...	1105	17	610	15.0
04086000 - SHEBOYGAN RIVER AT SHEBOYGAN, WI (LAT 43 44 25 LONG 087 45 35)									
OCT , 1985					MAR , 1986				
02...	1615	168	640	13.0	27...	1345	2950	370	3.5
NOV					JUN				
19...	1100	1970	480	6.5	04...	1525	114	555	21.0
DEC					JUL				
17...	1415	271	385	.0	24...	1145	106	630	28.0
JAN , 1986					SEP				
23...	1235	231	760	.0	08...	1605	73	580	19.0
FEB									
26...	0920	223	710	.0					

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
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STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

04086500 - CEDAR CREEK NEAR CEDARBURG, WI (LAT 43 19 23 LONG 087 58 43)									
OCT , 1985					FEB , 1986				
02...	1030	25	610	9.0	25...	1540	83	665	.0
NOV					JUN				
19...	1510	603	400	8.0	03...	0835	36	685	15.0
DEC					JUL				
17...	0850	83	260	.0	28...	1320	50	640	24.0
FEB , 1986					SEP				
04...	1210	63	970	.0	09...	1225	25	670	15.0
04086600 - MILWAUKEE RIVER NEAR CEDARBURG, WI (LAT 43 16 46 LONG 087 56 34)									
JAN , 1986					JUN , 1986				
23...	1540	495	650	.0	03...	1025	214	670	19.0
FEB					JUL				
04...	1320	415	930	.0	28...	1525	207	615	26.0
25...	1455	447	710	.0	SEP				
					09...	1035	137	675	16.0
04087030 - MENOMONEE RIVER AT MENOMONEE FALLS, WI (LAT 44 10 20 LONG 088 06 14)									
NOV , 1985					JUN , 1986				
20...	0900	262	570	3.0	02...	1335	8.6	1010	18.0
DEC					JUL				
16...	1220	30	440	.0	29...	0925	18	880	21.5
JAN , 1986					SEP				
08...	1455	16	880	.0	09...	0820	6.9	1040	14.0
FEB					11...	1130	429	320	19.0
25...	1045	21	990	.0					
04087088 - UNDERWOOD CREEK AT WAUWATOSA, WI (LAT 43 03 17 LONG 088 02 46)									
OCT , 1985					APR , 1986				
01...	1223	3.2	1110	12.0	28...	1215	10	1340	15.0
NOV					JUN				
13...	1340	59	900	7.5	02...	1100	5.0	1350	27.5
FEB , 1986					JUL				
04...	1010	103	E3600	.5	16...	1530	27	850	30.0
MAR					AUG				
18...	1445	114	900	3.5	27...	1140	32	630	18.5
04087120 - MENOMONEE RIVER AT WAUWATOSA, WI (LAT 43 02 44 LONG 087 59 59)									
OCT , 1985					APR , 1986				
01...	1450	21	950	12.0	28...	1535	102	1050	16.0
NOV					JUN				
13...	1525	473	790	6.0	02...	1604	27	1500	18.5
DEC					JUL				
26...	1248	28	1280	.0	16...	1810	189	740	22.0
FEB , 1986					SEP				
04...	0807	222	E5000	.5	03...	1035	32	1070	19.5
MAR					11...	1350	4890	220	20.0
18...	1130	866	700	2.5					
04087159 - KINNICKINNIC R AT S. 11TH ST AT MILWAUKEE, WI (LAT 42 59 51 LONG 087 55 35)									
NOV , 1985					JUL , 1986				
14...	1630	32	850	7.5	16...	1905	25	900	25.0
DEC					AUG				
26...	1500	6.3	1540	.0	27...	1650	17	810	18.0
MAR , 1986									
18...	0845	58	1100	4.0					

E ESTIMATE. MEASURED VALUE IS OUTSIDE OF THE RANGE OF AVAILABLE CALIBRATION STANDARDS.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED									
04087204 - OAK CREEK AT SOUTH MILWAUKEE, WI (LAT 42 55 30 LONG 087 52 12)									
NOV , 1985					APR , 1986				
14...	1358	73	870	7.5	29...	1630	6.2	1800	19.0
DEC					JUN				
27...	0833	5.1	1780	.0	03...	1605	4.4	1600	19.5
FEB , 1986					JUL				
03...	0910	13	E4000	.5	11...	0738	44	760	22.5
MAR					AUG				
17...	1207	69	950	3.0	28...	0940	15	880	14.0
04087220 - ROOT RIVER NEAR FRANKLIN, WI (LAT 42 52 25 LONG 087 59 45)									
NOV , 1985					APR , 1986				
14...	0900	121	930	7.0	29...	1350	23	1150	16.5
DEC					JUN				
27...	1140	12	1400	.0	03...	1135	8.4	1450	15.5
FEB , 1986					JUL				
03...	1235	24	E4100	.0	17...	1115	119	710	24.0
MAR					AUG				
17...	1450	213	690	3.0	28...	1200	33	780	16.0
04087233 - ROOT RIVER CANAL NEAR FRANKLIN, WI (LAT 42 48 55 LONG 087 59 40)									
NOV , 1985					APR , 1986				
14...	1105	128	1010	8.0	29...	0930	12	980	11.0
DEC					JUN				
27...	1417	13	1000	.0	03...	0905	27	930	13.5
FEB , 1986					JUL				
03...	1402	44	760	.0	17...	1425	54	780	24.5
MAR					AUG				
17...	1750	194	490	4.0	28...	1350	19	890	15.5
04087240 - ROOT RIVER AT RACINE, WI (LAT 42 45 05 LONG 087 49 25)									
OCT , 1985					APR , 1986				
02...	1330	3.9	870	13.5	22...	1535	61	925	10.5
NOV					JUN				
15...	0812	408	735	6.0	18...	1735	48	955	19.5
DEC					AUG				
19...	1030	64	780	.0	05...	1710	25	885	22.5
JAN , 1986					SEP				
28...	1615	50	1090	.0	16...	1735	116	810	13.0
MAR									
13...	1550	1820	390	.5					
19...	1120	869	575	2.0					
04087257 - PIKE RIVER NEAR RACINE, WI (LAT 42 30 49 LONG 087 51 30)									
OCT , 1985					MAR , 1986				
02...	1110	4.5	415	9.0	14...	0955	184	470	1.0
NOV					APR				
14...	1515	104	700	8.0	22...	1305	14	730	9.0
DEC					JUN				
18...	1420	22	790	.0	18...	1545	17	690	18.0
JAN , 1986					AUG				
28...	1355	14	820	.0	05...	1505	1.3	555	21.5
FEB					SEP				
20...	1140	64	540	.5	16...	1530	22	715	15.5
ST. CROIX RIVER BASIN									
05333500 - ST. CROIX RIVER NEAR DANBURY, WI (LAT 46 04 28 LONG 092 14 50)									
OCT , 1985					APR , 1986				
08...	1150	3060	92	9.5	01...	1800	5500	112	5.5
DEC					04...	1000	6670	55	3.0
05...	1130	1500	106	.5	JUN				
JAN , 1986					02...	1040	1510	132	16.0
07...	1615	1390	150	.0	JUL				
FEB					30...	0745	2060	100	20.0
26...	1300	1210	163	.0					

E ESTIMATE. MEASURED VALUE IS OUTSIDE OF THE RANGE OF AVAILABLE CALIBRATION STANDARDS.

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
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CHIPPEWA RIVER BASIN

05356000 - CHIPPEWA RIVER AT BISHOPS BRIDGE NEAR WINTER, WI (LAT 45 50 57 LONG 091 04 44)

OCT , 1985					APR , 1986				
04...	1400	3080	40	10.0	02...	1215	474	58	5.0
DEC					JUN				
05...	1350	1510	72	1.5	04...	1230	229	66	19.0
JAN , 1986					JUL				
26...	1200	1260	92	.5	29...	1330	1060	65	23.5
FEB									
28...	1250	143	122	1.0					

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)
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454657091300600 - BIG SISSABAGAMA TRIBUTARY NEAR STONE LAKE, WI (LAT 45 46 57 LONG 091 30 06)

APR , 1986							
24...	1530	--	60	7.00	10.5	11.0	.140
JUN							
13...	1035	E5.0	77	6.90	20.5	7.1	.150
JUL							
15...	1035	E5.0	73	6.80	18.5	8.6	.150
AUG							
14...	1520	E5.0	71	7.20	19.5	7.6	.100

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
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05356500 - CHIPPEWA RIVER NEAR BRUCE, WI (LAT 45 27 08 LONG 091 15 39)

OCT , 1985					APR , 1986				
03...	1215	5280	52	11.0	01...	1310	15800	E50	5.5
NOV					JUN				
20...	1240	2180	82	1.0	02...	0820	16700	43	1.5
JAN , 1986					JUL				
10...	1020	1890	110	.0	30...	1610	1980	60	23.0
FEB									
27...	1030	619	65	.0					

05360500 - FLAMBEAU RIVER NEAR BRUCE, WI (LAT 45 22 21 LONG 091 12 34)

OCT , 1985					APR , 1986				
03...	1130	6680	72	11.0	02...	1515	17200	66	1.5
NOV					04...	0900	14000	70	1.5
20...	1320	3820	82	1.0	MAY				
JAN , 1986					22...	1510	1600	94	19.0
10...	1400	1680	107	.0	JUL				
FEB					30...	1300	1670	107	23.5
27...	1330	953	60	.0					

05362000 - JUMP RIVER AT SHELDON, WI (LAT 45 18 29 LONG 090 57 23)

OCT , 1985					APR , 1986				
03...	1000	2920	48	8.0	02...	1000	13400	52	5.5
NOV					MAY				
22...	1400	370	90	.5	22...	1100	154	122	17.5
JAN , 1986					JUL				
16...	1055	168	155	.5	30...	1230	667	68	24.0
FEB									
20...	1535	144	74	.0					

E ESTIMATE.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
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CHIPPEWA RIVER BASIN--CONTINUED

05365707 - NORTH FORK EAU CLAIRE RIVER NEAR THORP, WI (LAT 44 58 25 LONG 090 50 57)

APR , 1986					SEP , 1986				
11... 0900	31	120	7.5		03... 1215	6.5	200	20.0	
MAY 08... 1310	11	162	15.5		19... 1100	140	125	12.5	
JUL 11... 1300	21	185	19.0		22... 1200	2390	63	16.0	
28... 1320	94	70	18.0		22... 1500	2490	63	16.0	
					23... 0930	1190	65	16.0	
					23... 1730	854	65	17.5	
					24... 0900	531	73	15.0	

05368000 - HAY RIVER AT WHEELER, WI (LAT 45 02 52 LONG 091 54 39)

OCT , 1985					APR , 1986				
02... 0830	504	392	6.0		02... 1400	1960	170	10.0	
DEC 04... 1030	300	365	.5		MAY 23... 1530	341	270	16.5	
JAN , 1986					JUL 28... 1100	502	308	19.5	
10... 1210	270	391	1.0						
FEB 26... 1130	249	--	.0						

05369000 - RED CEDAR RIVER AT MENOMONIE, WI (LAT 44 53 02 LONG 091 55 57)

OCT , 1985					APR , 1986				
01... 1730	2840	190	10.5		02... 1750	6960	150	9.0	
DEC 04... 1115	1050	240	1.0		MAY 29... 1350	971	200	21.5	
JAN , 1986					JUL 29... 0810	2630	182	25.0	
10... 1100	1180	260	1.5		SEP 25... 1540	4700	209	17.0	
FEB 25... 1335	1110	248	1.0						

05369945 - EAU GALLE R A LOW-WTR BRIDGE A SPRING VALLEY, WI (LAT 44 52 02 LONG 092 15 07)

APR , 1986					JUL , 1986				
28... 1330	2320	155	15.0		29... 1110	21	324	19.0	
30... 1445	131	210	14.5		SEP 16... 1145	72	234	12.0	
MAY 29... 1130	17	300	19.0		26... 1250	74	262	16.5	
JUN 30... 1300	16	370	16.5						

TREMPEALEAU RIVER BASIN

05379500 - TREMPEALEAU RIVER AT DODGE, WI (LAT 44 07 55 LONG 091 33 14)

OCT , 1985					APR , 1986				
02... 1110	743	255	8.0		01... 1725	775	260	14.0	
NOV 19... 1620	598	250	2.0		JUN 03... 1345	373	300	20.5	
JAN , 1986					JUL 28... 1800	899	--	22.5	
06... 1630	328	--	.0						
FEB 18... 1400	317	300	.0						

BLACK RIVER BASIN

05380806 - BLACK RIVER AT MEDFORD, WI (LAT 45 08 09 LONG 090 20 45)

OCT , 1985					APR , 1986				
17... 1205	60	80	6.5		02... 1405	760	55	5.0	
NOV 21... 1020	75	118	.0		AUG 05... 1505	8.5	175	21.0	
JAN , 1986					SEP 24... 1625	294	80	16.0	
10... 1310	17	155	.0						
MAR 04... 1200	14	190	1.0						

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
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BLACK RIVER BASIN--CONTINUED

05381000 - BLACK RIVER AT NEILLSVILLE, WI (LAT 44 33 35 LONG 090 36 54)

OCT , 1985					APR , 1986				
03...	1000	2290	90	11.0	02...	1615	5530	70	8.5
NOV					JUN				
21...	1230	1100	148	.0	04...	1220	61	180	23.0
JAN , 1986					JUL				
07...	0930	180	--	.0	29...	1915	675	140	25.0
FEB									
19...	1000	181	205	.0					

WISCONSIN RIVER BASIN

05391000 - WISCONSIN R AT RAINBOW LK NEAR LAKE TOMAHAWK, WI (LAT 45 49 58 LONG 089 32 51)

OCT , 1985					JUL , 1986				
08...	1445	1960	52	11.0	23...	1530	442	70	24.0
APR , 1986									
03...	1500	227	80	4.0					

05393500 - SPIRIT RIVER AT SPIRIT FALLS, WI (LAT 45 26 58 LONG 089 58 47)

OCT , 1985					JUN , 1986				
07...	1350	594	50	13.0	04...	1325	9.9	130	18.5
DEC					AUG				
23...	1245	44	120	.0	05...	1215	20	110	21.5
FEB , 1986					SEP				
06...	1350	31	95	.0	29...	1600	626	72	16.0
MAR									
31...	1500	1880	35	3.0					

05394500 - PRAIRIE RIVER NEAR MERRILL, WI (LAT 45 14 09 LONG 089 38 59)

NOV , 1985					JUN , 1986				
14...	1355	209	115	3.5	04...	1040	94	190	18.0
JAN , 1986					JUL				
03...	1530	140	120	.0	28...	1610	213	180	20.0
FEB					SEP				
26...	1415	139	170	.5	03...	1620	102	185	18.5
APR									
03...	1115	1300	48	4.0					

05395000 - WISCONSIN RIVER AT MERRILL, WI (LAT 45 10 41 LONG 089 40 52)

OCT , 1985					APR , 1986				
11...	1100	9170	80	8.0	02...	1200	20300	80	4.5

05397500 - EAU CLAIRE RIVER AT KELLY, WI (LAT 44 55 06 LONG 089 33 00)

OCT , 1985					APR , 1986				
03...	1400	1100	85	8.5	01...	1500	3520	60	8.5
DEC					MAY				
13...	1600	255	170	.5	03...	1600	96	290	21.0
JAN , 1986					AUG				
24...	1430	188	230	.5	06...	1325	132	215	23.0
MAR					SEP				
04...	1500	140	175	.5	30...	1530	1360	90	15.0

05399500 - BIG EAU PLEINE RIVER NEAR STRATFORD, WI (LAT 44 49 19 LONG 090 04 46)

OCT , 1985					JUN , 1986				
16...	1200	159	175	6.0	26...	1545	7.8	255	28.0
DEC					AUG				
23...	1300	26	--	.0	07...	1300	44	205	22.5
FEB , 1986					SEP				
04...	1225	36	230	.0	26...	1530	1460	135	17.5
APR									
24...	1230	60	--	5.5					

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)		
WISCONSIN RIVER BASIN--CONTINUED											
05400650 - LITTLE PLOVER RIVER AT PLOVER, WI (LAT 44 28 26 LONG 089 31 44)											
OCT , 1985					APR , 1986						
15...	1100	13	300	7.5	03...	1510	20	370	7.0		
DEC					JUN						
11...	1000	14	300	2.5	05...	0750	13	410	10.5		
JAN , 1986					JUL						
01...	0947	11	--	.5	30...	1110	11	--	13.5		
FEB											
19...	1550	12	360	6.5							
05402000 - YELLOW RIVER AT BABCOCK, WI (LAT 44 18 05 LONG 090 07 15)											
OCT , 1985					APR , 1986						
15...	1245	159	100	6.0	10...	1230	217	130	8.5		
DEC					JUN						
11...	1325	91	135	.5	04...	1545	11	170	18.0		
JAN , 1986					JUL						
17...	1400	47	160	.0	30...	0905	548	120	22.5		
FEB					SEP						
19...	1200	36	140	.0	04...	0900	27	130	17.0		
05403500 - LEMONWEIR RIVER AT NEW LISBON, WI (LAT 43 52 47 LONG 090 09 40)											
OCT , 1985					APR , 1986						
04...	1400	536	125	10.5	08...	1040	1310	110	10.5		
NOV					JUN						
20...	1230	969	140	2.5	10...	1210	151	180	20.5		
DEC					JUL						
23...	1130	322	100	.0	30...	1250	809	103	23.0		
JAN , 1986					SEP						
24...	1230	316	150	.0	03...	1050	140	180	19.0		
MAR											
04...	1230	270	155	2.0							
05404000 - WISCONSIN RIVER NEAR WISCONSIN DELLS, WI (LAT 43 36 22 LONG 089 45 25)											
NOV , 1985					JUN , 1986						
21...	1225	22700	130	2.0	09...	1210	4430	160	22.0		
APR , 1986					JUL						
03...	1420	43400	145	6.0	28...	1235	7640	195	25.5		
05405000 - BARABOO RIVER NEAR BARABOO, WI (LAT 43 28 51 LONG 089 38 09)											
NOV , 1985					APR , 1986						
21...	1510	1260	270	2.0	10...	0930	567	330	10.0		
DEC					JUN						
16...	1405	513	380	.5	04...	1210	277	430	20.5		
JAN , 1986					JUL						
09...	1310	403	370	.0	31...	1100	402	340	22.5		
FEB					SEP						
18...	1215	353	385	.5	09...	1245	226	380	16.0		
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
05406450 - BLACK EARTH CREEK NEAR CROSS PLAINS, WI (LAT 43 05 15 LONG 089 34 52)											
DEC , 1985											
11...	0815	2.3	500	7.50	4.5	2.4	.280	.90	.100	.030	62
FEB , 1986											
19...	0820	2.1	520	7.60	5.5	2.6	.270	.60	.080	.017	18
MAY											
07...	0755	2.7	600	7.50	11.0	2.3	<.020	1.0	.100	.025	41

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, DIS- SOLVED TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, ORTHO, DIS- SOLVED TOTAL (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDE D (MG/L) (80154)
WISCONSIN RIVER BASIN--CONTINUED											
054064502 - BLACK EARTH CREEK AT LOW ROAD LOW FLOW SITE NO 1 (LAT 43 05 17 LONG 089 35 25)											
DEC , 1985											
11...	0905	2.7	380	7.60	3.5	2.4	.240	1.0	.120	.040	87
FEB , 1986											
19...	0905	2.2	560	7.70	5.0	2.6	.230	.80	.120	.017	49
MAY											
07...	0845	3.0	610	7.70	11.5	2.2	<.020	.80	.100	.023	29
054064509 - BLACK EARTH CREEK LOW FLOW SITE NO. 3 (LAT 43 00 01 LONG 089 37 32)											
DEC , 1985											
11...	0950	3.1	425	8.10	2.5	2.4	.190	1.0	.100	.050	119
FEB , 1986											
19...	0955	2.5	600	8.00	4.0	2.5	.210	1.2	.120	.024	51
MAY											
07...	0930	3.5	610	8.00	11.0	2.2	.020	1.4	.280	.028	61
05406454 - BLACK EARTH CREEK LOW FLOW SITE NO. 4 (LAT 43 00 39 LONG 089 38 16)											
DEC , 1985											
11...	1050	14	450	8.20	5.5	2.4	.040	.40	.040	.023	45
FEB , 1986											
19...	1050	12	550	8.00	6.5	2.6	<.020	.20	.030	.014	15
MAY											
07...	1020	13	560	7.90	12.5	2.3	<.020	.40	.060	.018	52
05406468 - BREWERY CREEK @ ENCHANT. VLY. RD NR CROSS PLAINS (LAT 43 07 57 LONG 089 37 00)											
DEC , 1985											
11...	1310	1.9	525	7.90	3.0	2.2	.120	.70	.170	.066	237
FEB , 1986											
19...	1245	2.2	760	7.90	5.5	2.3	.130	.60	.160	.027	113
MAY											
07...	1235	2.2	850	7.80	16.0	1.9	.020	.50	.110	.028	81
05406478 - BLACK EARTH CREEK LOW FLOW SITE NO. 6 (LAT 43 01 55 LONG 089 39 37)											
DEC , 1985											
11...	1410	22	425	8.30	5.5	2.4	.030	.30	.480	.480	51
FEB , 1986											
19...	1340	20	630	8.40	6.5	2.5	.020	.20	.040	.014	22
MAY											
07...	1415	22	580	8.20	14.5	2.2	<.020	.40	.040	.018	28
05406483 - BLACK EARTH CREEK LOW FLOW SITE NO. 7 (LAT 43 02 30 LONG 089 40 12)											
DEC , 1985											
11...	1415	25	630	8.20	5.0	2.8	.030	.30	.120	.093	39
FEB , 1986											
19...	0910	23	645	7.70	6.0	2.9	<.020	.40	.160	.127	9
MAY											
07...	0810	26	630	7.90	11.5	2.3	<.020	.30	.140	.112	17
05406487 - BLACK EARTH CREEK LOW FLOW SITE NO. 8 (LAT 43 03 17 LONG 089 40 59)											
DEC , 1985											
11...	1345	29	630	8.15	5.0	2.7	.030	.30	.110	.094	28
FEB , 1986											
19...	1110	27	630	7.90	6.5	2.8	<.020	.20	.120	.099	15
MAY											
07...	0855	27	620	8.00	12.0	2.2	<.020	.20	.100	.080	16
05406488 - BLACK EARTH CREEK TRIBUTARY NR CROSS PLAINS, WI (LAT 43 07 05 LONG 089 40 58)											
DEC , 1985											
11...	1240	4.3	600	8.25	3.5	1.9	.040	.20	.040	.015	42
FEB , 1986											
19...	1010	3.2	600	8.20	5.0	1.8	<.020	.20	.030	.013	20
MAY											
07...	0945	5.0	600	8.30	11.5	1.9	.020	.20	.040	.018	46

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
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WISCONSIN RIVER BASIN--CONTINUED

05406494 - BLACK EARTH CREEK LOW FLOW SITE NO. 9 (LAT 43 03 39 LONG 089 41 24)

DEC , 1985											
11...	1050	39	620	7.85	4.5	2.4	.040	.40	.090	.058	45
FEB , 1986											
19...	1225	37	610	8.00	6.5	2.6	.020	.40	.120	.078	15
MAY											
07...	1045	37	600	8.20	12.5	2.2	<.020	.20	.080	.066	9

05406497 - BLACK EARTH CREEK LOW FLOW SITE NO. 10 (LAT 43 05 06 LONG 089 42 36)

DEC , 1985											
11...	0900	41	590	8.00	4.0	2.3	.020	.40	.100	.055	70
FEB , 1986											
19...	1410	41	605	8.20	6.5	2.4	<.020	.20	.080	.057	14
MAY											
07...	1135	42	590	8.20	13.5	2.0	<.020	.20	.080	.057	10

054064975 - BLACK EARTH CREEK TRIBUTARY (LAT 43 07 19 LONG 089 42 54)

DEC , 1985											
11...	0955	.29	650	7.80	2.0	2.1	.810	1.9	.190	.115	91
FEB , 1986											
19...	1315	.29	630	8.00	3.0	2.1	2.10	3.6	.350	.146	65
MAY											
07...	1215	.39	600	8.10	20.0	1.4	.840	1.3	.210	.155	19

054064978 - TRIBUTARY BLACK EARTH CREEK LOW FLOW SITE NO. 11 (LAT 43 07 47 LONG 089 43 05)

DEC , 1985											
11...	0815	.29	770	7.60	.5	9.4	.220	.60	.220	.179	39
MAY , 1986											
07...	1250	.31	630	8.10	17.0	6.6	.060	.60	.300	.230	9

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
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05408000 - KICKAPOO RIVER AT LAFARGE, WI (LAT 43 34 27 LONG 090 38 35)

OCT , 1985					MAR , 1986				
04...	0930	211	450	11.5	20...	1330	635	300	1.5
NOV					APR				
25...	1230	246	180	.5	09...	1050	237	440	9.0
DEC					JUN				
13...	1020	224	440	.0	16...	1505	193	470	20.5
JAN , 1986					JUL				
08...	1150	201	410	.0	29...	1315	201	400	21.5
FEB					AUG				
20...	1310	212	455	.0	28...	1355	187	455	16.0
MAR									
19...	1615	2210	210	1.0					

05410490 - KICKAPOO RIVER AT STEUBEN, WI (LAT 43 10 58 LONG 090 51 30)

OCT , 1985					APR , 1986				
22...	1300	555	495	12.0	21...	1234	638	490	11.0
DEC					JUN				
13...	1425	469	460	.0	09...	1156	468	500	19.5
JAN , 1986					AUG				
28...	1315	412	560	.0	04...	1109	478	480	20.5
MAR					SEP				
10...	1200	546	490	3.0	22...	1250	714	480	17.0
20...	1045	1510	270	.5					

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
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PLATTE RIVER BASIN

05414000 - PLATTE RIVER NEAR ROCKVILLE, WI (LAT 42 43 52 LONG 090 38 25)									
OCT , 1985					APR , 1986				
30...	1050	78	620	9.0	21...	1829	141	610	10.5
DEC					JUN				
19...	1354	67	440	.0	09...	1739	98	600	23.5
JAN , 1986					AUG				
28...	0905	71	620	.0	04...	1829	70	580	22.5
MAR					SEP				
10...	1634	165	570	3.5	22...	1750	85	630	20.0

GALENA RIVER BASIN

05415000 - GALENA RIVER AT BUNCOMBE, WI (LAT 42 30 49 LONG 090 22 40)									
OCT , 1985					APR , 1986				
30...	1350	70	950	11.0	22...	0950	111	870	8.0
JAN , 1986					JUN				
27...	1128	44	1010	.0	10...	0900	123	850	20.5
MAR					AUG				
11...	0835	390	480	1.0	05...	0756	68	890	20.0

ROCK RIVER BASIN

05425912 - BEAVER DAM RIVER AT BEAVER DAM, WI (LAT 43 26 57 LONG 088 50 21)									
FEB , 1986					JUL , 1986				
27...	1335	148	820	.0	15...	1125	124	385	22.5
JUN									
02...	0945	14	380	19.0					

05426250 - BARK RIVER NEAR ROME, WI (LAT 42 57 39 LONG 088 40 09)									
OCT , 1985					APR , 1986				
08...	1300	50	580	13.0	23...	1035	107	600	9.0
NOV					JUN				
15...	1335	209	555	3.5	19...	1105	84	530	22.5
DEC					AUG				
19...	1525	113	680	.0	06...	1020	77	560	21.0
JAN , 1986					SEP				
29...	1220	82	740	.0	17...	1030	218	510	14.5
MAR									
13...	1005	282	400	.0					

05427570 - ROCK RIVER AT INDIANFORD, WI (LAT 42 48 15 LONG 089 05 25)									
OCT , 1985					MAY , 1986				
01...	1110	1390	545	13.0	23...	1230	2360	605	16.0
NOV					JUN				
12...	1615	5030	565	3.0	17...	1505	1080	570	23.0
MAR , 1986					JUL				
13...	1235	3400	740	2.5	16...	1130	2610	555	25.0
26...	1500	8290	420	4.0	SEP				
APR					22...	1140	5040	430	18.0
21...	1100	5010	490	10.5					

05429500 - YAHARA RIVER NEAR MC FARLAND, WI (LAT 43 00 32 LONG 089 18 18)									
OCT , 1985					APR , 1986				
04...	1320	204	420	14.5	02...	1140	347	470	9.0
NOV					23...	1320	347	470	11.5
05...	1045	363	425	9.0	MAY				
DEC					27...	0725	175	495	17.0
05...	1220	354	445	.0	JUN				
16...	1250	389	450	.0	20...	0655	136	460	22.0
JAN , 1986					JUL				
09...	0825	353	470	.0	18...	0810	170	425	26.0
FEB					AUG				
03...	0920	394	475	1.0	06...	1240	119	420	23.0
25...	1340	268	510	2.0	28...	1345	110	380	22.0
MAR					SEP				
11...	1400	237	500	4.0	17...	1325	193	390	18.0

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
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ROCK RIVER BASIN--CONTINUED

05430150 - BADFISH CREEK NEAR COOKSVILLE, WI (LAT 42 50 00 LONG 089 11 48)

OCT , 1985					MAY , 1986				
07...	0940	92	1140	11.5	22...	1126	116	1140	14.5
NOV					JUN				
12...	0915	146	1000	8.0	20...	1005	108	1310	20.5
DEC					JUL				
16...	1116	110	1060	3.0	16...	1300	114	1060	24.0
JAN , 1986					AUG				
30...	1150	98	1160	2.0	11...	1415	86	1180	21.0
MAR					SEP				
12...	1105	207	850	4.0	15...	1425	101	1080	16.5
APR									
24...	1235	116	1140	15.0					

05430175 - YAHARA RIVER NEAR FULTON, WI (LAT 42 49 50 LONG 089 10 09)

OCT , 1985					APR , 1986				
07...	1140	353	640	12.0	24...	1105	581	865	13.0
NOV					MAY				
12...	1230	685	770	6.0	22...	1000	417	1040	14.0
DEC					JUN				
17...	1000	522	520	.0	23...	1355	150	1200	21.0
FEB , 1986					AUG				
03...	1235	572	935	2.5	12...	1415	141	1060	--
MAR					SEP				
12...	1335	656	760	4.0	18...	1205	458	830	17.0

05430500 - ROCK RIVER AT AFTON, WI (LAT 42 36 33 LONG 089 04 14)

OCT , 1985					MAR , 1986				
01...	1215	1890	620	13.5	19...	1025	7400	550	3.5
NOV					JUN				
13...	0830	5810	460	4.0	17...	0955	1480	685	20.0
JAN , 1986					SEP				
02...	1035	3110	720	.0	15...	0955	4020	490	17.0
31...	1230	2670	740	.0					

05431486 - TURTLE CREEK AT CARVERS ROCK ROAD NR CLINTON, WI (LAT 42 35 50 LONG 088 49 45)

OCT , 1985					APR , 1986				
01...	1705	76	695	12.0	21...	1535	161	665	9.0
NOV					JUN				
13...	1605	377	635	6.5	18...	0925	115	710	18.0
JAN , 1986					AUG				
02...	1450	152	710	.0	05...	0855	79	725	19.0
31...	1510	139	720	.0	SEP				
MAR					16...	1025	126	640	13.5
14...	1100	836	380	2.5					

05432500 - PECATONICA RIVER AT DARLINGTON, WI (LAT 42 40 40 LONG 090 07 07)

OCT , 1985					APR , 1986				
29...	1130	154	700	9.5	23...	1250	299	640	10.5
DEC					JUN				
18...	1510	172	680	.0	05...	1403	221	680	17.0
JAN , 1986					AUG				
03...	1130	173	610	.0	05...	1103	118	650	20.0
30...	1345	161	690	.0	SEP				
MAR					18...	1225	139	680	14.5
11...	1240	599	540	2.0					
19...	1410	1920	415	3.5					

05433000 - EAST BR PECATONICA R NR BLANCHARDVILLE, WI (LAT 42 47 10 LONG 089 51 40)

OCT , 1985					APR , 1986				
29...	1415	143	690	9.5	23...	0915	228	580	9.0
DEC					JUN				
20...	1325	168	600	.0	05...	1056	186	590	17.5
JAN , 1986					AUG				
30...	1055	144	585	.0	11...	1510	138	560	19.5
MAR					SEP				
12...	1434	300	510	3.0	18...	0945	142	570	13.5
13...	1415	310	540	4.5					
19...	1150	1410	330	3.0					

WATER-QUALITY PARTIAL-RECORD STATIONS

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	TEMPER- ATURE (DEG C) (00010)
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ROCK RIVER BASIN--CONTINUED

05434500 - PECATONICA RIVER AT MARTINTOWN, WI (LAT 42 30 34 LONG 089 47 58)

OCT , 1985					APR , 1986				
31...	1230	678	650	9.5	24...	1548	1060	660	12.5
DEC					JUN				
17...	1200	922	700	.0	04...	1207	824	650	19.0
JAN , 1986					AUG				
29...	1512	692	680	.0	11...	1315	564	620	20.5
MAR									
13...	1200	2170	550	3.0					
20...	1330	3130	470	1.5					

ILLINOIS RIVER BASIN

05543830 - FOX RIVER AT WAUKESHA, WI (LAT 43 00 17 LONG 088 14 37)

FEB , 1986					JUN , 1986				
04...	1155	125	1640	.5	02...	1100	39	1100	19.0
MAR					JUL				
18...	1700	592	610	2.0	16...	1100	240	670	21.5
APR					SEP				
28...	0949	124	920	18.0	03...	1335	65	950	21.0

05544200 - MUKWONAGO RIVER AT MUKWONAGO, WI (LAT 42 51 24 LONG 088 19 40)

OCT , 1985					APR , 1986				
08...	1050	40	495	12.0	23...	0835	69	510	10.0
NOV					JUN				
15...	1052	90	490	3.5	19...	0915	40	450	23.0
DEC					AUG				
19...	1325	66	610	.5	06...	0810	26	470	23.5
JAN , 1986					SEP				
29...	1030	52	625	1.0	17...	0925	26	465	16.5
MAR									
13...	1250	192	400	1.0					

05546500 - FOX RIVER AT WILMOT, WI (LAT 42 30 40 LONG 088 10 45)

NOV , 1985					JUN , 1986				
14...	1150	1500	710	5.5	18...	1305	503	700	23.0

GROUND-WATER RECORDS

Figure 6. Location of observation wells and ground-water-quality sites in Wisconsin.

ADAMS COUNTY

435759089490001. Local number, AD-17/06E/08-0076.

LOCATION.--Lat 43°57'59", long 89°49'00", Hydrologic Unit 07070003. Owner: Wis. Dept. of Natural Resources.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Driven observation water table well, diameter 1 1/4 in, depth 21 ft, cased to 19 ft, well point 19-21 ft.

DATUM.--Altitude of land-surface is 955 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--September 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.61 ft below land-surface datum. May 29, 1973; lowest water level measured, 18.14 ft below land-surface datum, Mar. 7, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	14.51	DEC 3	14.19	FEB 4	15.32	APR 7	12.90	JUN 9	14.14	AUG 12	13.64
7	14.32	9	14.04	10	15.44	14	12.84	16	14.04	19	13.98
16	14.32	17	13.92	17	15.54	21	12.59	23	14.43	27	14.30
23	14.34	26	14.27	24	15.60	28	12.87	30	13.70	SEP 2	14.36
28	14.50	JAN 2	14.74	MAR 4	15.73	MAY 5	13.00	JUL 7	14.05	9	14.61
NOV 4	14.20	6	14.87	10	15.62	12	13.37	14	13.38	15	13.89
11	14.12	13	15.08	17	14.07	19	12.75	23	13.41	22	13.44
18	13.69	21	15.10	25	14.07	27	13.56	28	12.74	29	12.13
25	14.32	27	15.25	31	13.39	JUN 3	14.07	AUG 4	13.35		

ASHLAND COUNTY

460936090531701. Local number, AS-43/04W/32-0006.

LOCATION.--Lat 46°09'36", long 90°53'17", Hydrologic Unit 07050001. Owner: U.S. Forest Service.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in, depth 89 ft.

DATUM.--Altitude of land-surface datum is 1,470 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of hole in pump base, at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.4 ft below land-surface datum, Mar. 24, 1985; lowest water level measured, 32.4 ft below land-surface datum, Apr. 1, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	24.80	DEC 26	26.50	FEB 18	27.40	APR 21	26.30	JUN 20	26.10	AUG 20	26.80
NOV 20	25.80	JAN 17	26.10	MAR 25	26.50	MAY 30	26.10	JUL 17	26.30	SEP 20	26.80

BARRON COUNTY

451514091582101. Local number, BR-33/13W/21-0046.

LOCATION.--Lat 45°15'14", long 91°58'21", Hydrologic Unit 07050007. Owner: Edward Thuftin.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in, depth 65 ft.

DATUM.--Altitude of land-surface is 1,115 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1956 to current year.

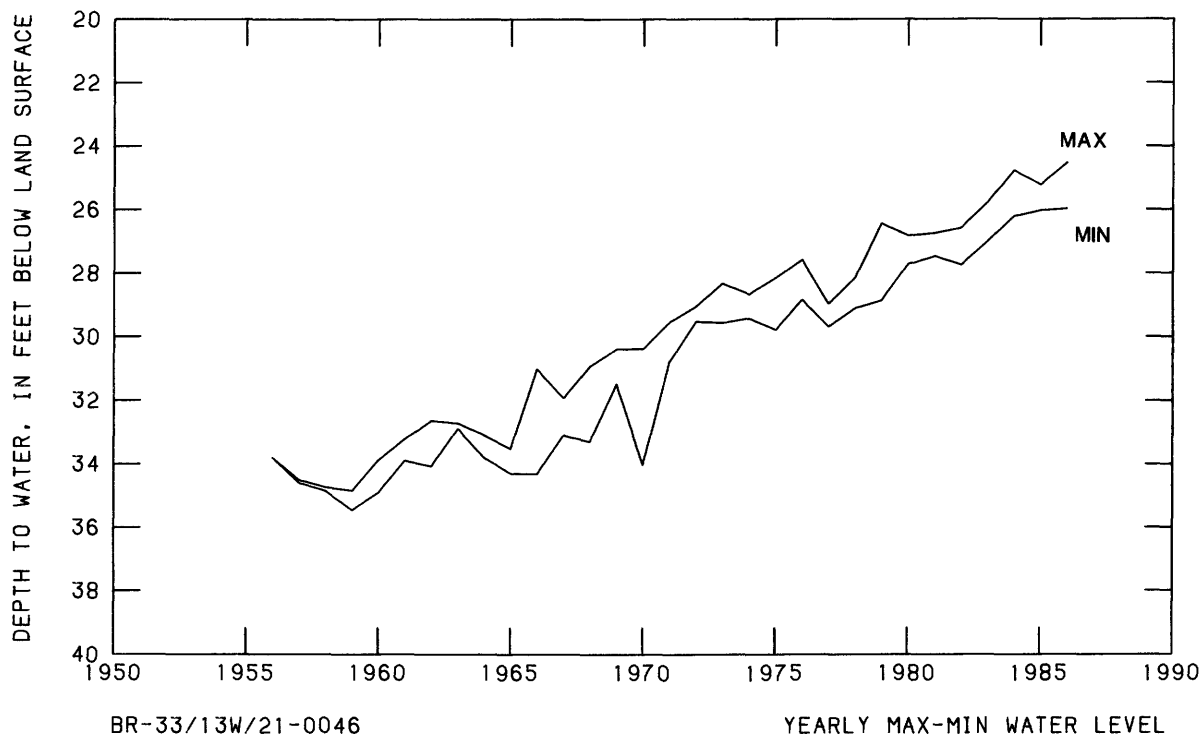
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.53 ft below land-surface datum, June 11, 1986; lowest water level measured, 35.45 ft below land-surface datum, May 13, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	25.75	DEC 4	25.30	FEB 14	25.68	APR 10	25.46	JUN 11	24.53	AUG 14	24.78
7	25.60	20	25.44	21	25.85	20	24.89	24	24.80	19	25.05
16	25.58	27	25.40	25	25.74	28	24.68	JUL 17	24.81	26	24.95
25	25.40	JAN 10	25.52	MAR 14	25.78	MAY 15	24.67	23	24.92	SEP 2	24.99
30	25.30	16	25.39	17	25.94	20	24.71	30	24.85	12	25.02
NOV 15	25.22	28	25.39	24	25.97	JUN 2	24.65	AUG 7	24.86	16	25.10
25	25.30	FEB 7	25.65	APR 4	25.48						

GROUND-WATER LEVELS

BARRON COUNTY



BROWN COUNTY

443228088003101. Local number, BN-24/20E/24-0076.

LOCATION.--Lat 44°32'28", long 88°00'31", Hydrologic Unit 04030204. Owner: Wisconsin Public Service Corp.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 5 in, depth 500 ft, cased to 150 ft, open end.

DATUM.--Altitude of land-surface is 590 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	87.70	DEC 3	81.30	JAN 28	79.30	MAR 25	77.40	MAY 28	81.19	JUL 15	92.35
8	86.15	11	80.50	FEB 5	79.50	APR 8	77.60	JUN 3	82.80	22	93.45
15	85.20	17	80.50	11	79.65	15	78.10	10	85.80	AUG 5	96.00
23	84.60	23	79.40	19	78.75	23	78.75	17	87.90	12	96.55
29	84.60	30	79.35	25	79.38	29	78.22	24	88.40	20	96.10
NOV 5	84.00	JAN 7	79.60	MAR 4	78.80	MAY 6	79.35	JUL 1	88.50	SEP 16	97.00
12	83.20	15	79.50	18	77.30	13	79.90	8	88.30	23	95.60
26	81.55	21	79.35								

BURNETT COUNTY

455224092215601. Local number, BT-39/16W/17-0002.

LOCATION.--Lat 45°52'24", long 92°21'56", Hydrologic Unit 07030001. Owner: Wis. 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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	32.21	NOV 29	32.15	JAN 24	32.06	MAR 21	32.37	JUN 20	31.88	AUG 15	31.76
11	32.31	DEC 6	32.20	31	32.17	28	32.19	27	31.84	22	31.83
18	32.22	13	32.14	FEB 7	32.21	APR 4	32.25	JUL 4	31.94	29	31.79
25	32.21	20	32.29	14	32.16	11	32.25	11	31.84	SEP 5	31.72
NOV 1	32.12	27	32.06	21	32.29	18	32.28	18	31.86	12	31.70
8	32.15	JAN 3	32.25	28	32.18	25	32.17	25	31.82	19	31.73
15	32.24	10	32.10	MAR 7	32.19	JUN 6	31.78	AUG 1	31.96	26	31.64
22	32.20	17	32.07	14	32.19	13	31.86	8	32.12		

CHIPPEWA COUNTY

445544091155701. Local number, CH-28/07W/17-0142.

LOCATION.--Lat 44°55'44", long 91°15'57", Hydrologic Unit 07050005. Owner Wis. 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 above 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, 26.36 ft below land-surface datum, May 21, 1984; 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	28.00	DEC 10	28.29	FEB 10	28.91	APR 14	28.14	JUN 19	28.43	AUG 12	27.96
14	28.21	16	28.42	17	28.43	21	28.21	23	28.41	18	27.93
21	28.31	23	27.68	25	28.83	28	27.80	30	28.26	26	27.56
28	28.60	30	28.11	MAR 5	28.52	MAY 5	27.69	JUL 7	27.82	SEP 2	27.74
NOV 5	28.39	JAN 6	28.83	10	28.56	12	28.15	15	28.09	8	27.76
11	28.73	14	28.67	17	29.07	19	28.34	22	28.07	14	27.80
18	28.07	22	28.48	24	29.18	26	28.20	29	27.77	22	27.29
26	28.92	27	28.62	31	28.44	JUN 2	28.44	AUG 5	27.78	26	26.83
DEC 2	28.54	FEB 3	28.64	APR 7	28.43	9	28.45				

CLARK COUNTY

444525090443201. Local number, CK-26/03W/04-0001.

LOCATION.--Lat 44°45'25", long 90°44'32", Hydrologic Unit 07050006. Owner: Wis. 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 above 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, 52.30 ft below land-surface datum Aug. 23, 1984; 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 10	54.10	MAR 25	54.50	MAY 30	53.64	JUL 31	54.00	AUG 29	53.66	SEP 30	52.79
JAN 30	55.08	MAY 1	53.63	JUN 18	54.03						

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 above 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, 120.50 ft below land-surface datum, Nov. 6, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	108.50	DEC 2	101.80	FEB 3	107.00	APR 7	107.75	JUN 2	108.50	AUG 4	115.30
14	109.60	11	118.85	10	114.00	14	117.00	9	110.10	11	109.90
21	108.20	16	111.80	17	106.50	21	105.80	16	106.60	18	115.50
28	106.30	23	106.50	24	108.50	28	110.50	23	109.90	25	118.30
NOV 6	120.50	JAN 6	105.00	MAR 3	109.50	MAY 5	110.80	30	113.20	SEP 2	113.10
11	110.65	13	109.70	10	113.10	12	109.80	JUL 7	113.80	8	110.20
18	107.40	21	109.20	17	107.50	19	112.30	14	114.85	15	118.80
27	117.50	27	109.50	31	105.50	27	111.50	21	116.10	22	111.30
								28	114.00	29	107.90

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 above 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, 19.63 ft below land-surface datum, Mar. 23, 1986; 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 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.31	21.79	21.55	21.47	22.56	22.23	20.63	21.41	23.18	22.70	23.64	23.78
10	23.70	21.80	21.69	21.47	22.06	21.80	21.41	21.88	23.99	22.73	22.80	23.04
15	23.16	21.70	21.55	22.17	22.30	21.23	21.17	21.64	21.91	23.08	23.81	22.54
20	23.11	21.35	21.21	22.35	22.53	20.52	21.00	21.58	23.58	23.02	23.39	23.15
25	22.76	21.14	21.49	22.19	22.45	20.20	21.36	21.52	21.85	23.31	23.64	22.14
EOM	22.66	21.12	21.47	22.47	22.47	20.63	21.32	22.43	21.53	23.46	22.69	21.78
WTR YEAR 1986	MAX	24.48	JUL 19	MIN	19.36	MAR 23						

DODGE COUNTY

432407088552701. Local number, DG-11/13E/23-0081.

LOCATION.--Lat 43°24'15", long 88°55'26", Hydrologic Unit 07090002. Owner: Wis. 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 above 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, 16.07 ft below land-surface datum, Mar. 27, 1986; 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 29	17.25	JAN 31	18.40	APR 3	16.90	MAY 30	19.25	AUG 27	19.08	SEP 18	17.26
DEC 30	17.83	FEB 28	17.79	30	18.20	JUN 27	19.55	28	18.72	30	15.94
JAN 10	17.87	MAR 27	16.07	MAY 14	18.66	JUL 31	19.36				

455757087151701. Local number, DR-29/27E/30-0007.

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.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	29.49	JAN 21	30.20	MAR 18	17.26	MAY 21	37.97	JUL 21	46.26	SEP 10	46.23
DEC 18	39.68	FEB 19	43.16								

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.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.00	4.41	8.22	12.61	18.79	21.39			14.72	19.26	22.12	25.54
10	8.23	4.72	8.22	13.91	19.80	21.43			14.71	19.17	22.22	25.60
15	7.91	5.50	8.28	14.83	20.77	18.48			14.35	20.19	23.37	25.08
20	9.13	4.51	9.73	14.83	20.59	7.52			19.71	19.94	24.08	24.34
25	11.54	5.72	10.31	15.15	20.57	3.78		11.00	20.48	21.84	24.17	22.81
EOM	12.17	5.21	11.14	18.84	21.36			13.25	19.63	21.77	24.74	19.15

[illegible]

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: Wis. 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 above 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, 11.05 ft below land-surface datum, Apr. 11, 1986; 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26	16.68	FEB 13	13.56	APR 3	11.32	MAY 23	13.91	JUL 27	16.33	AUG 22	16.84
JAN 10	13.17	19	13.52	11	11.05	JUN 12	15.45	AUG 6	16.19	SEP 10	18.17
16	13.95	MAR 18	13.04	MAY 14	12.55	JUL 1	15.24	14	16.58	26	14.60
FEB 3	13.87	26	11.55	16	13.02						

FOREST COUNTY

460156088474901. Local number, FR-41/14E/18-0002.

LOCATION.--Lat 46°01'56", long 88°47'49", Hydrologic Unit 04030106. Owner: Wis. 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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	10.50	NOV 26	10.53	JAN 30	10.23	APR 29	10.18	JUL 2	11.45	AUG 28	11.32
30	10.67	DEC 31	10.42	FEB 26	10.18	MAY 29	11.17	30	11.41		

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 above National Geodetic Vertical Datum of 1929. Measuring point: edge of pump base, 0.50 ft above land-surface datum.

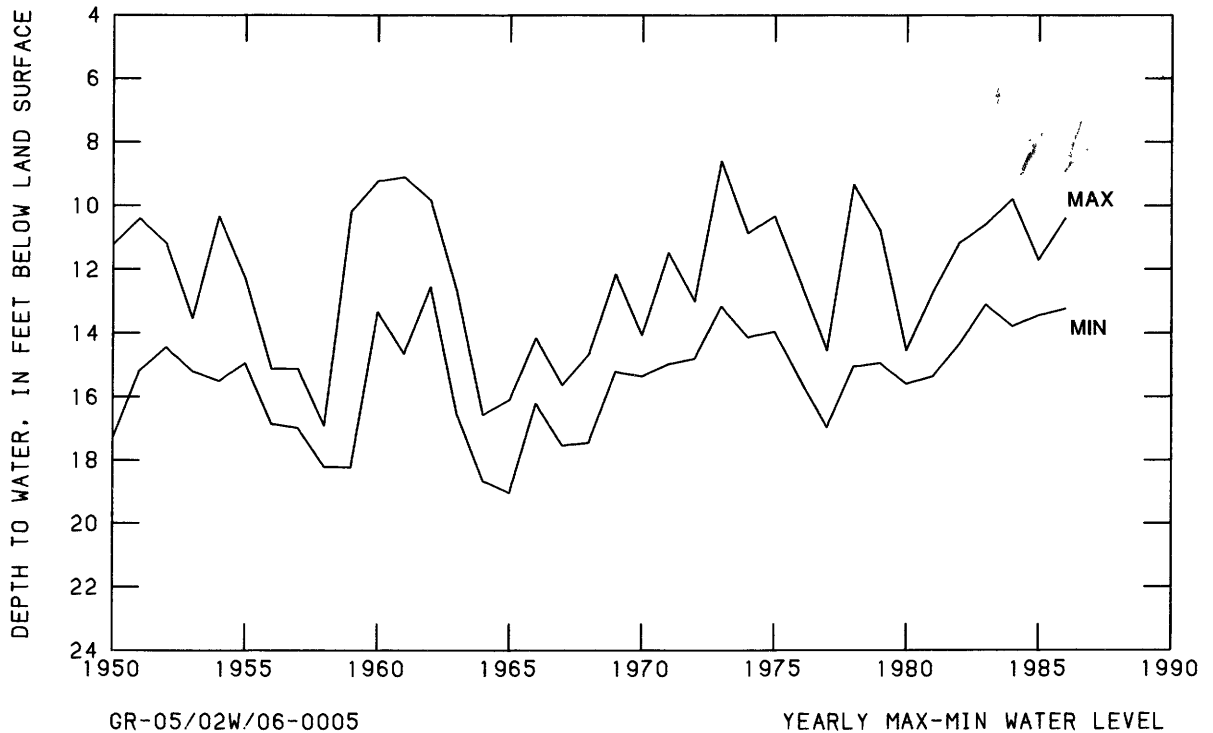
PERIOD OF RECORD.--July 1946 to current year.

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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	13.45	DEC 19	12.73	FEB 25	13.24	APR 16	10.42	JUN 25	11.86	AUG 27	12.78
NOV 26	12.55	JAN 21	12.94	MAR 25	10.54	MAY 16	10.89	JUL 22	12.52	SEP 22	13.21

GRANT COUNTY



GREEN COUNTY

423815089404201. Local number, GN-02/07E/21-0001.

LOCATION.--Lat 42°38'15", long 89°40'12", 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 above 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 1985 TO SEPTEMBER 1986

No measurements made in the 1986 water year.

IOWA COUNTY

425644090101901. Local number, IW-06/03E/32-0032.

LOCATION.--Lat 42°56'44", long 90°10'19", Hydrologic Unit 07090003. Owner: Archie Lee.

AQUIFER.--Galena-Platteville.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in, depth 92 ft.

DATUM.--Altitude of land-surface is 1,200 ft above National Geodetic Vertical Datum of 1929. Measuring point: 1/4-in hole pump base, at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.40 ft below land-surface datum, May 17, 1960; lowest water level measured, 68.81 ft below land-surface datum, Aug. 18, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	57.54	DEC 10	55.46	FEB 19	56.47	MAY 8	53.52	JUN 5	55.47	AUG 7	57.30
29	56.99	20	53.45	MAR 13	56.36	22	54.55	JUL 9	56.69	SEP 10	55.26
NOV 13	57.36	JAN 15	55.29	APR 10	48.29	JUN 3	55.42	18	57.05	18	58.01
29	51.61	30	56.31	23	50.51						

GROUND-WATER LEVELS

JACKSON COUNTY

441051090470901. Local number, JA-20/03W/30-0005.

LOCATION.--Lat 44°10'51", long 90°47'09", Hydrologic Unit 07040007. Owner: Robert Foulker.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 10 in, depth 190 ft, cased to 54 ft, open end.

DATUM.--Altitude of land-surface is 845 ft above National Geodetic Vertical Datum of 1929. Measuring point: hole in pump base, at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.53 ft below land-surface datum, May 22, 1973; lowest water level measured, 22.60 ft below land-surface datum, Dec. 19, 1958.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	19.90	MAR 21	19.55	MAY 6	18.59	JUN 17	18.61	AUG 13	19.59	SEP 8	18.60
NOV 19	19.59	APR 17	19.51	JUN 5	18.95	JUL 9	19.59	19	19.49	25	18.31

JUNEAU COUNTY

435515090152901. Local number, JU-17/02E/28-0098.

LOCATION.--Lat 43°55'15", long 90°15'29", Hydrologic Unit 07070003. Owner: Wis. 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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	11.00	FEB 28	11.38	APR 28	10.79	JUN 5	11.22	JUL 28	11.23	AUG 29	11.42
JAN 30	11.11	MAR 30	10.60	MAY 30	11.20	18	11.34	AUG 19	11.29	SEP 24	10.56

KENOSHA COUNTY

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 above National Geodetic Vertical Datum of 1929. Measuring point: end of 3/4-in. plastic pipe, 4.25 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, 198.85 ft below land-surface datum, Aug. 14, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 1	197.28	MAY 14	197.70	JUN 18	198.20	JUL 8	198.27	AUG 14	198.85

LAFAYETTE COUNTY

423114090161101. 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 above 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, 28.34 ft below land-surface datum, Apr. 29, 1986; lowest water level, 130.99 ft below land-surface datum, Nov. 6, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	38.13	38.73	35.46	35.98	36.74	36.58		30.89	30.80	29.95	30.77	32.24
10	38.52	38.74	35.47	36.32	36.88	36.10		31.66	30.74	30.10	31.03	32.30
15	38.54	38.47	35.40	36.40	36.67	32.66		31.72	30.90	30.15	31.04	32.47
20	38.78	37.56	35.70	36.25	36.65	30.55		31.96	30.27	30.24	31.60	32.44
25	38.96	36.32	35.71	36.41	36.81	28.70	30.42	31.35	30.09	30.31	31.60	30.28
EOM	38.72	35.53	35.82	36.85	36.89		30.83	30.86	29.83	30.55	32.10	

WTR YEAR 1986 MAX 39.08 OCT 28 MIN 28.34 APR 29

424620089590001. Local number, LF-04/04E/35-0078.

LOCATION.--Lat 42°46'20", long 89°58'57", Hydrologic Unit 07090003. Owner: Wis. 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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	15.19	DEC 20	13.45	FEB 19	13.55	APR 23	11.66	JUN 5	12.83	AUG 5	14.56
NOV 29	11.67	JAN 30	14.80	MAR 11	9.70	MAY 22	12.31	JUL 18	14.10	SEP 18	14.78

LANGLADE COUNTY

450942089085301. Local number, LA-31/11E/20-0118.

LOCATION.--Lat 45°09'42", long 89°08'53", Hydrologic Unit 07070002. Owner: Wis. 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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	7.34	DEC 27	7.96	FEB 28	9.65	APR 28	7.21	JUL 28	9.08	SEP 29	9.27
NOV 27	6.70	JAN 27	8.93	MAR 27	9.10	MAY 27	8.12	AUG 29	9.60		

GROUND-WATER LEVELS

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 above 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, 5.79 ft below land-surface datum, Oct. 9, 1985; 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	6.55	JAN 2	8.00	MAR 3	8.06	APR 30	7.20	JUN 25	7.80	AUG 14	7.88
9	5.79	7	8.18	11	8.18	MAY 6	7.57	JUL 1	7.27	19	8.03
NOV 19	7.27	13	8.10	19	8.28	15	7.57	10	8.00	26	8.18
25	7.47	20	8.20	25	8.29	24	7.80	17	7.70	SEP 4	8.28
DEC 4	7.57	27	8.30	APR 3	6.60	28	7.90	25	7.17	11	8.17
11	7.67	FEB 8	8.48	11	6.86	JUN 5	8.30	AUG 1	7.60	16	8.00
20	7.67	20	8.48	18	7.09	12	8.38	6	7.79	21	7.87
26	7.69	25	8.06	24	7.37	19	7.17				

MANITOWOC COUNTY

440430087420401. Local number, MN-19/23E/35-0028.

LOCATION.--Lat 44°04'30", long 87°42'04", Hydrologic Unit 04030101. Owner: Wis. Dept. of Transportation.

AQUIFER.--Silurian dolomite.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 6 in, depth 147 ft, cased to 133 ft, open end.

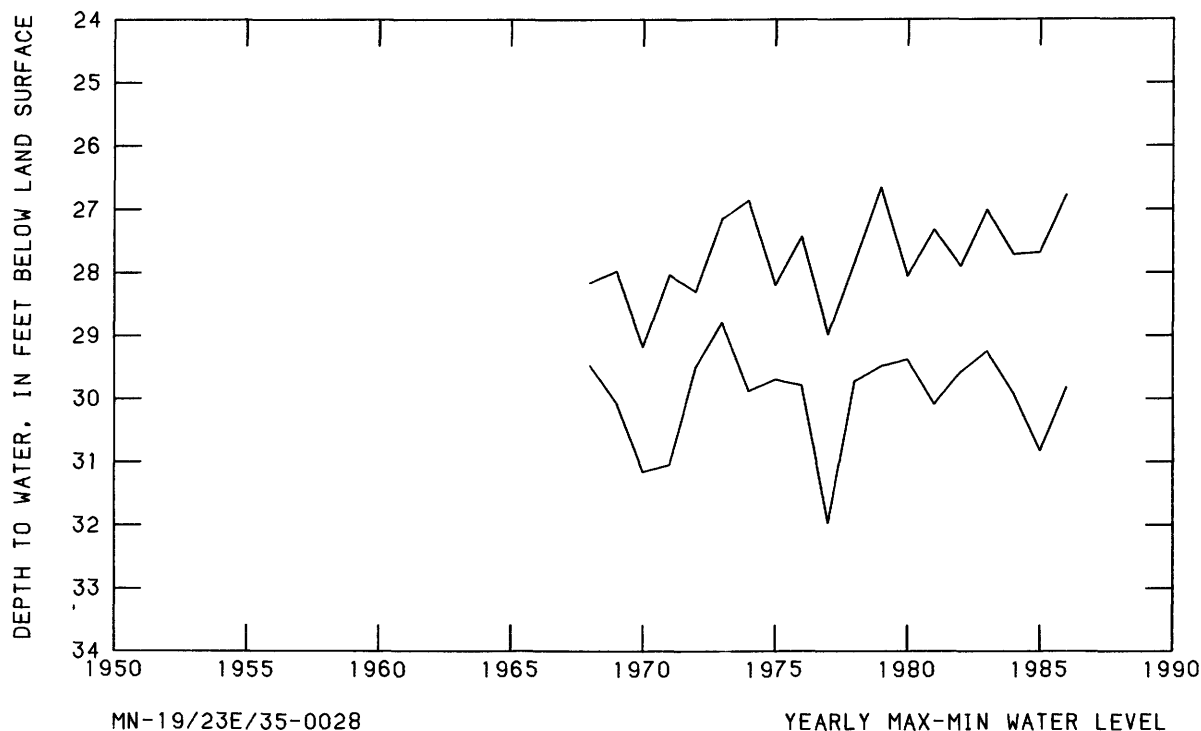
DATUM.--Altitude of land-surface is 670 ft above National Geodetic Vertical Datum of 1929. Measuring point: 1/4-in hole in pump base, 1.00 ft above land-surface datum.

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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	29.36	APR 2	26.78	JUN 4	29.78	JUL 7	29.50	JUL 28	29.25	SEP 8	29.25
DEC 17	27.80	MAY 12	28.50	9	29.83	14	29.34	AUG 4	28.83	15	28.42
JAN 23	27.76	19	28.67	16	29.50	21	29.50	11	29.25	22	27.75
FEB 26	28.79	28	29.44	23	29.50	23	29.39	18	29.00	27	27.75



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 above 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 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	3.53	3.38					4.30		7.31	7.33	4.73	7.06
10	3.96	4.51			8.00	6.80	5.07	6.55	7.46	7.56	5.30	6.02
15	4.26	4.50		8.60			4.25	6.60	7.67	6.99	4.35	4.18
20	5.20	3.63		8.60			5.49	6.61	7.53	2.40	6.16	3.07
25	4.88	4.40					6.45	6.80	7.99	2.75	6.62	3.38
EOM	5.96	5.29				3.71		6.95	7.18		6.80	3.40
WTR YEAR 1986 MAX 11.00 MAR 3 MIN 1.40 JUL 28												

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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	16.17	DEC 8	14.95	FEB 16	15.16	APR 20	14.33	JUN 15	14.54	AUG 10	14.96
13	16.09	15	14.95	23	15.16	27	14.23	22	14.60	17	14.99
20	16.00	22	14.78	MAR 2	15.32	MAY 4	14.24	29	14.67	24	15.00
27	15.94	29	14.73	9	15.33	11	14.27	JUL 6	14.75	31	15.09
NOV 3	15.75	JAN 5	14.73	16	15.38	18	14.30	13	14.80	SEP 7	15.14
10	15.59	19	14.68	24	15.39	25	14.35	19	14.81	14	15.17
17	15.44	26	14.70	30	14.52	JUN 1	14.46	27	14.85	21	14.99
24	15.25	FEB 2	15.08	APR 6	14.48	8	14.50	AUG 3	14.91	28	14.54
DEC 1	15.10	9	15.08	13	14.37						

MARINETTE COUNTY

453816087590101. Local number, MT-37/20E/34-0007.

LOCATION.--Lat 45°38'16", long 87°59'01", Hydrologic Unit 04030108. Owner: Wis. 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 above 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.

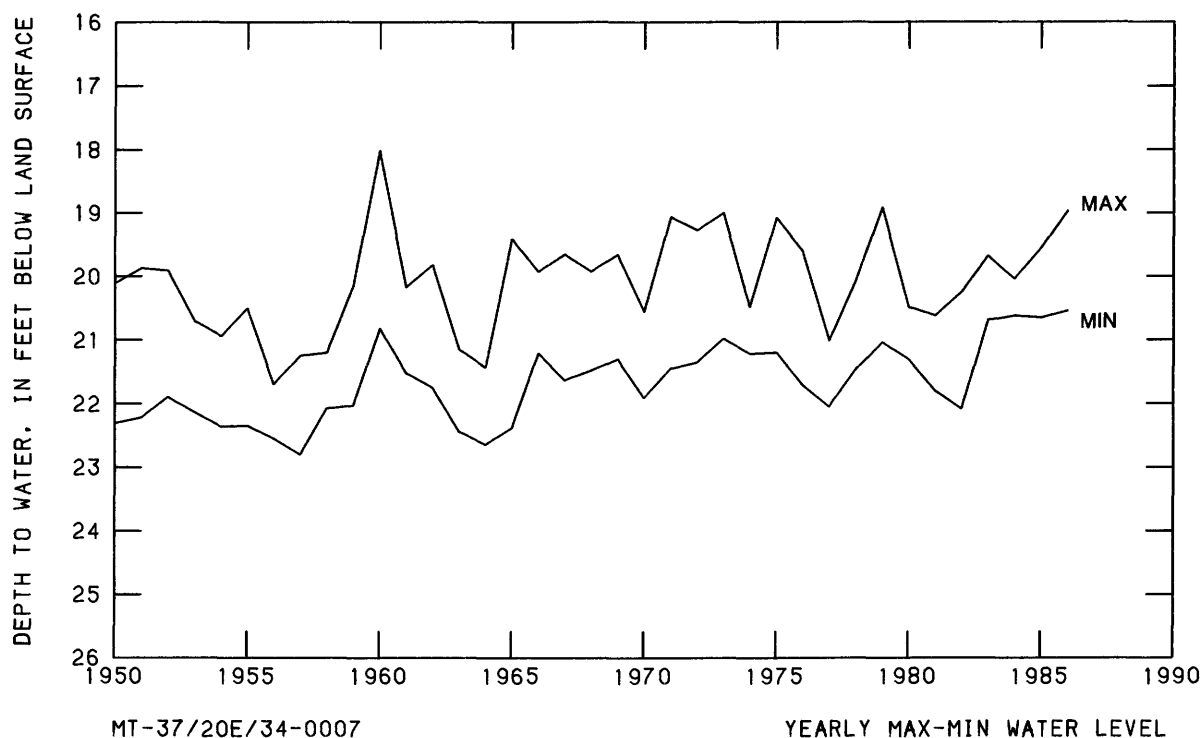
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.01 ft below land-surface datum, May 17, 1960; lowest water level measured, 23.26 ft below land-surface datum, Nov. 2, 1948.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	20.48	DEC 3	19.60	FEB 4	20.12	APR 8	19.38	JUN 10	19.83	AUG 12	20.45
8	20.48	10	19.56	11	20.16	15	19.01	17	19.90	19	20.49
15	19.94	17	19.61	18	20.22	22	18.97	24	20.02	26	20.54
22	19.96	24	19.73	25	20.28	29	19.08	JUL 1	20.02	SEP 2	20.58
29	20.04	31	19.78	MAR 4	20.34	MAY 6	19.25	8	20.12	9	20.61
NOV 5	19.82	JAN 7	19.90	11	20.39	13	19.33	15	20.21	16	20.62
12	19.62	14	19.92	18	20.43	20	19.43	22	20.25	23	20.61
19	19.62	21	19.99	25	20.32	27	19.58	29	20.35	30	20.54
26	19.56	28	20.05	APR 1	19.92	JUN 3	19.68	AUG 5	20.40		

GROUND-WATER LEVELS

MARINETTE COUNTY



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 above 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, 13.12 ft below land-surface datum, Feb. 24, 1986; 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	14.02	DEC 23	13.70	FEB 24	13.12	APR 24	13.27	JUL 8	13.74	AUG 7	13.70
22	14.10	JAN 22	13.88	MAR 24	13.41	MAY 22	13.19	17	13.66	SEP 9	13.98
NOV 25	13.52										

433956089275601. Local number, MQ-14/09E/30-0026.

LOCATION.--Lat 43°39'56", long 89°27'56", Hydrologic Unit 04030201. Owner: Wis. 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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	15.87	DEC 23	14.80	MAR 24	14.02	JUN 4	15.52	JUL 8	15.92	AUG 7	16.40
22	15.87	JAN 22	15.17	APR 24	14.54	12	15.62	17	15.93	SEP 9	17.15
NOV 25	14.42	FEB 24	15.50	MAY 22	15.07						

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 above 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 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	285.60	284.47	282.79	281.47	281.85	282.18	283.11	282.56	283.55	284.71	286.60	286.57
10	285.69	284.53	282.95	281.75	281.86	282.30	283.11	282.88	283.82	284.80	286.37	286.55
15	285.42	284.43	282.68	281.86	281.56	282.56	283.08	282.36	284.05	285.20	286.48	287.07
20	285.45	284.10	282.53	281.77	281.62	283.05	283.11	282.67	284.40	285.62	286.87	287.15
25	285.30	283.81	282.07	281.83	281.89	282.87	283.14	282.99	284.50	286.02	286.81	286.95
EOM	284.79	283.21	281.66	282.05	282.04	282.92	282.85	282.93	284.52	286.25	286.99	287.35

WTR YEAR 1986 MAX 287.35 SEP 30 MIN 281.19 FEB 18

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 above 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, 54.67 ft below land-surface datum, Mar. 19, 1986; lowest water level, 107.95 ft below land-surface datum, Feb. 28, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	55.53	55.68	55.63	55.16	55.37	55.24	55.33	55.11	55.64	55.85	56.26	56.23
10	55.85	55.95	55.78	55.48	55.51	55.09	55.21	55.51	55.68	55.93	56.13	56.14
15	55.75	56.01	55.52	55.46	55.36	55.25	55.09	55.23	55.73	56.01	56.09	56.44
20	55.94	55.87	55.70	55.28	55.32	55.66	55.15	55.54	55.97	56.13	56.38	56.32
25	55.85	55.93	55.22	55.36	55.48	55.50	55.31	55.59	55.99	56.08	56.29	55.91
EOM	55.80	55.70	55.18	55.58	55.38	55.25	55.07	55.34	55.82	56.10	56.46	56.05

WTR YEAR 1986 MAX 56.60 SEP 16 MIN 54.67 MAR 19

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 above National Geodetic Vertical Datum of 1929. Measuring point: top of 1/4-inch pipe, at land-surface datum.

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

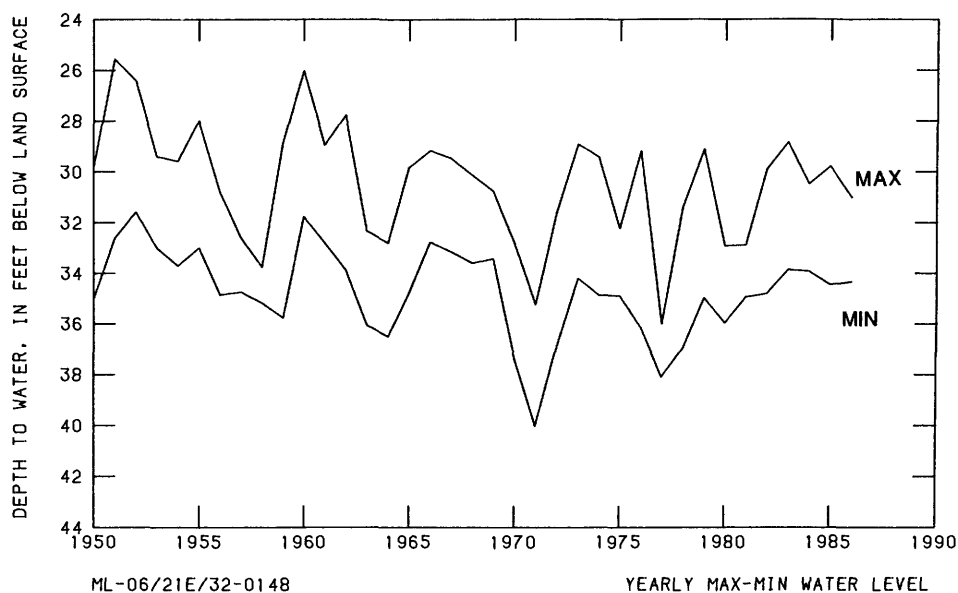
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.44 ft below land-surface datum, May 3, 1951; lowest water level measured, 40.03 ft below land-surface datum, Aug. 13, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	34.23	JAN 30	34.03	MAR 26	31.01	MAY 29	31.90	JUL 30	32.88	SEP 29	31.63
DEC 30	33.86	FEB 27	34.34	APR 29	31.56	JUN 30	32.42	AUG 28	32.06		

GROUND-WATER LEVELS

MILWAUKEE COUNTY



MONROE COUNTY

434342090495601. Local number, MO-15/04W/34-0002.

LOCATION.--Lat 43°43'42", long 90°49'56", Hydrologic Unit 07060001. Owner: Joseph Anderson.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in, depth 44 ft.

DATUM.--Altitude of land-surface is 1,100 ft above 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, 4.66 ft below land-surface datum, Mar. 19, 1986; 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 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.40	6.37	6.72	6.74	6.64	6.79	6.19		6.57	6.66	6.73	6.89
10	6.54	6.61	6.76	6.72	6.70	6.78	6.32		6.59	6.75	6.81	6.90
15	6.54	6.58	6.66	6.74	6.86	6.76			6.61	6.79	6.83	6.79
20	6.57	6.24	6.75	6.73	6.81	5.58			6.63	6.77	6.88	6.84
25	6.56	6.51	6.72	6.72	6.78	5.79			6.67	6.80	6.89	6.65
EOM	6.57	6.65	6.75	6.85	6.80	6.14			6.59	6.54	6.89	6.65

WTR YEAR 1986 MAX 6.90 SEP 10 MIN 4.66 MAR 19

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 above 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 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.06	6.14	5.76	6.35	6.72	7.08	5.29	5.56	6.10	5.86	4.99	5.98
10	5.94	5.98	5.90	6.40	6.82	7.14	5.25	5.67	6.16	6.02	5.23	6.06
15	5.95	6.00	6.00	6.46	6.80	7.16	5.30	5.75	6.23	5.84	5.40	5.44
20	6.04	5.89	6.10	6.53	6.91	6.66	5.36	5.81	6.35	5.76	5.56	5.38
25	6.16	5.70	6.17	6.61	6.98	6.01	5.44	5.90	6.41	5.89	5.72	4.35
EOM	6.29	5.66	6.28	6.66	7.02	5.33	5.50	6.01	5.90	4.87	5.88	4.05

WTR YEAR 1986 MAX 7.17 MAR 17 MIN 4.03 SEP 30

OCONTO COUNTY

445054088025201. Local number, OC-27/20E/03-0020.

LOCATION.--Lat 44°50'54", long 88°02'52", Hydrologic Unit 04030104. Owner: Wis. 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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	9.63	APR 9	9.34	MAY 2	9.39	JUN 25	9.89	AUG 21	9.98	SEP 11	9.90
JAN 3	9.82	17	9.24	22	9.51	JUL 22	10.01				

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 above 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 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.41	14.53	14.31	14.55	14.98	15.34	15.62	14.24	14.48	14.91	15.21	15.51
10	15.21	14.49	14.28	14.56	15.06	15.40	15.31	14.27	14.55	15.00	15.24	15.57
15	14.95	14.45		14.70		15.53	14.92	14.21	14.61	15.02	15.29	15.61
20	14.83	14.39	14.35	14.75		15.64	14.70	14.21	14.72	15.04	15.36	15.60
25	14.71	14.37	14.41	14.78		15.69	14.50	14.25	14.79	15.11	15.40	15.56
EOM	14.65	14.33	14.49	14.95		15.74	14.38	14.30	14.83	15.18	15.49	15.57

WTR YEAR 1986 MAX 15.74 MAR 31 MIN 14.19 MAY 18

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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	29.18	DEC 8	28.19	FEB 9	28.35	APR 13	28.34	JUN 8	27.74	AUG 3	27.62
13	28.91	16	28.12	15	28.40	20	28.39	15	27.77	11	27.60
20	28.70	22	28.12	23	28.52	27	28.10	22	27.62	17	27.66
27	28.57	29	28.14	MAR 2	28.50	MAY 4	27.95	29	27.55	25	27.65
NOV 3	28.65	JAN 5	28.14	9	28.51	12	27.72	JUL 6	27.50	31	27.88
10	28.49	12	28.10	19	28.30	18	27.64	13	27.75	SEP 14	27.68
17	28.20	20	28.07	23	28.27	26	27.70	20	27.67	22	27.80
24	28.05	26	28.07	30	28.52	JUN 2	27.55	28	27.69	29	27.88
DEC 4	28.21	FEB 2	28.32	APR 6	28.47						

GROUND-WATER LEVELS

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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 10	57.11	FEB 3	57.32	MAR 3	57.40	APR 21	55.09	MAY 21	55.79	JUL 1	57.95
										SEP 29	61.40

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 above 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, 29.55 ft below land-surface datum, Jul 23, 1986; 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	31.22	DEC 23	30.34	FEB 24	31.94	APR 4	31.53	JUN 13	29.80	AUG 21	29.67
NOV 26	30.00	JAN 28	30.80	MAR 21	31.50	MAY 20	30.36	JUL 23	29.55	SEP 2	29.78

452352092332001. Local number, PK-34/18W/26-0093.

LOCATION.--Lat 45°23'52", long 92°33'20", Hydrologic Unit 07030005. Owner: Wis. 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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	28.94	NOV 27	28.25	JAN 23	29.02	APR 3	29.29	JUN 11	27.16	AUG 1	27.36
9	29.13	DEC 4	28.28	30	29.14	11	28.92	19	27.23	15	27.46
16	28.39	11	28.37	FEB 6	29.25	25	28.53	26	27.21	22	27.61
23	28.18	18	28.49	27	29.64	MAY 2	28.18	JUL 3	27.28	29	27.76
30	28.12	27	28.63	MAR 5	29.68	9	27.94	10	27.31	SEP 5	27.84
NOV 6	28.08	JAN 2	28.68	13	29.79	23	27.35	18	27.26	12	27.94
13	28.12	9	28.76	20	29.87	30	27.21	23	27.25	19	28.07
20	28.34	16	28.88	27	29.81	JUN 6	27.17				

DEPTH TO WATER, IN FEET BELOW LAND SURFACE

MAX

MIN

PK-34/18W/26-0093

YEARLY MAX-MIN WATER LEVEL

Year	MAX (ft)	MIN (ft)
1965	30.5	34.5
1966	31.5	34.5
1967	32.0	34.5
1968	32.5	34.5
1969	30.5	32.5
1970	31.5	33.5
1971	28.5	31.5
1972	27.5	31.5
1973	23.5	31.0
1974	31.0	33.0
1975	29.0	34.0
1976	28.5	31.5
1977	32.0	34.5
1978	30.5	33.5
1979	27.5	32.5
1980	28.5	30.5
1981	28.5	30.5
1982	28.5	31.5
1983	27.5	29.5
1984	27.0	30.0
1985	27.5	29.5
1986	27.0	29.5

443127089174101. Local number, PT-24/10E/28-0015.

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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12	29.25	DEC 21	29.28	MAR 1	29.25	APR 26	29.24	JUN 21	29.11	AUG 16	29.18
26	29.28	JAN 4	29.26	15	29.27	MAY 10	29.20	JUL 5	29.12	30	29.21
NOV 9	29.28	18	29.25	29	29.32	24	29.16	19	29.13	SEP 13	29.24
23	29.30	FEB 1	29.24	APR 12	29.31	JUN 7	29.13	AUG 2	29.16	27	29.28
DEC 7	29.30	15	29.25								

GROUND-WATER LEVELS

PORTAGE COUNTY

442623089302701. Local number, PT-23/08E/25-0376.

LOCATION.--Lat 44°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.

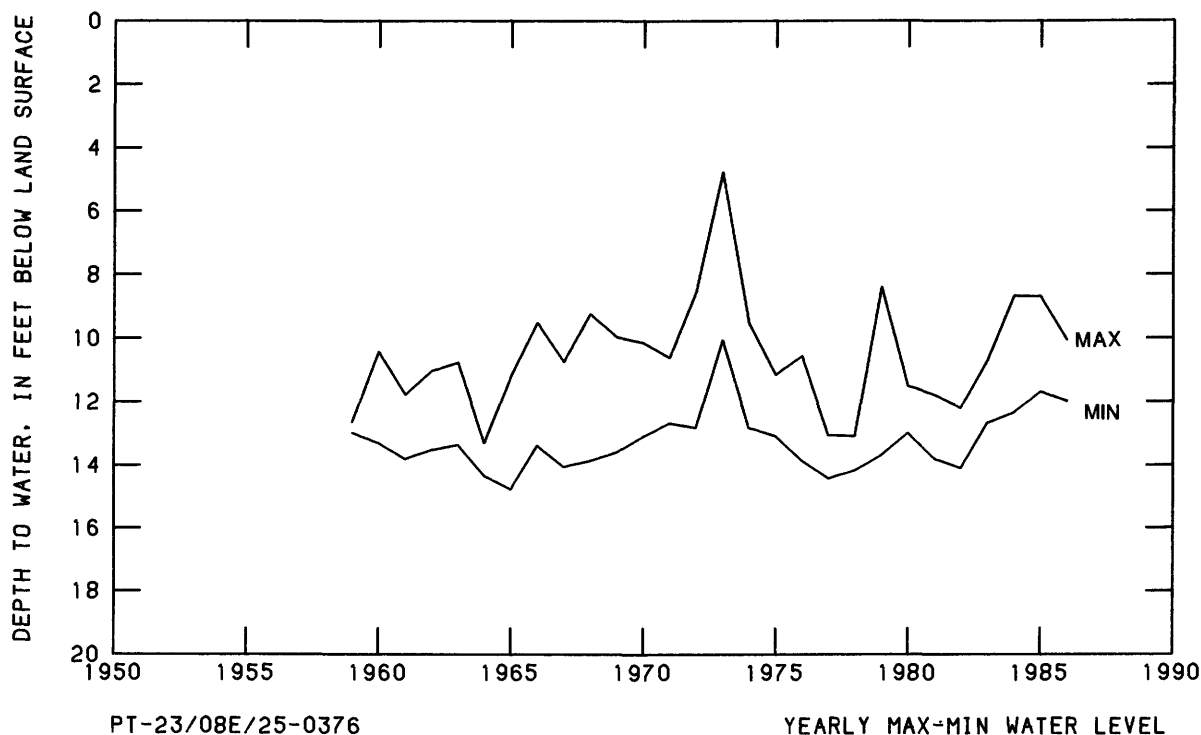
DATUM.--Altitude of land-surface is 1,099 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 4.20 ft above land-surface datum.

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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 9	11.18	JAN 23	11.17	MAR 18	11.88	MAY 16	11.60	JUL 16	11.48	AUG 20	11.65
NOV 16	10.68	FEB 17	10.40	APR 8	10.05	JUN 17	10.65	AUG 6	11.42	SEP 12	11.99
DEC 20	10.69										



PRICE COUNTY

455448090263401. Local number, PR-40/01W/24-0006.

LOCATION.--Lat 45°54'48", long 90°26'34", Hydrologic Unit 07050002. Owner: Wis. Dept. of Natural Resources.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Jetted unused water-table well, diameter 8 in, depth 13 ft, cased to 13 ft.

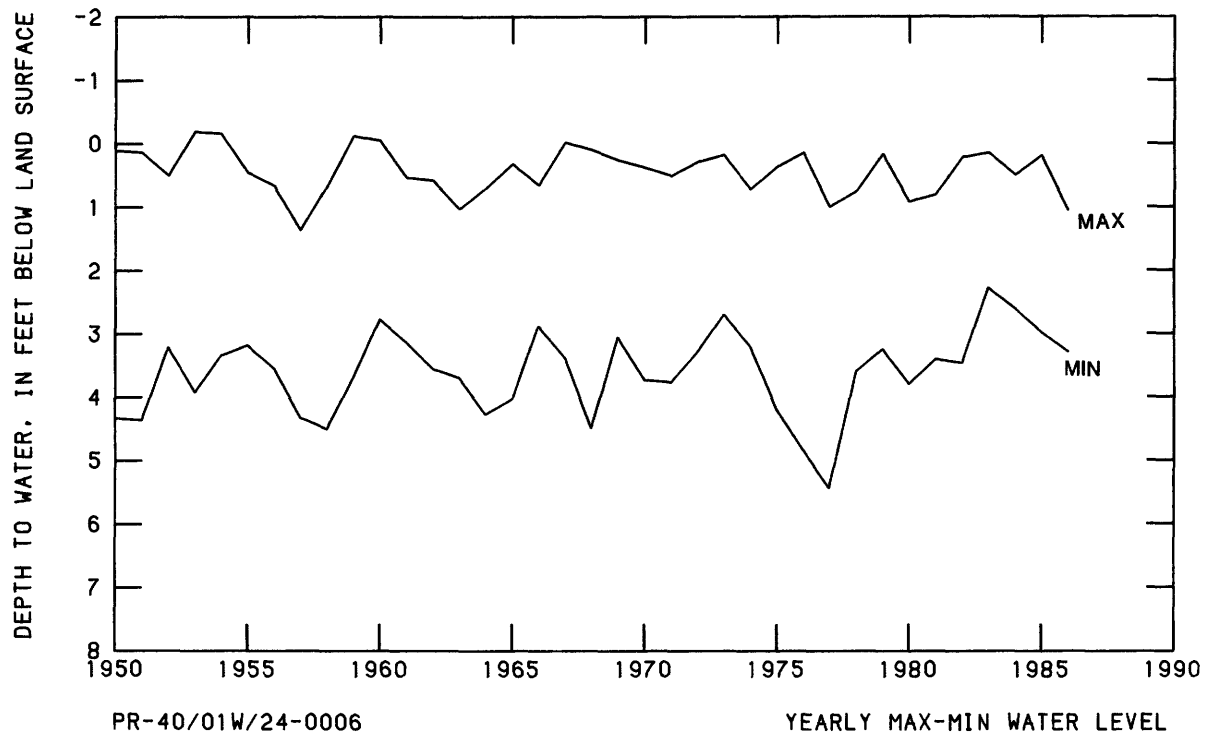
DATUM.--Altitude of land-surface is 1,510 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 5.00 ft above land-surface datum.

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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	1.24	DEC 20	2.29	FEB 14	2.59	APR 11	1.90	JUN 6	2.23	AUG 8	2.78
NOV 1	0.88	27	2.17	21	2.70	18	1.37	13	2.22	15	2.12
8	1.18	JAN 2	2.20	28	2.79	25	1.05	20	2.23	22	2.30
15	1.40	10	2.35	MAR 14	2.13	MAY 2	1.83	27	1.79	29	3.29
22	1.55	17	2.33	21	1.78	9	1.31	JUL 4	2.26	SEP 5	2.95
29	1.90	24	2.24	28	1.55	16	1.51	11	2.37	12	2.95
DEC 6	2.40	31	2.20	31	1.38	23	1.64	18	2.15	18	2.69
13	2.35	FEB 7	2.70	APR 4	1.38	30	1.94	25	2.24	26	2.35
								AUG 1	2.55	30	2.39



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 above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

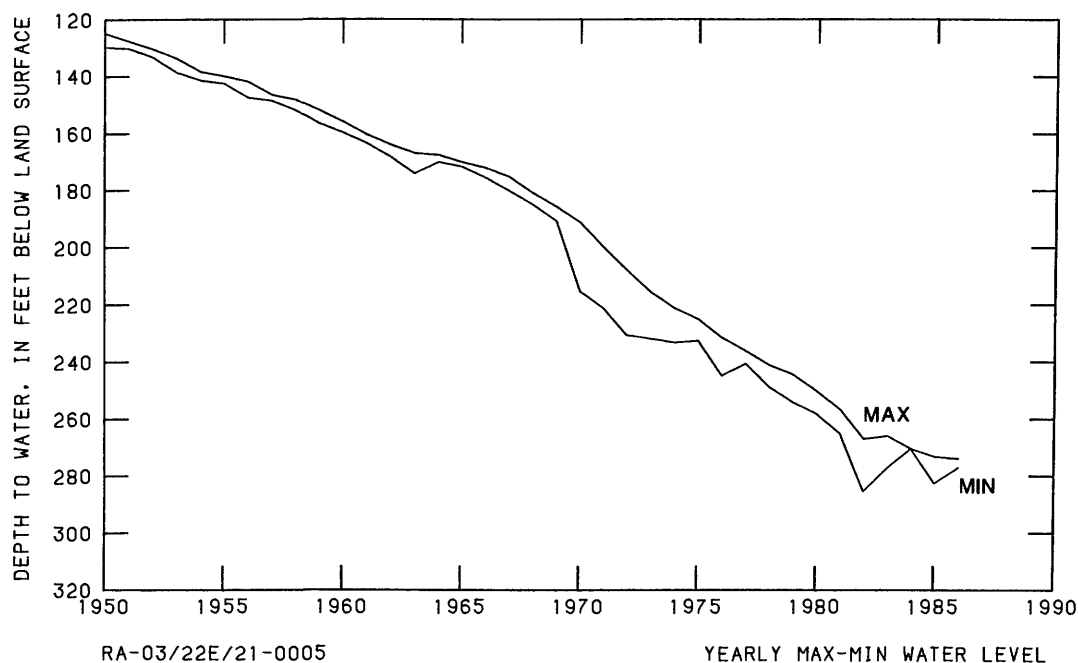
REMARKS.--Water level affected by regional pumping of wells.

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, 282.54 ft below land-surface datum, Aug. 20, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	281.89	NOV 20	280.23	JAN 14	273.89	MAR 13	274.12	JUN 19	275.19	AUG 19	276.19
21	274.65	DEC 12	274.66	28	277.08	APR 15	274.46	JUL 15	275.47	SEP 19	276.27
NOV 14	274.65	19	276.86	FEB 14	274.19	MAY 19	275.07				



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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	13.76	DEC 10	11.92	FEB 13	12.45	APR 9	11.25	JUN 3	11.72	AUG 6	12.36
NOV 12	12.15	JAN 14	11.99	MAR 12	12.02	MAY 8	11.49	JUL 8	13.66	SEP 9	12.80

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 above 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, 49.27 ft below land-surface datum, Apr. 2 and 16, 1986; 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	51.25	NOV 27	50.11	JAN 22	50.32	MAR 19	49.94	MAY 14	49.50	JUL 10	50.15
9	51.18	DEC 5	50.04	29	50.05	26	49.52	21	49.68	17	50.18
16	51.17	11	50.01	FEB 6	50.01	APR 2	49.27	28	49.76	AUG 7	50.49
23	50.90	18	50.14	12	50.15	9	49.28	JUN 5	49.81	14	50.62
30	50.78	26	49.86	19	49.95	16	49.27	12	49.77	21	50.69
NOV 6	50.49	JAN 1	50.15	26	49.50	24	49.30	19	49.94	SEP 18	50.45
13	50.52	8	50.30	MAR 5	49.84	30	49.55	26	50.02	26	50.19
21	50.48	18	50.08	12	49.80	MAY 7	49.49	JUL 3	50.15		

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 above 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, 8.49 ft below land-surface datum, Oct. 23, 1985; 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	8.49	SEP 25	9.48

ST. CROIX COUNTY

450812092223601. Local number, SC-31/16W/29-0094.

LOCATION.--Lat 45°08'12", long 92°22'36", Hydrologic Unit 07030005. Owner: Cylon Methodist Church.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 4 in, depth 73 ft, cased to 63 ft, open end.

DATUM.--Altitude of land-surface is 1,059 ft above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	30.54	NOV 13	30.08	MAY 19	29.66	JUN 30	29.55	AUG 1	29.46	SEP 3	29.45
										30	28.66

GROUND-WATER LEVELS

SAUK COUNTY

432201089460101. Local number, SK-10/06E/03-0001.

LOCATION.--Lat 43°22'01", long 89°46'01", Hydrologic Unit 07070005. Owner: Badger Army Ammunition Plant.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 16 in, depth 426 ft, cased to 203 ft, open end.

DATUM.--Altitude of land-surface is 865 ft above 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 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	66.56	64.89	66.18	65.53	65.34	64.90	64.53	65.39	64.07	64.26	64.50	64.39
10	65.71	66.15	66.00	65.50	65.22	64.90	64.35	64.11	64.53	64.48	64.24	64.06
15	65.61	66.23	66.16	65.41	65.13	65.01	64.14	63.20	63.86	64.20	64.41	63.78
20	65.22	66.37	66.39	65.19	65.22	65.08	64.40	63.29	64.74	64.79	64.88	63.56
25	65.09	66.24	66.06	65.27	65.27	64.72	64.10	63.62	64.22	64.75	64.98	63.44
EOM	64.90	65.94	65.81	65.43	65.08	64.70	64.86	64.29	63.96	64.59	64.28	63.31

WTR YEAR 1986 MAX 68.55 OCT 1 MIN 63.07 SEP 30

SHAWANO COUNTY

444203088214601. Local number, SH-26/18E/30-0001.

LOCATION.--Lat 44°42'03", long 88°21'46", Hydrologic Unit 04030103. Owner: Wis. Dept. of Transportation.

AQUIFER.--Prairie du Chien.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in, depth 132 ft.

DATUM.--Altitude of land-surface is 917 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of plastic pipe, 2.43 ft below 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	54.96	JAN 22	55.36	MAY 22	56.14	JUN 26	56.12	AUG 7	55.83	SEP 11	56.51
DEC 19	54.54	APR 8	53.32	28	55.61	JUL 15	56.38				

TAYLOR COUNTY

450947090483901. 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 above 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 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.15	8.16			8.99	9.11	6.09	8.69	10.00	9.28	9.38	9.43
10	7.30	8.66			9.12	8.90	7.76	9.09	10.10	9.40	8.38	9.24
15	8.03	8.92			9.08	9.04	8.30	9.18	9.71	9.05	7.70	7.60
20	8.59	8.46		9.20	9.15	8.75	8.35	9.35	9.79	8.85	8.45	7.78
25	8.86			9.05	9.21	8.36	8.75	9.75	9.50	8.73	8.99	6.10
EOM	9.09			9.05	9.28	5.46	8.60	9.91	9.61	9.06	9.35	6.33

WTR YEAR 1986 MAX 10.10 JUN 10 MIN 4.40 SEP 22

TAYLOR COUNTY

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.

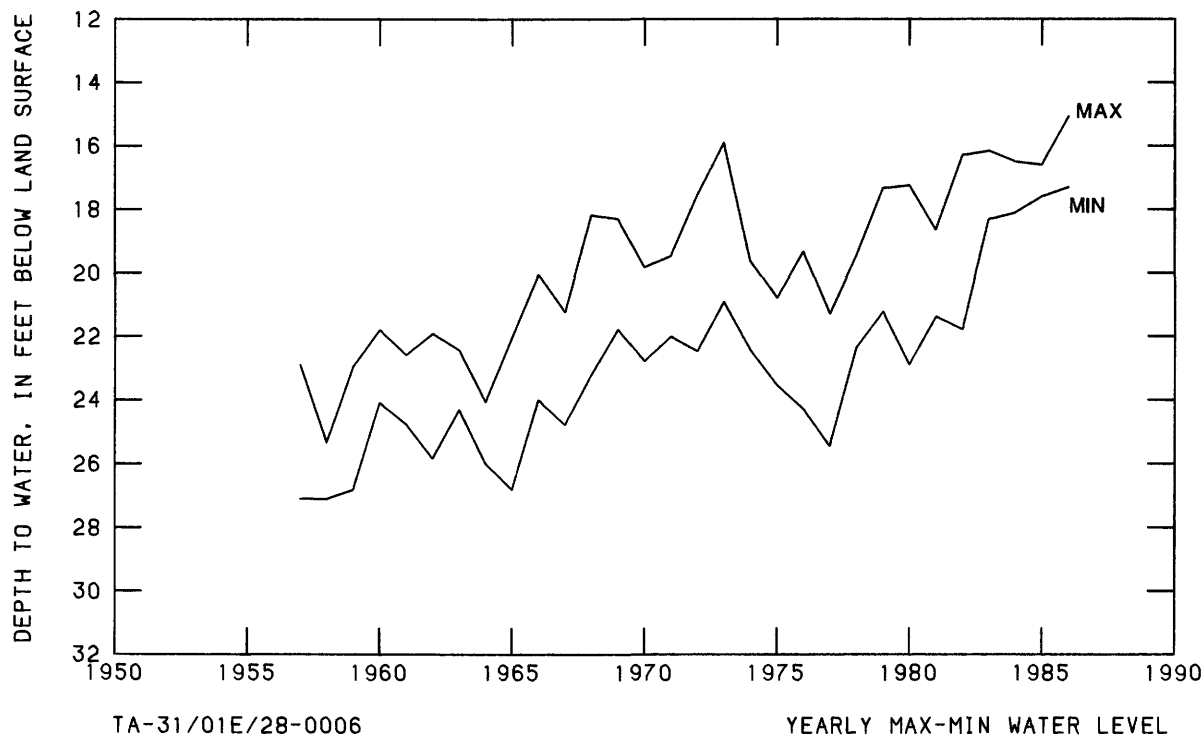
DATUM.--Altitude of land-surface is 1,460 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of curb, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--August 20, 1957, to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.10 ft below land-surface datum, Apr. 9, 1986; lowest water level measured, 27.10 ft below land-surface datum, Mar. 13, 1958.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21	16.60	NOV 14	17.60	DEC 19	17.25	JAN 20	17.30	MAR 19	16.90	APR 9	15.10



451919090172401. Local number, TA-33/02E/30-0009.

LOCATION.--Lat 45°19'19", long 90°17'24", Hydrologic Unit 07050005. Owner: Wis. 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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	29.31	NOV 14	29.45	DEC 19	29.43	JAN 30	30.90	MAR 19	31.30	APR 9	29.87

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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	137.82	DEC 15	136.79	FEB 16	137.92	MAY 15	136.81	JUL 16	135.94	SEP 17	136.96
NOV 17	137.57	JAN 17	137.16	MAR 16	137.51	JUN 17	136.46	AUG 17	136.64		

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 above 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, 44.29 ft below land-surface datum, Apr. 2, 1985; 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	45.98	DEC 3	46.47	FEB 4	46.36	APR 1	46.46	JUN 5	46.66	JUL 8	46.48
NOV 6	45.49	JAN 7	46.66	MAR 3	46.76	MAY 2	46.52				

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 above 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, 205.89 ft below land-surface datum, Aug. 29, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	205.46	DEC 30	204.51	FEB 6	204.06	APR 29	203.63	MAY 29	203.95	JUL 30	205.30
NOV 29	205.03	JAN 31	204.44	MAR 14	203.75	MAY 20	203.80	JUN 30	204.68	AUG 29	205.89
										SEP 10	205.31

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 above 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, 470.13 ft below land-surface datum, Sept. 13, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	466.59	462.24	457.30	451.46	459.63	453.13	456.31	459.17		460.88		
10	466.04	459.14	456.60	452.19	457.64	455.33	454.57	460.65	460.23	462.73		
15	466.71	460.36	456.12	452.16	457.57	451.66	454.79	461.27	459.33	459.34		
20	464.86	459.75	456.26	452.59	456.02	458.13	457.25	460.80	460.54	461.90		
25	466.32	459.37	454.96	454.27	456.67	455.11	454.62	458.57	462.31	465.66		
EOM	467.60	458.27	450.61	460.11	456.33	458.83	459.13	460.71	460.18	464.43		

WTR YEAR 1986 MAX 468.37 OCT 2 MIN 450.63 JAN 2

WAUKESHA COUNTY

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 above 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 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	131.45	131.16	130.32	130.49	130.39	130.35	129.46	129.71	130.40	130.30	130.47	130.65
10	131.49	131.11	130.27	130.42	130.38	130.32	129.47	129.89	130.38	130.40	130.27	130.54
15	131.37	130.95	130.18		130.33	130.16	129.46	129.85	130.30	130.40	130.21	130.35
20	131.41	130.77	130.25		130.33	129.92	129.49	129.98	130.63	130.40	130.45	130.47
25	131.37	130.65	130.45		130.37	129.63	129.59	130.04	130.59	130.48	130.60	130.28
EOM	131.33	130.48	130.65	130.54	130.33	129.51	129.79	130.21	130.32	130.33	130.56	130.04

WTR YEAR 1986 MAX 131.55 OCT 7 MIN 129.97 SEP 30

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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	13.59	DEC 7	12.11	FEB 8	13.60	APR 12	10.66	JUN 7	13.25	AUG 2	12.91
12	13.30	14	12.33	15	13.62	19	10.89	14	13.18	9	13.32
19	13.02	21	12.55	22	13.76	26	11.53	21	13.22	16	13.44
26	13.06	28	12.75	MAR 1	13.72	MAY 3	11.96	28	13.22	23	13.52
NOV 2	13.09	JAN 4	12.91	8	13.77	10	12.48	JUL 5	13.26	SEP 6	13.80
9	12.42	11	13.11	15	13.63	17	12.76	12	13.27	13	13.43
16	12.05	18	13.22	22	12.77	24	12.86	19	13.43	20	13.17
23	11.87	25	13.34	29	11.19	31	13.27	26	13.03	27	12.44
30	11.75	FEB 1	13.53	APR 5	10.46						

GROUND-WATER LEVELS

WAUSHARA COUNTY

440713089320801. Local number, WS-19/08E/15-0008.

LOCATION.--Lat 44°07'13", long 89°32'08", Hydrologic Unit 07070003. Owner: University of Wisconsin Experiment Farm, Hancock.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Jetted observation water-table well, diameter 4 in, depth 18 ft, cased to 18 ft.

DATUM.--Altitude of land-surface is 1,080 ft above 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 1985 TO SEPTEMBER 1986
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.86	8.73	8.42	8.61	8.91	9.18	8.11	7.77	8.24	8.44	8.70	8.75
10	8.88	8.62	8.39	8.67	8.97	9.22	8.02	8.02	8.37	8.64	8.69	8.76
15	8.84	8.58	8.38	8.72	9.01	9.29	7.94	7.83	8.29	8.54	8.65	8.80
20	8.87	8.54	8.44	8.76	9.06	9.13	7.89	7.92	8.57	8.57	8.67	8.83
25	8.86	8.49	8.48	8.80	9.11	8.99	7.83	7.95	8.59	8.62	8.70	8.86
EOM	8.87	8.43	8.55	8.88	9.14	8.27	7.82	8.08	8.38	8.54	8.73	8.89

WTR YEAR 1986 MAX 9.31 MAR 17 MIN 7.74 MAY 6

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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18	34.22	DEC 16	33.58	FEB 21	33.65	APR 15	33.02	JUN 18	32.81	AUG 15	33.41
NOV 17	33.74	JAN 16	33.70	MAR 14	34.10	MAY 18	32.99	JUL 14	33.37	SEP 14	33.58

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 above 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 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	19.53	DEC 30	19.68	FEB 27	20.68	MAY 5	18.49	JUN 30	20.01	SEP 4	19.74
DEC 3	19.04	JAN 29	21.01	MAR 27	17.98	30	19.45	JUL 31	19.60	29	18.17

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

GEOLOGICAL UNIT.--110QRNR, rocks of the Quaternary System of the Cenozoic Era. 372EKMD, Elk Mound Group of the Cambrian System. 400BCPX, basement complex, includes rocks of the Precambrian Era.

STATION NUMBER	LOCAL IDENTIFIER	GEOLOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE-CIFIC CON-DUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE (DEG C) (00010)
ADAMS							
440146089364402	AD-18/07E/13-0224	110QRNR	05-19-86	27.70	360	7.80	9.0
440151089363001	AD-18/07E/13-0225	110QRNR	05-19-86	70.60	240	7.80	10.0
		110QRNR	09-25-86	70.60	280	8.00	10.5
440151089363002	AD-18/07E/13-0226	110QRNR	05-19-86	28.00	500	7.80	9.0
440159089370501	AD-18/07E/13-0221	110QRNR	05-19-86	62.70	250	8.10	10.0
		110QRNR	09-25-86	62.70	370	8.00	11.0
440159089370502	AD-18/07E/13-0222	110QRNR	05-19-86	28.20	290	8.20	9.0
		110QRNR	09-25-86	28.20	155	8.30	11.0
440207089363001	AD-18/07E/13-0227	110QRNR	05-19-86	70.50	240	7.70	10.0
		110QRNR	09-25-86	70.50	220	7.80	11.5
440207089363002	AD-18/07E/13-0228	110QRNR	05-19-86	20.60	145	8.20	8.0
		110QRNR	09-25-86	20.60	185	8.40	12.0
440211089365101	AD-18/07E/13-0229	110QRNR	05-19-86	70.20	250	7.70	10.0
		110QRNR	09-25-86	70.20	230	7.90	11.0
440211089365102	AD-18/07E/13-0230	110QRNR	05-19-86	30.35	165	8.10	10.0
		110QRNR	09-25-86	30.35	130	8.20	10.5
450158089364701	AD-18/07E/13-0138	110QRNR	05-19-86	100	310	8.00	10.0
		110QRNR	09-25-86	100	320	8.00	11.5
PORTAGE							
441650089305001	PT-21/08E/23-1003	110QRNR	05-20-86	54.70	65	6.40	10.0
		110QRNR	09-23-86	54.70	90	6.50	9.5
441650089305002	PT-21/08E/23-1004	110QRNR	09-23-86	20.40	130	8.30	10.5
441651089311101	PT-21/08E/23-1001	110QRNR	05-20-86	49.00	120	8.30	9.0
		110QRNR	09-23-86	49.00	125	8.50	9.0
441651089311102	PT-21/08E/23-1002	110QRNR	05-20-86	20.60	120	8.50	8.0
		110QRNR	09-23-86	20.60	135	8.40	10.5
441702089310401	PT-21/08E/23-0403	110QRNR	05-20-86	85.00	400	7.60	10.5
		110QRNR	09-23-86	85.00	380	7.70	10.5
441704089304101	PT-21/08E/23-1009	110QRNR	05-20-86	49.40	760	8.10	10.0
		110QRNR	09-23-86	49.40	740	8.10	9.5
441704089304102	PT-21/08E/23-1010	110QRNR	05-20-86	14.80	200	8.00	8.0
		110QRNR	09-23-86	14.80	480	7.80	12.0
441706089312301	PT-21/08E/23-1005	110QRNR	05-20-86	49.20	560	8.20	10.0
		110QRNR	09-23-86	49.20	275	8.20	9.5
441706089312302	PT-21/08E/23-1006	110QRNR	05-20-86	15.50	200	8.80	8.0
		110QRNR	09-23-86	15.50	210	8.60	12.5
441714089310602	PT-21/08E/23-1008	110QRNR	05-20-86	20.40	440	8.10	8.0
		110QRNR	09-23-86	20.40	690	7.90	12.0
442317089415301	PT-22/07E/17-1024	110QRNR	05-20-86	34.00	340	6.60	9.0
		110QRNR	09-23-86	34.00	260	6.50	9.0
442317089415302	PT-22/07E/17-1025	110QRNR	05-20-86	13.10	65	5.30	7.5
		110QRNR	09-23-86	13.10	50	5.50	12.0
442318089404401	PT-22/07E/16-1015	110QRNR	05-21-86	39.50	115	6.60	9.5
		110QRNR	09-24-86	39.50	115	6.60	9.0
442318089404402	PT-22/07E/16-1016	110QRNR	05-21-86	17.70	310	5.30	7.5
		110QRNR	09-24-86	17.70	320	5.10	11.0
442318089411601	PT-22/07E/16-1017	110QRNR	05-21-86	18.40	135	5.30	8.0
		110QRNR	09-24-86	18.40	140	5.20	11.5
442329089411801	PT-22/07E/17-1021	110QRNR	05-21-86	42.00	135	6.60	9.5
		110QRNR	09-24-86	42.00	135	6.70	10.0
442329089411802	PT-22/07E/17-1022	110QRNR	05-21-86	12.85	85	6.40	7.0
		110QRNR	09-24-86	12.85	180	6.20	13.0
442329089415301	PT-22/07E/17-1023	110QRNR	09-23-86	10.00	105	5.60	14.0
442330089405801	PT-22/07E/16-1018	110QRNR	05-21-86	64.00	250	6.60	9.5
		110QRNR	09-24-86	64.00	215	6.90	10.0
442330089413601	PT-22/07E/17-1026	110QRNR	05-21-86	49.00	180	6.70	10.0
		110QRNR	09-24-86	49.00	225	6.60	11.0
442342089415101	PT-22/07E/17-1019	110QRNR	05-22-86	35.70	200	6.80	9.0
		110QRNR	09-23-86	35.70	215	6.70	8.0
442342089415102	PT-22/07E/17-1020	110QRNR	05-21-86	10.00	35	4.80	8.0
		110QRNR	09-23-86	10.00	40	4.90	11.5
442343089404501	PT-22/07E/09-1011	110QRNR	05-21-86	42.20	125	6.70	8.5
		110QRNR	09-24-86	42.20	140	7.10	8.5
442343089404502	PT-22/07E/09-1012	110QRNR	05-21-86	19.90	50	5.80	7.5
		110QRNR	09-24-86	19.90	50	5.50	9.0
442343089411501	PT-22/07E/09-1013	110QRNR	05-21-86	19.55	40	5.60	8.0
		110QRNR	09-24-86	19.55	40	5.70	9.5

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	DATE OF SAMPLE	HARD-NESS (MG/L AS CAC03) (00900)	HARD-NESS, NONCARBONATE (MG/L CAC03) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKALINITY (MG/L AS CAC03) (90410)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2) (00405)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)
ADAMS											
440146089364402	05-19-86	--	--	--	--	2.1	1.0	--	--	--	10
440151089363001	05-19-86	--	--	--	--	1.3	.50	--	--	--	1.0
	09-25-86	--	--	--	--	2.0	.60	--	--	--	.90
440151089363002	05-19-86	--	--	--	--	1.8	.80	--	--	--	51
440159089370501	05-19-86	--	--	--	--	1.5	.70	--	--	--	16
	09-25-86	--	--	--	--	1.0	.60	--	--	--	35
440159089370502	05-19-86	--	--	--	--	3.2	3.4	--	--	--	10
	09-25-86	--	--	--	--	2.0	3.2	--	--	--	3.8
440207089363001	05-19-86	--	--	--	--	1.1	.50	--	--	--	2.2
	09-25-86	--	--	--	--	1.0	.50	--	--	--	2.5
440207089363002	05-19-86	--	--	--	--	1.1	.60	--	--	--	4.4
	09-25-86	--	--	--	--	1.0	.80	--	--	--	7.6
440211089355101	05-19-86	--	--	--	--	1.2	.60	--	--	--	1.3
	09-25-86	--	--	--	--	1.0	.60	--	--	--	1.4
440211089365102	05-19-86	--	--	--	--	1.1	.50	--	--	--	.70
	09-25-86	--	--	--	--	1.0	.50	--	--	--	7.6
450158089364701	05-19-86	150	46	33	17	4.0	1.2	107	2.1	14	8.9
	09-25-86	150	51	34	17	1.7	.90	104	2.0	15	11
PORTAGE											
441650089305001	05-20-86	--	--	--	--	.90	.70	--	--	--	.70
	09-23-86	--	--	--	--	1.0	.70	--	--	--	1.6
441650089305002	09-23-86	--	--	--	--	1.0	.60	--	--	--	.50
441651089311101	05-20-86	--	--	--	--	.80	.60	--	--	--	.70
	09-23-86	--	--	--	--	1.0	.70	--	--	--	.60
441651089311102	05-20-86	--	--	--	--	1.7	.70	--	--	--	1.7
	09-23-86	--	--	--	--	2.0	.90	--	--	--	1.6
441702089310401	05-20-86	170	110	40	17	3.1	3.4	60	2.9	17	27
	09-23-86	170	120	41	17	3.1	4.5	54	2.1	16	34
441704089304101	05-20-86	--	--	--	--	4.0	1.1	--	--	--	81
	09-23-86	--	--	--	--	5.0	.90	--	--	--	83
441704089304102	05-20-86	--	--	--	--	1.7	2.6	--	--	--	8.1
	09-23-86	--	--	--	--	2.0	4.4	--	--	--	46
441706089312301	05-20-86	--	--	--	--	3.3	.90	--	--	--	47
	09-23-86	--	--	--	--	2.0	.70	--	--	--	12
441706089312302	05-20-86	--	--	--	--	2.0	1.9	--	--	--	5.7
	09-23-86	--	--	--	--	2.0	2.0	--	--	--	4.8
441714089310602	05-20-86	--	--	--	--	3.0	23	--	--	--	29
	09-23-86	--	--	--	--	4.0	31	--	--	--	70
442317089415301	05-20-86	--	--	--	--	11	.60	--	--	--	53
	09-23-86	--	--	--	--	14	.80	--	--	--	34
442317089415302	05-20-86	--	--	--	--	1.7	.60	--	--	--	1.6
	09-23-86	--	--	--	--	1.0	.70	--	--	--	1.2
442318089404401	05-21-86	--	--	--	--	1.9	.50	--	--	--	1.3
	09-24-86	--	--	--	--	2.0	.50	--	--	--	1.3
442318089404402	05-21-86	--	--	--	--	1.5	11	--	--	--	19
	09-24-86	--	--	--	--	1.0	14	--	--	--	23
442318089411601	05-21-86	--	--	--	--	1.1	3.7	--	--	--	16
	09-24-86	--	--	--	--	1.0	4.1	--	--	--	5.9
442329089411801	05-21-86	--	--	--	--	2.7	.60	--	--	--	68
	09-24-86	--	--	--	--	3.0	.50	--	--	--	1.6
442329089411802	05-21-86	--	--	--	--	.80	14	--	--	--	1.4
	09-24-86	--	--	--	--	1.0	23	--	--	--	3.3
442329089415301	09-23-86	--	--	--	--	6.0	1.2	--	--	--	5.6
442330089405801	05-21-86	100	57	21	12	2.3	2.8	45	22	21	13
	09-24-86	86	33	18	9.9	2.1	2.2	53	13	23	9.8
442330089413601	05-21-86	66	35	17	5.6	2.6	1.1	31	12	17	11
	09-24-86	82	57	21	7.1	2.8	1.9	25	12	19	17
442342089415101	05-22-86	--	--	--	--	2.9	.80	--	--	--	5.1
	09-23-86	--	--	--	--	3.0	.80	--	--	--	6.6
442342089415102	05-21-86	--	--	--	--	1.4	1.1	--	--	--	.70
	09-23-86	--	--	--	--	1.0	1.3	--	--	--	.70
442343089404501	05-21-86	--	--	--	--	2.0	.70	--	--	--	1.6
	09-24-86	--	--	--	--	2.0	.80	--	--	--	1.8
442343089404502	05-21-86	--	--	--	--	1.5	1.1	--	--	--	.60
	09-24-86	--	--	--	--	2.0	1.2	--	--	--	.90
442343089411501	05-21-86	--	--	--	--	1.1	.60	--	--	--	.50
	09-24-86	--	--	--	--	1.0	.70	--	--	--	.50

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	DATE OF SAMPLE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)
ADAMS							
440146089364402	05-19-86	--	<.010	14	.010	.50	15
440151089363001	05-19-86	--	<.010	.36	.040	.20	.56
	09-25-86	--	<.010	.29	.020	.20	.49
440151089363002	05-19-86	--	<.010	12	.040	.80	13
440159089370501	05-19-86	--	<.010	8.9	.020	.50	9.4
	09-25-86	--	<.010	18	.020	.70	19
440159089370502	05-19-86	--	<.010	16	.020	.70	17
	09-25-86	--	<.010	.44	.020	.40	.84
440207089363001	05-19-86	--	<.010	2.9	.040	.60	3.5
	09-25-86	--	<.010	2.9	.030	1.0	3.9
440207089363002	05-19-86	--	<.010	3.4	.050	.70	4.1
	09-25-86	--	<.010	9.4	.030	.90	10
440211089365101	05-19-86	--	<.010	5.0	.030	.90	5.9
	09-25-86	--	<.010	4.2	.020	.30	4.5
440211089365102	05-19-86	--	<.010	.19	.020	.30	.49
	09-25-86	--	<.010	.47	.020	<.20	--
450158089364701	05-19-86	181	<.010	7.4	.020	.40	7.8
	09-25-86	195	<.010	8.0	.020	.60	8.6
PORTAGE							
441650089305001	05-20-86	--	<.010	1.3	.020	.40	1.7
	09-23-86	--	<.010	1.5	.020	6.0	7.5
441650089305002	09-23-86	--	<.010	2.2	.030	.40	2.6
441651089311101	05-20-86	--	<.010	<.10	.010	.20	--
	09-23-86	--	<.010	.11	.020	<.20	--
441651089311102	05-20-86	--	<.010	1.3	.020	.40	1.7
	09-23-86	--	<.010	2.2	.020	.60	2.8
441702089310401	05-20-86	248	<.010	19	.030	.70	20
	09-23-86	268	<.010	20	.060	1.4	21
441704089304101	05-20-86	--	<.010	43	.030	.30	43
	09-23-86	--	<.010	8.6	.030	1.4	10
441704089304102	05-20-86	--	<.010	5.8	.020	.70	6.5
	09-23-86	--	<.010	23	.030	.70	24
441706089312301	05-20-86	--	<.010	27	.050	.70	28
	09-23-86	--	<.010	7.7	.020	.40	8.1
441706089312302	05-20-86	--	<.010	12	.020	.50	13
	09-23-86	--	<.010	12	.020	.50	13
441714089310602	05-20-86	--	<.010	24	.040	.60	25
	09-23-86	--	<.010	19	.040	.70	20
442317089415301	05-20-86	--	<.010	<.10	.220	.70	--
	09-23-86	--	<.010	<.10	.200	.40	--
442317089415302	05-20-86	--	<.010	1.6	.010	.20	1.8
	09-23-86	--	<.010	.87	.020	.60	1.5
442318089404401	05-21-86	--	<.010	<.10	.070	.40	--
	09-24-86	--	<.010	<.10	.050	<.20	--
442318089404402	05-21-86	--	<.010	24	.020	.80	25
	09-24-86	--	<.100	19	.020	.70	20
442318089411601	05-21-86	--	<.010	6.0	.040	1.1	7.1
	09-24-86	--	<.010	9.4	.030	.70	10
442329089411801	05-21-86	--	<.010	<.10	.160	.50	--
	09-24-86	--	<.010	<.10	.150	.50	--
442329089411802	05-21-86	--	<.010	1.4	.050	.40	1.8
	09-24-86	--	<.010	10	.020	.80	11
442329089415301	09-23-86	--	<.010	.70	.030	.30	1.0
442330089405801	05-21-86	163	.030	6.1	.130	1.0	7.1
	09-24-86	134	<.010	1.5	.070	.40	1.9
442330089413601	05-21-86	126	<.010	2.4	.090	.50	2.9
	09-24-86	154	<.010	5.3	.120	1.1	6.4
442342089415101	05-22-86	--	<.010	<.10	.160	.60	--
	09-23-86	--	<.010	<.10	.150	.60	--
442342089415102	05-21-86	--	<.010	.71	.020	.20	.91
	09-23-86	--	<.010	2.0	.020	.50	2.5
442343089404501	05-21-86	--	<.010	<.10	.090	.30	--
	09-24-86	--	<.010	<.10	.080	.30	--
442343089404502	05-21-86	--	<.010	.10	.040	.40	.50
	09-24-86	--	<.010	<.10	.050	.90	--
442343089411501	05-21-86	--	<.010	<.10	.040	.30	--
	09-24-86	--	<.010	.13	.050	.50	.63

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	LOCAL IDENTIFIER	GEO-LOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)
WOOD									
441525089503801	WD-21/05E/36-0559	110QRNR	08-29-86	62.00	130	8.10	10.0	.20	--
441646089575201	WD-21/04E/24-0672	110QRNR	08-29-86	58.00	140	6.50	10.5	7.7	--
441706089553101	WD-21/05E/20-0689	110QRNR	08-29-86	72.00	165	6.40	11.5	40	--
441732089543401	WD-21/05E/21-0690	400BCPX	09-02-86	300	430	7.30	12.0	6.9	--
441739089513801	WD-21/05E/13-0564	110QRNR	09-02-86	57.00	235	7.20	15.0	2.1	--
441934089553201	WD-21/05E/05-0681	400BCPX	09-02-86	103	225	6.80	11.0	31	--
442016089544701	WD-22/05E/33-0696	400BCPX	08-29-86	70.00	210	6.40	11.5	27	--
442043089581801	WD-22/04E/36-0090	110QRNR	08-28-86	44.00	360	6.80	--	50	--
442049090184501	WD-22/02E/31-0771	372EKMD	06-30-86	40.00	102	6.40	9.5	25	--
442055090001101	WD-22/04E/35-0763	400BCPX	08-28-86	420	450	7.10	10.5	50	--
442121089591101	WD-22/04E/26-0694	400BCPX	08-28-86	267	340	7.40	11.0	24	--
442121089591102	WD-22/04E/26-0695	400BCPX	08-28-86	90.00	305	7.00	10.0	8.2	--
442122089492701	WD-22/06E/29-0575	400BCPX	09-03-86	124	425	6.60	10.5	26	--
442123089484501	WD-22/06E/29-0577	110QRNR	09-03-86	55.00	280	6.30	12.0	.70	--
442130089435901	WD-22/06E/25-0554	110QRNR	09-03-86	46.00	110	6.40	10.0	12	--
442140090013301	WD-22/04E/28-0761	372EKMD	08-28-86	35.00	690	5.00	12.0	.20	--
442207089530301	WD-22/05E/23-0699	400BCPX	08-28-86	70.00	180	6.90	11.0	35	--
442243090022001	WD-22/04E/21-0797	400BCPX	08-28-86	61.00	75	4.90	11.0	.50	--
442340090110901	WD-22/03E/18-0791	400BCPX	06-29-86	76.00	230	6.60	14.0	25	--
442351090072101	WD-22/03E/10-0783	400BCPX	06-29-86**	160	169	6.70	11.0	17	--
442356089544601	WD-22/05E/09-0804	400BCPX	06-29-86**	160	169	6.70	11.0	15	--
442413089555101	WD-22/05E/08-1251	372EKMD	08-28-86	58.00	190	6.20	10.5	.40	--
442413089555501	WD-22/05E/08-1250	110QRNR	06-20-86	7.80	545	6.10	15.0	--	25
442415089555301	WD-22/05E/08-1249	110QRNR	06-20-86	8.00	950	6.60	15.0	--	74
442430090155001	WD-22/02E/04-1257	110QRNR	06-19-86	15.00	185	6.70	12.5	--	11
442432089595701	WD-22/04E/11-0796	372EKMD	08-28-86	35.00	85	6.50	12.5	.30	--
442436090155401	WD-22/02E/04-1233	110QRNR	06-19-86	16.60	165	6.70	12.0	--	24
442438090155201	WD-22/02E/04-1234	110QRNR	06-19-86	12.30	185	6.70	12.5	--	22
442439090160701	WD-22/02E/04-0765	400BCPX	08-28-86	220	390	7.20	11.5	1.1	--
442441089472601	WD-22/06E/04-0707	400BCPX	09-03-86**	128	215	6.70	10.0	24	--
442441089540401	WD-22/05E/03-0798	400BCPX	09-03-86**	128	215	6.70	10.0	25	--
442442090105201	WD-22/03E/06-0778	400BCPX	08-28-86	83.00	110	5.40	10.5	.30	--
442447089531401	WD-22/03E/06-0778	400BCPX	06-29-86	80.00	175	7.20	11.0	50	--
442447089531401	WD-22/05E/03-0799	400BCPX	08-28-86	80.00	350	6.60	10.0	45	--
442447089595401	WD-22/04E/02-0794	400BCPX	08-28-86	68.00	150	7.20	11.0	7.1	--
442530089483201	WD-23/06E/32-0748	400BCPX	08-27-86	68.00	370	6.40	12.0	130	--
442530090124601	WD-23/02E/36-0825	400BCPX	06-29-86	60.00	260	6.90	12.0	24	--
442541090065701	WD-23/03E/35-0853	400BCPX	06-28-86	143	258	6.90	13.0	8.5	--
442553089575601	WD-23/04E/36-0887	400BCPX	08-26-86	55.00	180	6.50	12.0	60	--
442612089574101	WD-23/05E/31-0907	372EKMD	08-26-86	41.00	280	7.00	14.0	.20	--
442620090043101	WD-23/04E/30-0886	110QRNR	08-26-86	40.00	725	5.90	11.5	28	--
442620090043301	WD-23/04E/30-0885	400BCPX	08-26-86	325	825	6.30	10.5	55	--
442640089501101	WD-23/06E/30-0744	400BCPX	08-27-86	79.00	345	6.90	10.0	3.3	--
442643090142601	WD-23/02E/17-0822	400BCPX	08-22-86	148	175	6.90	16.0	1.7	--
442704089530301	WD-23/05E/26-0904	400BCPX	08-27-86	110	485	6.70	9.5	.20	--
442705089435201	WD-23/06E/25-0737	400BCPX	08-27-86	128	620	6.60	10.0	22	--
442705089440701	WD-23/06E/25-0738	400BCPX	08-27-86	90.00	325	6.70	10.0	26	--
442723090153101	WD-23/02E/22-1238	110QRNR	06-19-86	12.75	205	5.20	12.5	--	85
442723090153301	WD-23/02E/22-1237	110QRNR	06-19-86	16.20	270	5.80	13.5	--	26
442725090153301	WD-23/02E/04-1236	110QRNR	06-19-86	12.60	37	5.30	12.0	--	28
442744090164601	WD-23/02E/21-0817	400BCPX	08-21-86	95.00	480	6.50	13.0	18	--
442755089474201	WD-23/06E/21-0734	400BCPX	08-27-86	143	205	6.00	9.5	.40	--
442804089573901	WD-23/05E/18-0901	400BCPX	08-26-86	118	100	6.20	11.0	.20	--
442804090074501	WD-23/03E/22-0844	400BCPX	06-29-86	70.00	413	6.70	12.0	65	--
442808090094101	WD-23/03E/17-0840	400BCPX	06-29-86	89.00	245	7.30	9.5	8.0	--
442818090054701	WD-23/03E/13-0836	400BCPX	06-30-86**	62.00	109	6.60	11.0	65	--
442848089493601	WD-23/06E/17-0731	400BCPX	06-30-86**	62.00	109	6.60	11.0	70	--
442858089435201	WD-23/06E/12-0726	400BCPX	08-27-86	115	215	6.60	10.0	50	--
442916089590301	WD-23/04E/11-0866	400BCPX	08-27-86	67.00	50	5.80	10.5	4.2	--
442921090133901	WD-23/02E/11-0813	400BCPX	08-26-86	52.00	55	5.70	12.0	19	--
442949090053301	WD-23/03E/01-0828	400BCPX	06-29-86	188	392	7.50	10.5	2.6	--
442950089540301	WD-23/05E/03-0894	400BCPX	06-29-86	88.00	397	7.30	11.0	1.7	--
442951089475301	WD-23/06E/04-0714	372EKMD	08-22-86	62.00	370	6.50	9.0	34	--
443022090133001	WD-23/06E/04-0714	400BCPX	08-27-86	206	360	7.40	10.0	.60	--
443024090175501	WD-23/02E/02-0826	372EKMD	06-29-86	83.00	103	6.60	11.0	1.0	--
443035089574801	WD-23/02E/05-0860	400BCPX	06-29-86	80.00	353	7.40	16.0	1.2	--
443039089530301	WD-23/05E/06-0897	400BCPX	08-22-86**	194	255	6.10	10.0	60	--
		400BCPX	08-22-86**	194	255	6.10	10.0	50	--
		400BCPX	08-22-86	122	490	6.40	10.0	95	--

**SAMPLES WITH THE SAME DATES ARE REPLICATES.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE OF SAMPLE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
WOOD												
441525089503801	08-29-86		58	7	13	6.2	--	--	51	.8	--	1.8
441646089575201	08-29-86		52	9	12	5.3	--	--	43	26	--	1.3
441706089553101	08-29-86		58	11	13	6.1	--	--	47	36	--	3.9
441732089543401	09-02-86		170	16	49	12	--	--	156	15	--	28
441739089513801	09-02-86		120	4	27	12	--	--	113	14	--	2.0
441934089553201	09-02-86		110	5	27	9.7	--	--	103	32	--	1.9
442016089544701	08-29-86		87	0	23	7.3	--	--	88	68	--	2.7
442043089581801	08-28-86		180	0	48	14	--	--	191	59	--	2.5
442049090184501	06-30-86		36	0	7.9	3.9	--	--	39	30	--	1.4
442055090001101	08-28-86		220	9	60	16	--	--	207	32	--	120
442121089591101	08-28-86		150	0	45	8.6	--	--	159	12	--	5.8
442121089591102	08-28-86		150	0	42	10	--	--	151	29	--	3.6
442122089492701	09-03-86		180	78	48	14	--	--	100	49	--	47
442123089484501	09-03-86		58	24	14	5.7	--	--	35	34	--	27
442130089435901	09-03-86		33	11	7.9	3.3	--	--	22	17	--	4.2
442140090013301	08-28-86		57	54	15	4.7	--	--	3.0	58	--	200
442207089530301	08-28-86		73	9	19	6.3	--	--	64	16	--	3.1
442243090022001	08-28-86		15	12	3.8	1.4	--	--	3.0	73	--	8.8
442340090110901	06-29-86		97	11	24	9.1	--	--	87	42	--	9.8
442351090072101	06-29-86**		68	0	16	6.8	--	--	68	26	--	2.1
442356089544601	06-29-86**		68	0	16	6.9	--	--	69	27	--	2.1
442413089555101	08-28-86		94	51	35	1.6	--	--	43	53	--	7.5
442413089555501	06-20-86		210	100	59	15	10	17	106	163	130	9.7
442413089555501	06-20-86		380	52	110	26	16	35	330	161	100	14
442415089555301	06-20-86		11	8	2.7	1.0	1.0	1.3	3.0	58	12	1.1
442430090155001	06-19-86		39	0	12	2.2	1.2	2.7	45	17	1.6	1.0
442432089595701	08-28-86		31	14	7.0	3.3	--	--	17	10	--	6.4
442436090155401	06-19-86		60	1	13	6.7	2.7	2.8	59	23	9.5	1.7
442438090155201	06-19-86		39	0	12	2.2	1.2	2.6	41	16	.7	1.1
442439090160701	08-28-86		31	0	3.5	5.5	--	--	82	10	--	62
442441089472601	09-03-86**		90	14	25	6.6	--	--	76	29	--	10
442442090105201	09-03-86**		90	15	25	6.7	--	--	75	29	--	10
442441089540401	08-28-86		36	32	9.0	3.4	--	--	5.0	39	--	3.7
442442090105201	06-29-86		55	0	13	5.5	--	--	67	8.2	--	4.8
442447089531401	08-28-86		140	66	40	8.8	--	--	70	34	--	24
442447089595401	08-28-86		65	0	15	6.8	--	--	73	8.9	--	1.2
442530089483201	08-27-86		88	76	23	7.4	--	--	12	9.3	--	60
442530090124601	06-29-86		120	0	27	12	--	--	120	29	--	5.1
442541090065701	06-28-86		97	0	25	8.4	--	--	111	27	--	1.0
442553089575601	08-26-86		69	16	19	5.2	--	--	53	32	--	3.8
442612089574101	08-26-86		140	11	31	15	--	--	128	25	--	1.2
442620090043101	08-26-86		190	140	45	19	--	--	53	129	--	120
442620090043301	08-26-86		370	130	93	33	--	--	234	227	--	95
442640089501101	08-27-86		150	35	36	14	--	--	113	28	--	20
442643090142601	08-22-86		80	0	18	8.6	--	--	90	22	--	20
442704089530301	08-27-86		200	27	44	21	--	--	170	66	--	34
442705089435201	08-27-86		200	130	45	22	--	--	76	37	--	130
442705089440701	08-27-86		140	36	38	11	--	--	104	40	--	25
442723090153101	06-19-86		33	30	6.3	4.2	12	4.0	3.0	37	8.0	38
442723090153301	06-19-86		41	22	9.5	4.3	6.5	5.0	19	58	5.4	27
442725090153301	06-19-86		7	4	1.6	.66	.60	1.4	3.0	29	9.2	.70
442744090164601	08-21-86		200	16	50	18	--	--	183	112	--	26
442755089474201	08-27-86		68	30	15	7.5	--	--	38	74	--	14
442804089573901	08-26-86		36	8	9.0	3.4	--	--	29	35	--	4.4
442804090074501	06-29-86		130	29	36	9.9	--	--	102	39	--	29
442808090094101	06-29-86		92	5	23	8.3	--	--	87	8.4	--	11
442818090054701	06-30-86**		29	0	7.3	2.6	--	--	33	16	--	2.8
442818090054701	06-30-86**		29	0	7.4	2.6	--	--	33	16	--	2.8
442848089493601	08-27-86		87	0	22	7.8	--	--	99	48	--	.90
442858089435201	08-27-86		13	0	2.9	1.5	--	--	16	49	--	1.2
442916089590301	08-26-86		13	3	3.2	1.2	--	--	10	39	--	1.4
442921090133901	06-29-86		110	0	28	10	--	--	153	9.4	--	13
442949090053301	06-29-86		170	7	43	16	--	--	166	16	--	14
442950089540301	08-22-86		160	35	47	10	--	--	124	76	--	29
442951089475301	08-27-86		190	8	38	22	--	--	178	14	--	4.3
443022090133001	06-29-86		34	8	8.3	3.2	--	--	26	13	--	2.4
443024090175501	06-29-86		--	--	.11	<.01	--	--	163	13	--	4.7
443035089574801	08-22-86**		100	31	23	11	--	--	72	111	--	20
443035089574801	08-22-86**		100	82	23	11	--	--	21	32	--	20
443039089530301	08-22-86		190	62	48	17	--	--	128	99	--	54

**SAMPLES WITH THE SAME DATES ARE REPLICATES.

QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	DATE OF SAMPLE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
WOOD							
441525089503801	08-29-86	--	--	.15	27	--	--
441646089575201	08-29-86	--	--	.72	930	--	--
441706089553101	08-29-86	--	--	<.10	6000	--	--
441732089543401	09-02-86	--	--	<.10	840	--	--
441739089513801	09-02-86	--	--	<.10	270	--	--
441934089553201	09-02-86	--	--	<.10	2600	--	--
442016089544701	08-29-86	--	--	<.10	3800	--	--
442043089581801	08-28-86	--	--	<.10	5100	--	--
442049090184501	06-30-86	--	--	<.10	9000	--	--
442055090001101	08-28-86	--	--	<.10	4900	--	--
442121089591101	08-28-86	--	--	<.10	1600	--	--
442121089591102	08-28-86	--	--	<.10	1900	--	--
442122089492701	09-03-86	--	--	<.10	2200	--	--
442123089484501	09-03-86	--	--	4.5	100	--	--
442130089435901	09-03-86	--	--	1.2	3200	--	--
442140090013301	08-28-86	--	--	.87	160	--	--
442207089530301	08-28-86	--	--	<.10	4500	--	--
442243090022001	08-28-86	--	--	.21	150	--	--
442340090110901	06-29-86	--	--	<.10	3400	--	--
442351090072101	06-29-86**	--	--	<.10	3300	--	--
442356089544601	06-29-86**	--	--	<.10	3300	--	--
442413089555101	08-28-86	--	--	2.1	190	--	--
442413089555101	06-20-86	314	<.010	<.10	5400	360	--
442413089555501	06-20-86	551	<.010	<.10	37000	710	--
442415089555301	06-20-86	31	<.010	<.10	120	38	--
442430090155001	06-19-86	71	<.010	<.10	18000	1100	--
442432089595701	08-28-86	--	--	3.8	14	--	--
442436090155401	06-19-86	85	<.010	<.10	550	120	--
442438090155201	06-19-86	80	<.010	<.10	18000	1100	--
442439090160701	08-28-86	--	--	.11	150	--	--
442441089472601	09-03-86**	--	--	<.10	2400	--	--
442441089540401	09-03-86**	--	--	<.10	2400	--	--
442442090105201	08-28-86	--	--	3.5	83	--	--
442447089531401	06-29-86	--	--	<.10	5500	--	--
442447089531401	08-28-86	--	--	<.10	5500	--	--
442447089595401	08-28-86	--	--	<.10	1300	--	--
442530089483201	08-27-86	--	--	<.10	25000	--	--
442530090124601	06-29-86	--	--	<.10	3700	--	--
442541090065701	06-28-86	--	--	<.10	1000	--	--
442553089575601	08-26-86	--	--	<.10	5300	--	--
442612089574101	08-26-86	--	--	<.10	29	--	--
442620090043101	08-26-86	--	--	14	25	--	--
442620090043301	08-26-86	--	--	<.10	50	--	--
442640089501101	08-27-86	--	--	.31	270	--	--
442643090142601	08-22-86	--	--	<.10	190	--	--
442704089530301	08-27-86	--	--	1.1	120	--	--
442705089435201	08-27-86	--	--	<.10	2200	--	--
442705089440701	08-27-86	--	--	<.10	2900	--	--
442723090153101	06-19-86	111	<.010	<.10	7600	81	--
442723090153301	06-19-86	109	<.010	<.10	4600	130	--
442725090153301	06-19-86	25	<.010	<.10	1100	44	--
442744090164601	08-21-86	--	--	<.10	3800	--	--
442755089474201	08-27-86	--	--	1.9	140	--	--
442804089573901	08-26-86	--	--	2.8	61	--	--
442804090074501	06-29-86	--	--	<.10	8400	--	--
442808090094101	06-29-86	--	--	<.10	1400	--	--
442818090054701	06-30-86**	--	--	<.10	8000	--	--
442848089493601	06-30-86**	--	--	<.10	8100	--	--
442858089435201	08-27-86	--	--	<.10	5600	--	--
442858089435201	08-27-86	--	--	1.0	33	--	--
442916089590301	08-26-86	--	--	<.10	2500	--	--
442921090133901	06-29-86	--	--	<.10	350	--	--
442949090053301	06-29-86	--	--	.53	9	--	--
442950089540301	08-22-86	--	--	<.10	4100	--	--
442951089475301	08-27-86	--	--	<.10	67	--	--
443022090133001	06-29-86	--	--	2.9	9	--	--
443024090175501	06-29-86	--	--	<.10	6	--	--
443035089574801	08-22-86**	--	--	<.10	720	--	--
443035089574801	08-22-86**	--	--	<.10	570	--	--
443039089530301	08-22-86	--	--	<.10	11000	--	--

**SAMPLES WITH THE SAME DATES ARE REPLICATES.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	LOCAL IDENTIFIER	GEO-LOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)
WOOD									
443039090035201	WD-23/04E/05-0862	400BCPX	08-26-86	120	150	6.30	11.0	.30	--
443046089510101	WD-24/05E/36-1081	400BCPX	08-20-86	70.00	455	6.50	10.0	34	--
443051090081501	WD-24/03E/34-0997	400BCPX	08-21-86	98.00	205	6.50	9.0	3.5	--
443057090131101	WD-24/02E/35-0952	400BCPX	06-28-86	150	203	7.40	10.0	1.3	--
443100089590501	WD-24/04E/35-1044	400BCPX	08-20-86	60.00	475	6.10	9.0	70	--
443108090010401	WD-24/04E/34-1043	400BCPX	08-21-86	263	215	6.40	10.0	3.9	--
443110090104401	WD-24/03E/32-0994	400BCPX	06-28-86	130	370	7.50	11.0	2.8	--
443120089553301	WD-24/05E/32-1077	400BCPX	08-21-86	130	470	6.70	40.0	18	--
443145089574701	WD-24/05E/30-1076	400BCPX	08-21-86	115	510	6.50	10.0	1.1	--
443148090041701	WD-24/04E/30-1041	400BCPX	08-21-86	250	145	6.30	14.5	3.4	--
443148090162201	WD-24/02E/28-0946	400BCPX	06-28-86	80.00	125	7.00	12.0	3.8	--
443152090050701	WD-24/03E/25-0989	400BCPX	08-21-86	63.00	170	6.30	10.0	6.4	--
443156090055901	WD-24/03E/26-0990	400BCPX	08-21-86	300	410	6.50	10.0	.30	--
443201090014601	WD-24/04E/28-1255	110QRNR	06-17-86	22.70	3770	5.80	9.5	--	44
443202090014201	WD-24/04E/28-1253	110QRNR	06-17-86	16.80	580	5.30	10.0	--	14
443203090014401	WD-24/04E/28-1254	110QRNR	06-17-86	17.30	230	5.80	11.0	--	110
443203090132801	WD-24/02E/26-0944	400BCPX	08-22-86	54.00	50	5.90	10.0	1.0	--
443222089514501	WD-24/05E/25-1074	400BCPX	08-20-86	85.00	195	6.30	10.0	60	--
443227089545101	WD-24/05E/21-1243	110QRNR	06-17-86	12.00	315	6.50	11.5	--	110
443227089545501	WD-24/05E/21-1242	110QRNR	06-16-86	9.80	315	5.20	13.0	--	24
443229089545501	WD-24/05E/21-1244	110QRNR	06-17-86	7.40	130	4.90	12.5	--	32
443238089590601	WD-24/04E/23-1032	400BCPX	08-20-86	110	380	6.40	10.0	.40	--
443240090082101	WD-24/03E/22-0985	400BCPX	06-28-86	83.00	235	7.10	12.5	10	--
443246090142201	WD-24/02E/22-0938	400BCPX	06-28-86	145	295	7.90	10.0	2.0	--
443320090070201	WD-24/03E/14-1240	110QRNR	06-18-86	9.00	810	5.10	12.5	--	--
443320090070601	WD-24/03E/14-1239	110QRNR	06-18-86	12.10	585	5.70	11.5	--	27
443323090163501	WD-24/02E/16-0929	372EKMD	06-28-86	52.00	95	6.50	10.0	1.0	--
443331090012801	WD-24/04E/15-1016	400BCPX	08-20-86	220	375	6.60	10.0	1.2	--
443332090105001	WD-24/03E/18-0980	400BCPX	06-28-86	173	236	7.10	10.5	5.0	--
443355090040601	WD-24/04E/18-1024	400BCPX	08-20-86	353	340	6.50	14.0	26	--
443404089590501	WD-24/04E/14-1015	400BCPX	08-20-86	95.00	235	6.40	10.0	.20	--
443411090051201	WD-24/03E/12-0974	400BCPX	06-28-86**	68.00	383	7.20	11.0	20	--
443413090182401	WD-24/02E/18-0931	400BCPX	06-28-86**	68.00	383	7.20	11.0	32	--
443503090132601	WD-24/02E/18-0931	400BCPX	06-28-86	72.00	205	7.00	12.0	1.0	--
443503090132601	WD-24/02E/11-0925	372EKMD	06-28-86	54.00	73	6.30	12.5	1.3	--
443530090175501	WD-24/02E/06-0921	372EKMD	06-28-86	142	285	7.30	10.0	1.5	--
443540090093401	WD-24/03E/04-0960	400BCPX	06-28-86	80.00	142	7.10	10.0	1.5	--
443555090112701	WD-25/03E/31-1154	372EKMD	06-28-86	62.00	468	7.00	10.0	.50	--
443556089555701	WD-25/05E/32-1227	400BCPX	08-19-86	85.00	260	6.40	10.0	.60	--
443556089590501	WD-25/04E/35-1203	400BCPX	08-19-86**	62.00	405	6.50	12.0	.30	--
443557090055901	WD-25/03E/35-1164	400BCPX	08-19-86**	62.00	405	6.50	12.0	.20	--
443558090153201	WD-25/02E/33-1118	400BCPX	06-28-86	80.00	538	7.20	11.0	70	--
443611090044201	WD-25/04E/31-1200	372EKMD	06-27-86	156	447	7.40	16.5	1.2	--
443633089504501	WD-25/05E/36-1230	400BCPX	08-19-86	68.00	445	6.80	9.5	.30	--
443641090031901	WD-25/04E/32-1202	400BCPX	08-19-86	103	775	6.80	13.0	.30	--
443732090052401	WD-25/03E/25-1146	400BCPX	06-28-86	360	340	6.60	10.0	1.0	--
443734090103601	WD-25/03E/29-1151	400BCPX	06-28-86	71.00	548	6.60	11.0	2.0	--
443738090152101	WD-25/02E/27-1112	400BCPX	06-27-86	90.00	525	7.30	15.0	2.0	--
443801090073301	WD-25/03E/22-1248	400BCPX	06-27-86	80.00	265	6.10	10.0	1.0	--
443801090073301	WD-25/03E/22-1248	110QRNR	06-18-86	19.00	225	7.10	11.0	--	390
443802090073101	WD-25/03E/22-1247	110QRNR	06-18-86	15.50	370	7.00	9.0	--	22
443803090073101	WD-25/03E/22-1246	110QRNR	06-18-86	11.00	680	7.20	11.0	--	210
443803090073401	WD-25/03E/22-1245	110QRNR	06-18-86	16.60	290	6.70	9.5	--	36
443806090073301	WD-25/03E/22-1256	110QRNR	06-18-86	20.00	225	7.10	11.0	--	22
443827090044801	WD-25/03E/13-1133	400BCPX	06-28-86	60.00	503	7.40	16.0	1.0	--
443828089584401	WD-25/04E/24-1193	400BCPX	08-18-86	104	265	7.50	11.0	.70	--
443832089580801	WD-25/04E/13-1187	400BCPX	08-18-86	103	285	6.60	13.0	1.9	--
443842090180101	WD-25/02E/18-1100	372EKMD	06-27-86	83.00	390	7.30	17.5	.70	--
443903089542501	WD-25/05E/16-1215	400BCPX	08-19-86	88.00	375	6.30	9.5	.20	--
443922089534201	WD-25/05E/15-1213	400BCPX	08-19-86	158	310	7.20	9.5	.60	--
443928089515801	WD-25/05E/11-1209	400BCPX	08-19-86	110	470	5.60	12.5	.70	--
443954089504501	WD-25/05E/12-1210	400BCPX	08-19-86	100	335	6.10	12.5	.30	--
444025090072701	WD-25/03E/03-1127	400BCPX	06-28-86	100	185	6.90	11.0	1.0	--
444035090012701	WD-25/04E/03-1171	400BCPX	08-18-86	126	410	6.70	14.5	.40	--
444037090121202	WD-25/02E/01-1082	400BCPX	06-27-86	123	375	7.40	12.0	7.8	--
444041090142201	WD-25/02E/03-1087	372EKMD	06-27-86	75.00	85	5.60	15.0	1.0	--

**SAMPLES WITH THE SAME DATES ARE REPLICATES.

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	DATE OF SAMPLE	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
WOOD											
443039090035201	08-26-86	58	5	12	6.9	--	--	53	51	--	2.8
443046089510101	08-20-86	200	18	50	19	--	--	185	113	--	26
443051090081501	08-21-86	83	0	22	6.9	--	--	102	62	--	.90
443057090131101	06-28-86	100	0	27	8.3	--	--	102	7.9	--	3.2
443100089590501	08-20-86	190	93	42	21	--	--	99	152	--	70
443108090010401	08-21-86	95	5	20	11	--	--	90	69	--	5.7
443110090104401	06-28-86	140	0	41	10	--	--	158	9.7	--	8.8
443120089553301	08-21-86	130	0	31	12	--	--	133	51	--	66
443145089574701	08-21-86	230	16	54	24	--	--	218	134	--	31
443148090041701	08-21-86	39	0	6.6	5.5	--	--	44	43	--	4.3
443148090162201	06-28-86	46	0	11	4.5	--	--	47	9.1	--	3.7
443152090050701	08-21-86	83	10	15	11	--	--	73	71	--	1.4
443156090055901	08-21-86	200	36	33	29	--	--	166	102	--	16
443201090014601	06-17-86	1300	1300	240	180	300	27	57	175	1500	370
443202090014201	06-17-86	160	150	31	19	26	.90	10	97	19	7.5
443203090014401	06-17-86	52	46	12	5.4	18	1.2	6.0	18	64	9.0
443203090132801	08-22-86	18	0	4.1	1.9	--	--	19	46	--	.60
443222089514501	08-20-86	83	0	21	7.5	--	--	90	87	--	3.3
443227089545101	06-17-86	110	9	32	7.4	6.1	4.5	102	62	28	9.1
443227089545501	06-16-86	150	140	27	20	16	2.1	6.0	73	170	9.9
443229089545501	06-17-86	45	39	8.6	5.6	5.4	2.0	6.0	146	46	3.5
443238089590601	08-20-86	170	84	33	21	--	--	85	66	--	45
443240090082101	06-28-86	100	0	26	8.7	--	--	105	16	--	.50
443246090142201	06-28-86	94	79	21	10	--	--	15	.4	--	.40
443320090070201	06-18-86	150	130	27	19	88	15	15	231	55	220
443320090070601	06-18-86	180	160	34	23	36	2.5	15	58	11	180
443323090163501	06-28-86	34	32	8.0	3.5	--	--	2.0	1.2	--	.30
443331090012801	08-20-86	120	12	31	11	--	--	111	54	--	43
443332090105001	06-28-86	95	0	20	11	--	--	105	16	--	2.5
443355090040601	08-20-86	140	31	31	14	--	--	104	64	--	26
443404089590501	08-20-86	98	33	18	13	--	--	66	51	--	22
443411090051201	06-28-86**	170	25	39	18	--	--	147	18	--	17
	06-28-86**	170	27	40	18	--	--	147	18	--	19
443413090182401	06-28-86	79	0	19	7.7	--	--	85	16	--	3.3
443503090132601	06-28-86	20	12	4.4	2.2	--	--	8.0	7.8	--	1.8
443530090175501	06-28-86	120	5	29	11	--	--	113	11	--	4.3
443540090093401	06-28-86	39	19	8.4	4.4	--	--	20	3.1	--	10
443555090112701	06-28-86	210	17	60	14	--	--	191	37	--	5.9
443556089555701	08-19-86	110	13	22	13	--	--	96	74	--	13
443556089590501	08-19-86**	210	72	43	25	--	--	139	85	--	47
	08-19-86**	200	58	39	24	--	--	138	85	--	46
443557090055901	06-28-86	270	0	69	23	--	--	279	34	--	2.3
443558090153201	06-27-86	180	60	47	15	--	--	119	9.2	--	40
443611090044201	08-19-86	220	4	58	18	--	--	215	66	--	7.8
443633089504501	08-19-86	390	130	120	21	--	--	261	80	--	37
443641090031901	08-19-86	140	35	31	16	--	--	108	53	--	26
443732090052401	06-28-86	200	150	46	20	--	--	47	23	--	120
443734090103601	06-30-86	240	0	61	22	--	--	268	26	--	2.4
443738090152101	06-27-86	73	49	17	7.4	--	--	24	37	--	25
443801090073301	06-18-86	92	0	23	8.5	7.3	2.0	107	16	5.4	4.2
443802090073101	06-18-86	170	9	42	16	7.2	2.6	162	31	8.5	13
443803090073101	06-18-86	180	0	45	16	8.5	3.3	204	25	3.4	1.4
443803090073401	06-18-86	140	0	36	12	6.4	1.3	151	58	11	1.1
443806090073301	06-18-86	92	0	23	8.5	7.3	2.0	105	16	5.6	4.2
443827090044801	06-28-86	230	34	60	20	--	--	198	15	--	11
443828089584401	08-18-86	110	18	35	6.2	--	--	95	5.8	--	10
443832089580801	08-18-86	110	24	30	8.8	--	--	87	42	--	17
443842090180101	06-27-86	240	8	60	21	--	--	229	22	--	4.4
443903089542501	08-19-86	170	74	42	16	--	--	97	94	--	27
443922089534201	08-19-86	130	45	34	12	--	--	89	11	--	22
443928089515801	08-19-86	140	0	35	12	--	--	351	1710	--	41
443954089504501	08-19-86	140	53	35	12	--	--	84	129	--	23
444025090072701	06-28-86	71	21	19	5.6	--	--	50	12	--	6.7
444035090012701	08-18-86	160	62	33	19	--	--	99	38	--	52
444037090121202	06-27-86	150	0	38	14	--	--	171	13	--	1.1
444041090142201	06-27-86	24	0	5.8	2.4	--	--	27	131	--	1.1

**SAMPLES WITH THE SAME DATES ARE REPLICATES.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION	NUMBER	DATE OF SAMPLE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
WOOD								
443039090035201		08-26-86	--	--	1.4	32	--	--
443046089510101		08-20-86	--	--	<.10	4200	--	--
443051090081501		08-21-86	--	--	<.10	60	--	--
443057090131101		06-28-86	--	--	<.10	50	--	--
443100089590501		08-20-86	--	--	<.10	13000	--	--
443108090010401		08-21-86	--	--	2.4	180	--	--
443110090104401		06-28-86	--	--	<.10	45	--	--
443120089553301		08-21-86	--	--	<.10	2100	--	--
443145089574701		08-21-86	--	--	<.10	820	--	--
443148090041701		08-21-86	--	--	.11	60	--	--
443148090162201		06-28-86	--	--	.26	1100	--	--
443152090050701		08-21-86	--	--	.49	460	--	--
443156090055901		08-21-86	--	--	3.5	7	--	--
443201090014601		06-17-86	2920	<.010	<.10	5100	4100	48
443202090014201		06-17-86	293	<.010	<.10	6400	48	10
443203090014401		06-17-86	145	<.010	.13	460	35	44
443203090132801		08-22-86	--	--	.19	81	--	--
443222089514501		08-20-86	--	--	<.10	5500	--	--
443227089545101		06-17-86	161	<.010	<.10	5800	290	30
443227089545501		06-16-86	287	.010	.14	83	330	10
443229089545501		06-17-86	92	<.010	.31	330	140	4.5
443238089590601		08-20-86	--	--	7.4	21	--	--
443240090082101		06-28-86	--	--	<.10	1100	--	--
443246090142201		06-28-86	--	--	<.10	120	--	--
443320090070201		06-18-86	506	<.010	<.10	5800	800	--
443320090070601		06-18-86	385	<.010	<.10	4700	1500	--
443323090163501		06-28-86	--	--	.17	7	--	--
443331090012801		08-20-86	--	--	<.10	120	--	--
443332090105001		06-28-86	--	--	<.10	190	--	--
443355090040601		08-20-86	--	--	<.10	4300	--	--
443404089590501		08-20-86	--	--	3.7	70	--	--
443411090051201		06-28-86**	--	--	<.10	3300	--	--
		06-28-86**	--	--	<.10	3300	--	--
443413090182401		06-28-86	--	--	.52	7	--	--
443503090132601		06-28-86	--	--	6.0	14	--	--
443530090175501		06-28-86	--	--	3.0	7	--	--
443540090093401		06-28-86	--	--	4.5	6	--	--
443555090112701		06-28-86	--	--	5.6	39	--	--
443556089555701		08-19-86	--	--	.84	47	--	--
443556089590501		08-19-86**	--	--	1.5	6	--	--
		08-19-86**	--	--	1.5	8	--	--
443557090055901		06-28-86	--	--	<.10	6000	--	--
443558090153201		06-27-86	--	--	3.3	13	--	--
443611090044201		08-19-86	--	--	3.3	13	--	--
443633089504501		08-19-86	--	--	1.7	21	--	--
443641090031901		08-19-86	--	--	4.5	23	--	--
443732090052401		06-28-86	--	--	1.6	20	--	--
443734090103601		06-30-86	--	--	<.10	56	--	--
443738090152101		06-27-86	--	--	8.1	19	--	--
443801090073301		06-18-86	133	<.010	<.10	150	1000	--
443802090073101		06-18-86	222	<.010	<.10	28	990	110
443803090073101		06-18-86	215	<.010	<.10	130	1000	--
443803090073401		06-18-86	171	<.010	<.10	45	290	--
443806090073301		06-18-86	136	<.010	<.10	100	1000	--
443827090044801		06-28-86	--	--	3.3	6	--	--
443828089584401		08-18-86	--	--	5.0	14	--	--
443832089580801		08-18-86	--	--	3.0	96	--	--
443842090180101		06-27-86	--	--	2.9	10	--	--
443903089542501		08-19-86	--	--	12	21	--	--
443922089534201		08-19-86	--	--	5.5	15	--	--
443928089515801		08-19-86	--	--	17	23	--	--
443954089504501		08-19-86	--	--	6.8	11	--	--
444025090072701		06-28-86	--	--	3.2	43	--	--
444035090012701		08-18-86	--	--	2.8	14	--	--
444037090121202		06-27-86	--	--	<.10	1100	--	--
444041090142201		06-27-86	--	--	1.7	4	--	--

**SAMPLES WITH THE SAME DATES ARE REPLICATES.

ACID DEPOSITION RECORDS



Figure 7. Location of acid deposition sites in Wisconsin.

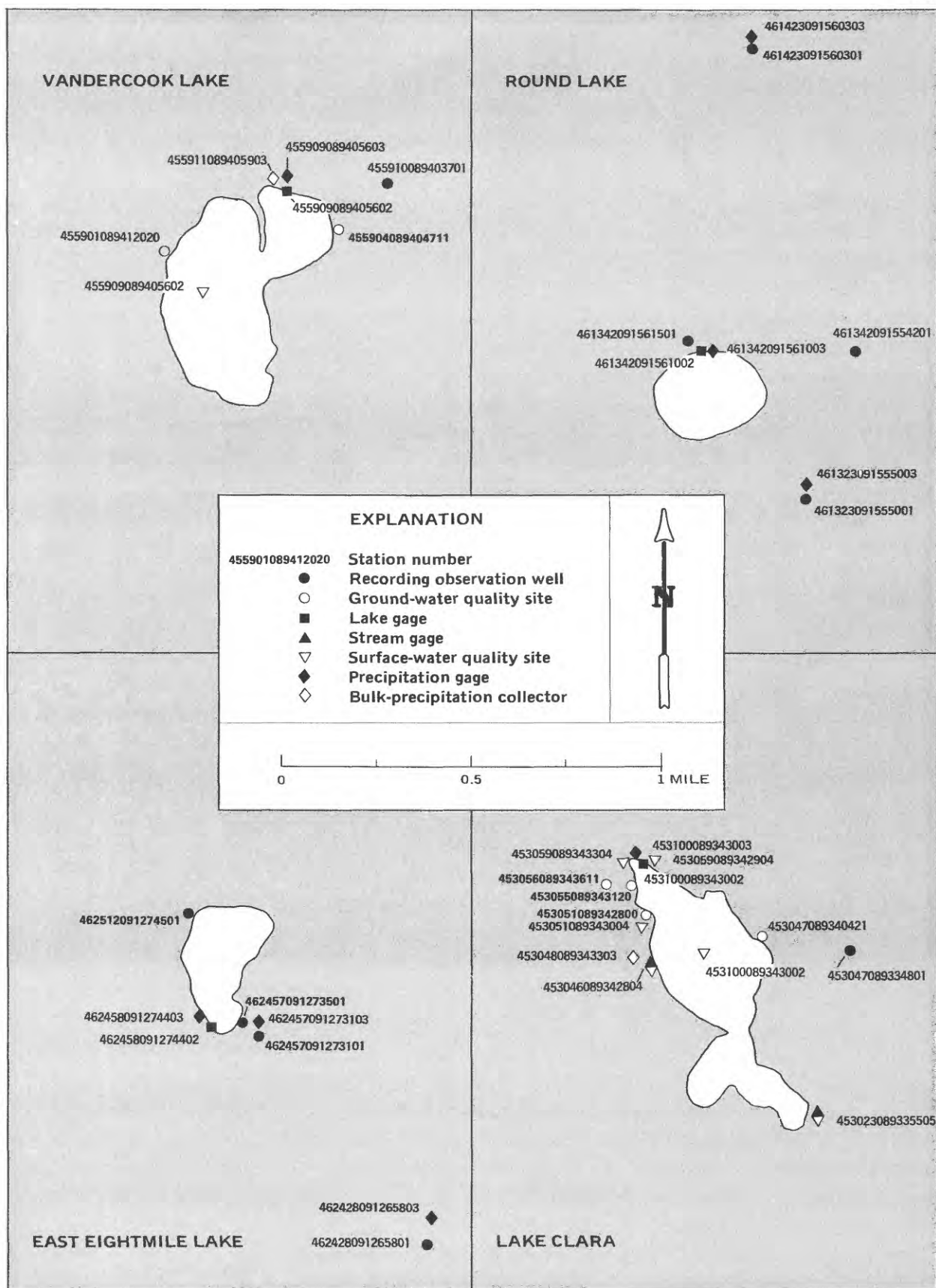


Figure 8. Location of data-collection sites at acid deposition sites in Wisconsin.

Streamflow, lake stages, precipitation quantity, ground-water levels, and water quality for acid deposition investigations in northern Wisconsin.

WATER-DISCHARGE RECORDS

453046089342804 LAKE CLARA TRIBUTARY NEAR TOMAHAWK, WI

LOCATION.--Lat 45°30'46", long 89°34'28", in NE 1/4 SW 1/4 SE 1/4 sec.14, T.35 N., R.7 E., Lincoln County, Hydrologic Unit 07070001, on west side of lake, 8.2 mi east of Tomahawk.

DRAINAGE AREA.--0.03 mi².

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

REVISED RECORD.--WDR WI-85-1. 1984.

GAGE.--Water-stage recorder. Datum of gage is 1,500.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Tributary is intermittent. Discharge data need to be divided by 100 to obtain correct values.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 0.76 ft³/s, Oct. 4, 1985; minimum daily discharge, 0 ft³/s, on many days during period of record.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 0.76 ft³/s, Oct. 4; minimum daily discharge, 0 ft³/s, on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	17	.00	.00	.00	.00	8.0	2.0	.00	.00	.30	.00
2	1.0	15	.00	.00	.00	.00	2.0	.00	.00	.00	.00	.00
3	.00	3.5	.00	.00	.00	.00	.50	.00	.00	.00	.00	.04
4	76	2.0	.00	.00	.00	.00	1.0	.00	.00	1.7	.00	.00
5	8.8	1.7	.00	.00	.00	.00	2.0	.00	.00	.50	.00	.00
6	.00	2.0	.00	.00	.00	.00	2.0	.00	.00	1.2	.00	.00
7	.67	1.0	.00	.00	.00	.00	1.0	.00	.00	.00	.00	.00
8	.67	.00	.00	.00	.00	.00	1.0	.00	.00	.00	.00	.00
9	1.3	.00	.00	.00	.00	.00	1.0	.00	.00	.00	.00	.50
10	.00	.00	.00	.00	.00	.00	.50	.00	.00	.00	.00	.80
11	.00	.00	.00	.00	.00	.00	.20	.00	.00	1.4	.00	.00
12	1.9	.00	.00	.00	.00	.00	.20	.00	.00	.10	.00	.00
13	1.0	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00	.00
14	.50	.00	.00	.00	.00	.00	.80	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	2.0	.00	.00	1.0	.00	.10
16	.00	.00	.00	.00	.00	.00	.60	.00	.00	1.6	.03	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.0	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	3.4	6.0	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.0	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.30	.00	.00	.10
22	.00	.00	.00	.00	.00	.00	.00	.00	.90	.00	.00	.70
23	.50	.00	.00	.00	.00	.00	.00	.00	2.3	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	1.8	.20	.00	.00
25	.00	.00	.00	.00	.00	.00	.10	.10	.00	.00	.00	.10
26	.00	.00	.00	.00	.00	1.0	12	.00	.70	.00	.00	24
27	.00	.00	.00	.00	.00	1.0	4.0	.00	2.5	.00	.00	11
28	.00	.00	.00	.00	.00	8.0	1.0	.00	.20	.00	.00	1.0
29	.00	.00	.00	.00	---	12	1.5	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	8.0	3.6	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	12	---	.00	---	.00	.00	---
TOTAL	95.34	42.20	.00	.00	.00	42.00	45.20	2.10	12.10	22.70	.33	38.34
MEAN	3.08	1.41	.000	.000	.000	1.35	1.51	.068	.40	.73	.011	1.28
MAX	76	17	.00	.00	.00	12	12	2.0	3.4	8.0	.30	24
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CAL YR 1985	TOTAL 313.58	MEAN .86	MAX 76	MIN .00								
WTR YR 1986	TOTAL 300.31	MEAN .82	MAX 76	MIN .00								

NOTE.--DIVIDE VALUES IN TABLE BY 100 TO OBTAIN CORRECT VALUES.

453023089335505 LAKE CLARA OUTLET NEAR TOMAHAWK, WI

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2.7 ft³/s, Apr. 21; minimum daily discharge, 0 ft³/s, on many days.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	.01	.02	.02	.04	.08	.11	.34	.18	.32	.00	.00
2	1.2	.27	.02	.02	.04	.08	.11	.01	.00	.33	.00	.00
3	1.1	.54	.02	.02	.04	.08	.11	.00	.00	.35	.00	.00
4	1.5	.76	.02	.02	.04	.08	.11	.00	.00	.43	.00	.00
5	2.2	.01	.02	.02	.04	.08	.11	.00	.00	.47	.36	.01
6	2.1	.01	.02	.02	.04	.09	.11	.00	.00	.48	.15	.00
7	2.0	.01	.02	.02	.04	.09	.11	.00	.00	.38	.33	.00
8	2.1	.01	.02	.02	.04	.09	.11	1.2	.00	.15	.55	.02
9	2.0	.01	.02	.02	.04	.09	.11	1.9	.00	.05	.23	.07
10	1.9	.01	.02	.03	.04	.09	.11	.46	.00	.07	.04	.27
11	1.8	.01	.02	.03	.05	.10	1.3	1.0	.00	.04	.00	.43
12	1.7	.01	.02	.03	.05	.10	2.0	.12	.00	.15	.00	.39
13	1.7	.01	.02	.03	.05	.10	1.7	.00	.00	.05	.00	.35
14	1.5	.01	.02	.03	.05	.10	1.5	.00	.04	.00	.00	.29
15	1.1	.01	.02	.03	.05	.10	1.4	.00	.00	.01	.00	.49
16	.15	.01	.02	.03	.05	.10	2.2	.00	.03	.04	.00	.45
17	.25	.01	.02	.03	.05	.10	2.0	.00	.00	.02	.00	.27
18	.01	.01	.02	.03	.05	.10	1.3	.84	.02	.00	.00	.24
19	.00	.01	.02	.03	.05	.10	.02	.14	.39	.14	.01	.18
20	.00	.01	.02	.03	.05	.11	1.7	.63	.00	.49	.11	.18
21	.00	.01	.02	.03	.06	.11	2.7	.01	.00	.30	.03	.19
22	.01	.01	.02	.03	.06	.11	1.7	.00	.25	.66	.01	.27
23	.01	.01	.02	.03	.06	.11	2.6	.00	.84	.03	.10	.25
24	.00	.01	.02	.04	.06	.11	.16	.00	1.1	.00	.01	.23
25	.00	.01	.02	.04	.07	.11	.00	.00	.75	.00	.00	.21
26	.36	.01	.02	.04	.07	.11	1.4	.36	.91	.00	.00	.28
27	1.1	.01	.02	.04	.07	.11	2.6	.00	1.1	.00	.00	1.1
28	1.4	.01	.02	.04	.08	.11	2.1	.00	.94	.50	.00	.75
29	.32	.01	.02	.04	---	.11	2.1	.00	.48	.15	.00	.05
30	.00	.01	.02	.04	---	.11	.34	.00	.39	.00	.00	.01
31	.17	---	.02	.04	---	.11	---	.00	---	.00	.00	---
TOTAL	28.98	1.84	.62	.92	1.43	3.07	31.92	7.01	7.42	5.61	1.93	6.98
MEAN	.93	.061	.020	.030	.051	.099	1.06	.23	.25	.18	.062	.23
MAX	2.2	.76	.02	.04	.08	.11	2.7	1.9	1.1	.66	.55	1.1
MIN	.00	.01	.02	.02	.04	.08	.00	.00	.00	.00	.00	.00
CAL YR 1985	TOTAL 76.15		MEAN .21	MAX 2.7	MIN .00							
WTR YR 1986	TOTAL 97.73		MEAN .27	MAX 2.7	MIN .00							

ACID DEPOSITION RECORDS

STAGE RECORDS

453100089343002 LAKE CLARA NEAR TOMAHAWK, WI

LOCATION.--Lat 45°31'00", long 89°34'30", in NE 1/4 NW 1/4 SE 1/4 sec.14, T.35 N., R.7 E., Lincoln County, Hydrologic Unit 07070001, at north end of lake, 8.2 mi east of Tomahawk.

DRAINAGE AREA.--0.48 mi². Area of lake, 0.13 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,500.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Lake has intermittent surface inlet and outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed gage height, 16.90 ft, June 16 and 17, 1981; minimum observed gage height, 15.50 ft, Aug. 16, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum observed gage height, 16.76 ft, Apr. 8-10; minimum observed gage height, 15.89 ft, Sept. 9.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.13	16.19	16.42	16.44	16.38	16.34	16.57	16.40	16.13	16.05	16.12	15.92
2	16.12	16.27	16.44	16.44	16.37	16.34	16.61	16.39	16.12	16.03	16.16	15.92
3	16.11	16.27	16.42	16.44	16.38	16.33	16.64	16.39	16.10	16.02	16.15	15.90
4	16.18	16.27	16.42	16.42	16.38	16.33	16.67	16.39	16.09	16.05	16.13	15.96
5	16.34	16.27	16.42	16.40	16.38	16.33	16.70	16.39	16.07	16.06	16.13	15.94
6	16.34	16.26	16.43	16.39	16.38	16.33	16.74	16.38	16.07	16.06	16.11	15.93
7	16.31	16.26	16.43	16.38	16.38	16.33	16.75	16.38	16.05	16.04	16.10	15.90
8	16.33	16.26	16.43	16.36	16.38	16.33	16.76	16.35	16.06	16.00	16.09	15.91
9	16.30	16.26	16.43	16.36	16.38	16.33	16.76	16.32	16.05	15.99	16.06	15.89
10	16.29	16.25	16.43	16.36	16.37	16.33	16.76	16.29	16.04	15.99	16.07	16.00
11	16.25	16.24	16.43	16.35	16.37	16.34	16.75	16.28	16.04	15.99	16.06	16.04
12	16.24	16.24	16.43	16.34	16.37	16.34	16.73	16.25	16.05	16.02	16.05	16.01
13	16.23	16.24	16.43	16.32	16.38	16.34	16.70	16.25	16.05	16.02	16.04	15.99
14	16.21	16.24	16.42	16.32	16.38	16.34	16.65	16.25	16.05	16.03	16.04	15.98
15	16.16	16.24	16.42	16.32	16.39	16.34	16.64	16.25	16.04	16.04	16.05	16.02
16	16.15	16.28	16.42	16.32	16.38	16.34	16.62	16.25	16.02	16.08	16.06	16.02
17	16.14	16.29	16.42	16.31	16.39	16.34	16.58	16.25	16.00	16.08	16.08	16.00
18	16.14	16.29	16.42	16.32	16.39	16.36	16.56	16.25	16.00	16.10	16.07	16.00
19	16.14	16.31	16.42	16.33	16.39	16.40	16.54	16.22	16.11	16.20	16.05	16.00
20	16.13	16.34	16.42	16.33	16.39	16.38	16.53	16.21	16.13	16.22	16.04	16.00
21	16.13	16.34	16.42	16.33	16.37	16.36	16.46	16.19	16.11	16.19	16.04	16.00
22	16.13	16.35	16.43	16.34	16.35	16.36	16.44	16.18	16.13	16.18	16.01	16.03
23	16.14	16.35	16.44	16.34	16.36	16.36	16.40	16.18	16.14	16.15	16.02	16.03
24	16.15	16.35	16.44	16.35	16.35	16.35	16.40	16.17	16.15	16.15	16.00	16.03
25	16.15	16.36	16.44	16.36	16.35	16.34	16.39	16.20	16.14	16.17	16.00	16.03
26	16.15	16.37	16.44	16.35	16.35	16.34	16.45	16.21	16.13	16.17	16.00	16.03
27	16.13	16.37	16.45	16.34	16.36	16.35	16.48	16.20	16.16	16.17	15.97	16.03
28	16.12	16.38	16.45	16.34	16.34	16.36	16.43	16.19	16.13	16.18	15.95	16.03
29	16.12	16.40	16.45	16.35	---	16.38	16.41	16.19	16.10	16.14	15.94	16.03
30	16.11	16.40	16.45	16.35	---	16.42	16.41	16.18	16.07	16.13	15.94	16.03
31	16.10	---	16.45	16.35	---	16.49	---	16.16	---	16.12	15.94	---
MEAN	16.18	16.30	16.43	16.36	16.37	16.35	16.58	16.26	16.08	16.09	16.05	15.99
MAX	16.34	16.40	16.45	16.44	16.39	16.49	16.76	16.40	16.16	16.22	16.16	16.04
MIN	16.10	16.19	16.42	16.31	16.34	16.33	16.39	16.16	16.00	15.99	15.94	15.89
CAL YR 1985	MEAN 16.26		MAX 16.83	MIN 15.67								
WTR YR 1986	MEAN 16.25		MAX 16.76	MIN 15.89								

ACID DEPOSITION RECORDS

361

PRECIPITATION QUANTITY

453100089343003 LAKE CLARA RAIN GAGE NEAR TOMAHAWK, WI

LOCATION.--Lat 45°31'00", long 89°34'30", in NE 1/4 NW 1/4 SE 1/4 sec.14, T.35 N., R.7 E., Lincoln County,
Hydrologic Unit 07070001, at north end of lake, 8.2 mi east of Tomahawk.

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

GAGE.--Water-stage recorder.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 6.49 in., June 14, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 2.43 in., Oct. 4.

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
SUMMATION VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	2.20					---	.00	.00	.00	.82	.00
2	.01	.19					---	.00	.00	.02	.05	.00
3	.12	.02					---	.00	.00	.00	.03	.61
4	2.43	.02					---	.00	.00	.71	.00	.20
5	.08	.00					---	.00	.00	.28	.26	.00
6	.00	.17					---	.00	.00	.02	.02	.00
7	.30	.00					---	.00	.16	.00	.21	.00
8	.25	.00					---	.00	.00	.04	.03	.00
9	.21	.05					---	.00	.00	.00	.00	.96
10	.01	.02					---	.00	.04	.00	.49	1.41
11	.01	.04					---	.06	.40	.85	.02	.05
12	.26	.00					---	.00	.00	.24	.00	.02
13	.00	.00					---	.12	.01	.11	.00	.01
14	.00	.00					---	.03	.00	.00	.47	.65
15	.00	.01					---	.09	.00	.84	.00	.56
16	.01	.00					.01	.13	.00	.01	.40	.01
17	.00	.02					.00	.02	.00	.00	.06	.10
18	.00	.56					.06	.00	.00	1.89	.00	.03
19	.00	---					.03	.00	1.83	.49	.00	.20
20	.00	---					.13	.00	.01	.02	.08	.03
21	.01	---					.00	.00	.39	.01	.03	1.16
22	.00	---					.01	.06	.02	.02	.17	.10
23	.06	---					.00	.01	1.00	.02	.02	.00
24	.00	---					.00	.40	.01	.63	.01	.00
25	.01	---					.34	.01	.08	.01	.00	.61
26	.00	---					1.38	.00	.69	.01	.12	1.92
27	.00	---					.05	.00	.06	.56	.01	.80
28	.00	---					.23	.00	.00	.00	.00	.00
29	.00	---					.18	.00	.00	.00	.00	.00
30	.00	---					.81	.00	.00	.00	.00	.01
31	.23	---					---	.00	---	.00	.00	---
TOTAL	4.07	3.30					3.23	0.93	4.70	6.78	3.30	9.44

ACID DEPOSITION RECORDS

GROUND-WATER LEVELS

453047089334801 WELL LN-35/07E/13-0063

LOCATION.--Lat 45°30'47", long 89°33'48", in NW 1/4 SE 1/4 SW 1/4 sec.13, T.35 N., R.7 E., Lincoln County, Hydrologic Unit 07070001, 0.25 mi east of Lake Clara, 8.2 mi east of Tomahawk.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Augered water-table observation well, diameter 3 in., depth 44 ft, cased to 41 ft, well screened 41-44 ft.

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

GAGE.--Water-stage recorder. Datum of gage is 1,500.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.-- Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed water level, 13.91 ft, Dec. 22, 1985; minimum observed water level, 11.50 ft, Apr. 4, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum observed water level, 13.91 ft, Dec. 22; minimum observed water level, 12.69 ft, Oct. 2.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.71	13.57	13.86	13.67	13.44	13.20	13.01	13.54	13.73	13.49	13.32	13.10
2	12.69	13.52	13.80	13.67	13.43	13.22	12.97	13.47	13.67	13.48	13.31	13.09
3	12.73	13.48	13.67	13.66	13.41	13.18	13.00	13.51	13.71	13.47	13.29	13.11
4	12.81	13.46	13.77	13.66	13.44	13.16	13.02	13.68	13.75	13.52	13.28	13.12
5	12.79	13.53	13.79	13.71	13.41	13.19	13.08	13.73	13.71	13.50	13.28	13.09
6	12.76	13.63	13.76	13.65	13.37	13.18	13.11	13.68	13.70	13.44	13.28	13.06
7	12.78	13.62	13.81	13.55	13.40	13.11	13.13	13.59	13.75	13.41	13.28	13.05
8	12.89	13.57	13.81	13.61	13.38	13.14	13.12	13.56	13.70	13.42	13.29	13.05
9	12.80	13.55	13.76	13.75	13.36	13.21	13.11	13.59	13.65	13.42	13.27	13.05
10	12.85	13.55	13.75	13.66	13.34	13.20	13.17	13.62	13.70	13.41	13.26	13.11
11	12.90	13.56	13.77	13.68	13.34	13.11	13.22	13.66	13.73	13.42	13.22	13.11
12	13.03	13.69	13.83	13.68	13.34	13.08	13.22	13.66	13.69	13.43	13.21	13.05
13	13.01	13.69	13.80	13.54	13.35	13.12	13.20	13.66	13.63	13.40	13.22	13.01
14	12.99	13.67	13.80	13.60	13.37	13.13	13.28	13.68	13.61	13.35	13.26	13.00
15	13.06	13.63	13.81	13.58	13.34	13.09	13.31	13.66	13.63	13.35	13.25	13.04
16	13.00	13.82	13.78	13.60	13.32	13.04	13.24	13.67	13.65	13.37	13.23	13.02
17	13.07	13.76	13.77	13.61	13.34	13.04	13.26	13.66	13.56	13.36	13.19	13.07
18	13.12	13.73	13.73	13.58	13.33	13.10	13.33	13.67	13.59	13.35	13.16	13.08
19	13.09	13.76	13.72	13.54	13.29	13.11	13.44	13.65	13.62	13.35	13.16	13.06
20	13.12	13.70	13.73	13.53	13.26	12.93	13.43	13.66	13.57	13.34	13.17	13.05
21	13.21	13.62	13.77	13.55	13.22	12.98	13.39	13.70	13.58	13.34	13.15	13.05
22	13.26	13.77	13.91	13.48	13.28	13.07	13.36	13.71	13.59	13.35	13.17	13.10
23	13.33	13.79	13.85	13.42	13.27	13.04	13.42	13.70	13.57	13.35	13.21	13.10
24	13.32	13.72	13.74	13.52	13.24	12.98	13.46	13.69	13.52	13.40	13.16	13.09
25	13.26	13.73	13.71	13.61	13.25	13.09	13.45	13.69	13.52	13.38	13.18	13.08
26	13.36	13.85	13.88	13.51	13.33	13.04	13.49	13.69	13.56	13.35	13.16	13.07
27	13.33	13.76	13.79	13.48	13.25	12.97	13.49	13.71	13.55	13.36	13.13	13.07
28	13.32	13.78	13.73	13.52	13.18	13.04	13.56	13.71	13.52	13.36	13.11	13.07
29	13.41	13.74	13.74	13.48	---	13.04	13.52	13.72	13.51	13.33	13.11	13.12
30	13.44	13.74	13.76	13.41	---	13.01	13.52	13.75	13.49	13.33	13.11	13.10
31	13.50	---	13.75	13.40	---	13.00	---	13.76	---	13.33	13.10	---
MEAN	13.06	13.67	13.78	13.58	13.33	13.09	13.28	13.66	13.63	13.39	13.21	13.07
MAX	13.50	13.85	13.91	13.75	13.44	13.22	13.56	13.76	13.75	13.52	13.32	13.12
MIN	12.69	13.46	13.67	13.40	13.18	12.93	12.97	13.47	13.49	13.33	13.10	13.00
CAL YR 1985	MEAN 12.68		MAX 13.91	MIN 11.91								
WTR YR 1986	MEAN 13.40		MAX 13.91	MIN 12.69								

LAKE CLARA

QUALITY OF SURFACE WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS H) (71825)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CAO3) (90410)
453046089342804 - LAKE CLARA TRIBUTARY NEAR TOMAHAWK, WI (LAT 45 30 46 LONG 089 34 28)												
MAR , 1986												
26...	1103	--	62	6.20	--	--	.04	3.1	.80	6.8	.80	5.0
29...	1140	--	75	6.20	--	--	.1	3.4	.80	8.1	.90	3.5
APR												
01...	1223	--	49	6.20	9.0	--	.07	3.3	.70	4.2	.90	3.7
453051089343004 - LAKE CLARA TRIBUTARY NO. 2 NEAR TOMAHAWK, WI (LAT 45 30 51 LONG 089 34 30)												
MAR , 1986												
29...	1201	--	34	6.00	--	--	.02	2.6	.70	2.2	.70	2.8
APR												
01...	1205	--	38	6.00	--	--	.03	2.5	.60	3.3	.70	2.5
453059089343304 - LAKE CLARA TRIBUTARY NO. 3 NEAR TOMAHAWK, WI (LAT 45 30 59 LONG 089 34 33)												
APR , 1986												
01...	1140	--	24	4.80	--	--	.1	1.2	.30	1.3	.70	<.500
453059089342904 - LAKE CLARA TRIBUTARY NO. 4 NEAR TOMAHAWK, WI (LAT 45 30 59 LONG 089 34 29)												
MAR , 1986												
29...	1221	--	82	3.90	--	--	.3	1.9	.60	3.8	.90	<.500
453023089335505 - LAKE CLARA OUTLET NEAR TOMAHAWK, WI (LAT 45 30 23 LONG 089 33 55)												
APR , 1986												
01...	1239	--	21	5.40	--	--	.03	1.3	.30	1.4	.70	1.7
453100089343002 - LAKE CLARA NEAR TOMAHAWK, WI (LAT 45 31 00 LONG 089 34 30)												
OCT , 1985												
17...	1030	3.00	30	6.20	10.0	9.3	.1	1.8	.58	2.7	.70	4.0
DEC												
** 16...	1500	3.00	33	6.40	2.0	10.6	.05	1.9	.60	2.8	1.0	1.6
** 16...	1501	3.00	33	6.40	2.0	10.6	.07	1.8	.60	2.5	.90	1.5
JAN , 1986												
13...	1130	3.00	31	6.10	2.0	9.6	.04	1.9	.50	2.7	1.2	1.9
13...	1135	31.0	34	5.90	4.5	2.1	.2	2.1	.60	2.8	1.3	4.1
MAR												
04...	1120	3.00	30	5.90	2.5	9.8	.06	1.8	.60	2.6	.90	1.0
04...	1130	31.0	55	6.40	5.0	.2	.2	3.0	.70	2.9	1.0	5.8
APR												
01...	1125	3.00	29	5.90	4.0	9.2	.02	1.7	.50	2.6	.80	1.7
01...	1135	21.0	33	5.60	4.5	3.1	.02	1.9	.60	2.9	.80	2.1
MAY												
06...	1000	3.00	32	6.40	14.5	11.2	.02	1.8	.50	2.7	.80	1.7
06...	1010	28.0	33	5.70	8.0	7.6	.03	1.8	.50	2.7	.80	1.5
JUN												
03...	1120	3.00	32	6.40	19.5	9.3	.02	1.8	.60	2.8	.80	1.7
** 03...	1125	28.0	33	5.60	9.0	.7	.06	2.0	.60	2.8	.80	3.4
** 03...	1126	28.0	34	5.60	9.0	.7	.05	2.0	.60	2.9	.80	3.5
JUL												
01...	1210	3.00	32	6.50	22.0	8.5	.02	1.8	.60	2.8	.80	1.6
01...	1220	27.0	38	5.90	9.0	.4	.08	2.2	.60	2.8	.80	5.0
AUG												
04...	1040	3.00	32	6.30	23.0	8.1	.01	--	--	--	.70	1.6
04...	1045	27.0	33	5.70	9.5	.2	.05	2.0	.60	2.7	.70	3.6
SEP												
02...	1010	3.00	32	6.40	20.0	7.5	.03	1.7	.80	2.8	.80	1.8
02...	1015	24.0	32	6.20	11.0	.7	.04	1.8	.80	2.6	.80	2.0

** SAMPLES WITH SAME DATES AND SAMPLING DEPTHS ARE REPLICATES.

ACID DEPOSITION RECORDS

LAKE CLARA

QUALITY OF SURFACE WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SULFATE DIS- SOLVED (MG/L AS SO ₄) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO ₂) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS P) (00608)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS AL) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
453046089342804 - LAKE CLARA TRIBUTARY NEAR TOMAHAWK, WI (LAT 45 30 46 LONG 089 34 28)												
MAR , 1986												
26...	7.2	9.2	.04	5.9	37	.03	.017	.004	70	34	17	3.6
29...	6.0	15	.06	4.8	41	.02	.003	.002	80	37	32	5.4
APR												
01...	5.9	7.0	.05	5.5	30	.01	.008	.005	80	24	10	5.0
453051089343004 - LAKE CLARA TRIBUTARY NO. 2 NEAR TOMAHAWK, WI (LAT 45 30 51 LONG 089 34 30)												
MAR , 1986												
29...	6.7	2.5	.05	5.9	26	.06	.003	.690	80	33	5	6.0
APR												
01...	6.3	4.0	.05	5.9	25	.06	.004	.006	100	32	5	4.8
453059089343304 - LAKE CLARA TRIBUTARY NO. 3 NEAR TOMAHAWK, WI (LAT 45 30 59 LONG 089 34 33)												
APR , 1986												
01...	4.3	1.0	.04	4.4	--	.06	.035	.008	90	63	19	7.8
453059089342904 - LAKE CLARA TRIBUTARY NO. 4 NEAR TOMAHAWK, WI (LAT 45 30 59 LONG 089 34 29)												
MAR , 1986												
29...	7.2	4.9	.06	6.7	--	.21	.030	.005	450	340	32	36
453023089335505 - LAKE CLARA OUTLET NEAR TOMAHAWK, WI (LAT 45 30 23 LONG 089 33 55)												
APR , 1986												
01...	2.1	2.1	.09	.8	11	.11	.240	<.001	90	200	19	6.7
453100089343002 - LAKE CLARA NEAR TOMAHAWK, WI (LAT 45 31 00 LONG 089 34 30)												
OCT , 1985												
17...	.4	4.1	.03	.2	13	<.01	.018	.001	40	30	8	4.3
DEC												
** 16...	4.3	4.3	.04	.08	16	.02	.046	.002	30	18	11	4.8
** 16...	4.3	4.3	.04	.06	16	.02	.045	.004	30	18	11	4.3
JAN , 1986												
13...	4.6	4.7	.11	.04	17	.02	.047	.001	30	24	11	8.1
13...	3.3	4.4	.08	.7	18	.02	.280	.003	20	110	100	4.7
MAR												
04...	4.2	4.1	.06	.2	15	.04	.048	.002	40	32	10	4.4
04...	2.4	4.5	.05	1.3	20	.01	.550	.039	50	5	160	6.6
APR												
01...	4.1	4.0	.04	.2	15	.06	.074	<.001	40	23	11	3.4
01...	4.0	4.3	.04	.7	18	.18	.025	<.001	50	87	41	3.4
MAY												
06...	4.0	4.2	.04	.4	16	.07	.015	<.001	20	35	14	4.7
06...	4.3	4.3	.04	.7	17	.11	.021	<.001	30	36	28	3.8
JUN												
03...	4.1	4.4	.05	.1	16	<.01	.014	.001	20	19	1	4.7
** 03...	3.5	4.1	.04	.3	17	.05	.110	.003	30	79	92	4.1
** 03...	3.5	4.2	.06	.4	17	.04	.120	.007	30	90	97	3.9
JUL												
01...	4.0	4.2	.05	.09	15	<.01	.011	<.001	10	15	<1	3.9
01...	3.3	4.2	.05	.1	18	<.01	.120	<.001	30	710	170	3.4
AUG												
04...	4.2	4.5	.05	--	54	<.01	.013	<.001	20	--	--	4.6
04...	3.6	4.3	.04	.04	16	<.01	.007	<.001	30	92	150	3.9
SEP												
02...	4.0	4.3	.06	.05	16	.02	.016	<.001	0	14	<1	4.2
02...	4.1	4.5	.04	.08	16	.01	.040	<.001	10	53	8	4.1

** SAMPLES WITH SAME DATES AND SAMPLING DEPTHS ARE REPLICATES.

ACID DEPOSITION RECORDS

365

LAKE CLARA

QUALITY OF PRECIPITATION

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

453048089343303 - LAKE CLARA BULK PRECIP COLL NR TOMAHAWK, WI (LAT 45 30 48 LONG 089 34 33)

DATE	CUMU- LATIVE PRECIP- ITATION (IN) (00045)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	ACIDITY (MG/L AS H) (71825)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINIT LAB (MG/L AS CAC03) (90410)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)
1985										
OCT 01 - NOV 08	5.58	16	4.60	.4	.36	.08	.60	.07	<1.0	2.0
NOV 08 - DEC 03	4.56	12	4.60	.2	.13	.01	<.20	.04	<1.0	.8
DEC 03 - DEC 31	.63	18	4.40	--	.10	<.01	.24	.09	--	1.0
1986										
JAN 01 - JAN 31	.92	35	4.30	--	.57	.07	.27	.11	--	2.4
JAN 31 - MAR 04	1.06	25	4.30	--	.40	.05	.18	.07	--	1.9
MAR 04 - APR 01	1.92	30	4.50	--	1.0	.11	.31	.10	--	4.2
APR 01 - MAY 06	3.19	20	4.90	--	.67	.12	.42	.14	--	3.5
MAY 06 - JUN 03	.76	40	4.30	--	1.3	.31	.52	.70	--	5.9
JUN 03 - JUL 01	5.58	10	5.20	--	.57	.06	.30	.09	--	1.5
JUL 01 - AUG 04	6.58	11	4.80	--	.38	.06	.25	.10	--	1.4
AUG 04 - SEP 02	1.82	27	4.40	--	.70	.10	.16	.18	--	4.0
SEP 02 - SEP 30	7.66	12	4.70	--	.25	.04	.25	.05	--	1.5

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
1985										
OCT 01 - NOV 08	.08	.01	.02	.29	.265	.007	20	<3	6	1.6
NOV 08 - DEC 03	.02	.04	<.01	.27	.090	.002	20	13	1	4.1
DEC 03 - DEC 31	.17	.02	--	.43	.130	<.010	--	--	--	--
1986										
JAN 01 - JAN 31	.26	.07	--	.92	.610	<.010	--	--	--	--
JAN 31 - MAR 04	.17	.05	--	.45	.290	.020	--	--	--	--
MAR 04 - APR 01	.20	.15	--	.73	.840	.010	--	--	--	--
APR 01 - MAY 06	.18	.03	--	.52	.830	<.010	--	--	--	--
MAY 06 - JUN 03	.30	.07	--	1.1	.680	.040	--	--	--	--
JUN 03 - JUL 01	.14	.02	--	.27	.430	<.010	--	--	--	--
JUL 01 - AUG 04	.14	.01	--	.32	.300	<.010	--	--	--	--
AUG 04 - SEP 02	.19	.03	--	.58	.750	<.010	--	--	--	--
SEP 02 - SEP 30	.12	.01	--	.26	.250	.020	--	--	--	--

ACID DEPOSITION RECORDS

LAKE CLARA

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	LOCAL IDENTIFIER	GEO-LOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE-CIFIC CON-DUC-TANCE (US/CM) (00095)	PH (STAND-ARD) (00400)	TEMPER-ATURE (DEG C) (00010)	ACIDITY (MG/L AS H) (71825)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
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LINCOLN

453047089340421	LN-35/07E/13-0064	110QRNR	10-17-85	11.00	42	5.80	12.0	.2	2.9
			12-05-85	11.00	46	5.80	8.5	.1	3.4
			01-13-86	11.00	47	5.80	6.5	.1	3.4
			03-04-86	11.00	45	5.80	6.0	.2	3.3
			110QRNR	08-04-86	6.00	159	6.10	12.5	.08
453051089342800	LN-35/07E/14-0094	110QRNR	10-17-85**	13.00	127	5.90	12.0	.2	9.5
			10-17-85**	13.00	125	5.90	12.0	.2	9.5
			12-05-85**	13.00	121	6.00	8.0	.2	10
			12-05-85**	13.00	121	6.00	8.0	.2	10
			110QRNR	04-01-86	13.00	121	5.90	5.5	.08
			05-06-86	13.00	129	6.00	7.5	<.01	9.5
			06-03-86	13.00	129	5.90	10.0	.09	9.4
			07-01-86	13.00	162	5.90	11.5	.1	9.2
			08-04-86	13.00	132	5.90	13.5	.04	9.2
			110QRNR	09-02-86	13.00	129	5.90	14.5	.07
453056089343611	LN-35/07E/14-0093	110QRNR	08-04-86	36.00	106	6.60	7.5	.3	9.1

STATION NUMBER	DATE OF SAMPLE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
453047089340421	10-17-85	.78	2.6	1.2	15	.9	4.5	.16	2.2	26	<.01
	12-05-85	.86	2.7	1.1	11	.7	3.3	<.01	2.3	23	<.01
	01-13-86	.80	2.8	1.5	11	.4	3.4	.06	2.3	23	<.01
	03-04-86	.80	2.7	1.2	10	.1	5.1	.06	2.4	24	.01
453051089342800	08-04-86	2.9	11	1.4	20	11	17	<.10	16	84	--
453055089343120	10-17-85	2.2	10	1.1	10	14	20	<.10	18	81	--
	10-17-85	2.2	11	1.1	16	14	19	<.10	18	85	--
	12-05-85	2.4	10	1.0	16	15	18	<.10	17	83	--
	12-05-85	2.3	10	1.1	15	15	18	<.10	17	82	--
	04-01-86	2.2	9.6	1.0	15	12	17	.20	16	76	--
	05-06-86	2.2	9.9	1.1	15	13	17	<.10	17	79	--
	06-03-86	2.2	10	1.1	15	--	--	<.10	17	59	--
	07-01-86	2.1	10	1.2	15	--	--	<.10	17	--	--
	08-04-86	2.2	11	1.2	15	15	16	<.10	19	83	--
	09-02-86	2.1	--	1.3	15	16	15	<.10	19	73	--
453056089343611	08-04-86	3.0	3.5	.60	36	14	4.5	<.10	23	80	--

STATION NUMBER	DATE OF SAMPLE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
453047089340421	10-17-85	--	.244	.006	120	1100	55	4.6
	12-05-85	--	.266	.002	160	1500	65	6.3
	01-13-86	--	.260	.002	210	1700	73	3.9
	03-04-86	--	.240	.002	190	1700	70	5.5
453051089342800	08-04-86	3.5	.072	.001	20	--	--	2.7
453055089343120	10-17-85	.10	.048	.004	20	4	<1	3.4
	10-17-85	.11	.013	.014	10	4	<1	2.4
	12-05-85	<.10	.013	.005	20	10	<1	3.3
	12-05-85	.11	.008	.005	10	10	<1	2.8
	04-01-86	.29	.007	.002	20	4	<1	1.3
	05-06-86	.21	.012	.004	10	4	<1	2.0
	06-03-86	.21	.012	.005	20	3	2	2.2
	07-01-86	.20	.007	.005	20	7	<1	1.4
	08-04-86	.21	.011	.005	20	7	1	1.9
	09-02-86	.17	.006	.005	0	12	<1	1.6
	453056089343611	08-04-86	<.10	.038	.010	10	--	--

**SAMPLES WITH SAME DATES ARE REPLICATES.

STAGE RECORDS

455909089405602 VANDERCOOK LAKE NEAR WOODRUFF, WI

LOCATION.--Lat 45°59'09", long 89°40'56", in SW 1/4 NE 1/4 SE 1/4 sec.36, T.41 N., R.6 E., Vilas County, Hydrologic Unit 07070001, at north end of lake on dirt road off County Trunk Highway M, 6.1 mi north of Woodruff.

DRAINAGE AREA.--1.11 mi². Area of lake, 0.17 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,600.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Lakes does not have surface inlet or outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed gage height, 32.26 ft, Apr. 8-10, 1986; minimum observed gage height, 30.74 ft, Sept. 28 and 29, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum observed gage height, 32.26 ft, Apr. 8-10; minimum observed gage height, 31.63 ft, Oct. 1-3.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.63	31.83	32.00	31.99	32.04	32.02	32.19	32.15	31.87	31.80	31.94	31.76
2	31.63	31.88	32.01	31.98	32.04	32.02	32.18	32.14	31.85	31.80	31.96	31.76
3	31.63	31.87	32.00	31.99	32.04	32.02	32.18	32.13	31.83	31.77	31.94	31.77
4	31.73	31.87	32.01	31.99	32.04	32.01	32.19	32.13	31.83	31.79	31.93	31.87
5	31.83	31.86	32.01	32.00	32.04	32.01	32.21	32.14	31.81	31.81	31.95	31.86
6	31.82	31.86	32.01	31.99	32.03	32.02	32.23	32.13	31.78	31.82	31.94	31.83
7	31.82	31.86	32.01	31.98	32.03	32.02	32.25	32.11	31.78	31.80	31.95	31.82
8	31.85	31.84	32.00	31.98	32.03	32.01	32.26	32.09	31.79	31.79	31.97	31.81
9	31.82	31.83	32.01	32.00	32.02	32.01	32.26	32.08	31.77	31.77	31.95	31.79
10	31.82	31.82	32.01	31.99	32.02	32.07	32.26	32.07	31.76	31.76	31.96	31.82
11	31.81	31.81	32.00	31.99	32.01	32.07	32.24	32.06	31.78	31.76	31.94	31.83
12	31.84	31.80	31.99	32.00	32.01	32.07	32.23	32.07	31.80	31.82	31.93	31.82
13	31.85	31.80	31.98	31.99	32.00	32.07	32.22	32.06	31.80	31.93	31.91	31.81
14	31.84	31.80	31.98	31.99	32.01	32.08	32.22	32.07	31.79	31.91	31.91	31.80
15	31.83	31.79	32.00	31.99	32.01	32.08	32.23	32.06	31.78	31.91	31.92	31.85
16	31.82	31.82	31.99	31.99	32.01	32.08	32.23	32.06	31.77	31.91	31.91	31.85
17	31.81	31.83	31.98	32.00	32.00	32.08	32.16	32.04	31.75	31.92	31.93	31.84
18	31.81	31.83	31.98	32.00	32.01	32.12	32.16	32.03	31.73	31.92	31.92	31.85
19	31.80	31.85	31.98	32.00	32.00	32.17	32.15	32.01	31.81	32.02	31.89	31.84
20	31.79	31.88	31.98	32.00	32.02	32.17	32.15	31.99	31.81	32.01	31.87	31.85
21	31.79	31.87	31.98	32.00	32.01	32.16	32.14	31.98	31.82	31.99	31.86	31.85
22	31.78	31.89	31.99	32.02	32.02	32.17	32.13	31.96	31.86	31.98	31.85	31.93
23	31.79	31.90	32.00	32.01	32.02	32.16	32.12	31.96	31.85	31.97	31.87	31.92
24	31.80	31.90	32.00	32.02	32.02	32.15	32.12	31.95	31.84	31.98	31.85	31.92
25	31.77	31.90	31.99	32.03	32.02	32.16	32.12	31.94	31.83	32.00	31.85	31.95
26	31.77	31.92	32.00	32.02	32.02	32.15	32.15	31.94	31.84	31.98	31.84	31.96
27	31.76	31.91	31.98	32.02	32.02	32.15	32.15	31.94	31.87	31.99	31.82	31.98
28	31.75	31.93	32.00	32.02	32.01	32.15	32.15	31.92	31.86	31.99	31.80	31.98
29	31.74	31.93	32.00	32.02	---	32.16	32.17	31.92	31.84	31.97	31.79	32.00
30	31.73	31.96	31.99	32.02	---	32.16	32.17	31.91	31.82	31.96	31.78	31.99
31	31.73	---	31.99	32.02	---	32.16	---	31.90	---	31.95	31.77	---
MEAN	31.78	31.86	32.00	32.00	32.02	32.09	32.19	32.03	31.81	31.90	31.89	31.86
MAX	31.85	31.96	32.01	32.03	32.04	32.17	32.26	32.15	31.87	32.02	31.97	32.00
MIN	31.63	31.79	31.98	31.98	32.00	32.01	32.12	31.90	31.73	31.76	31.77	31.76
CAL YR 1985	MEAN	31.67	MAX	32.01	MIN	31.40						
WTR YR 1986	MEAN	31.95	MAX	32.26	MIN	31.63						

ACID DEPOSITION RECORDS

PRECIPITATION QUANTITY

455909089405603 VANDERCOOK LAKE RAIN GAGE NEAR WOODRUFF, WI

LOCATION.--Lat 45°59'09", long 89°40'56", in SW 1/4 NE 1/4 SE 1/4 sec.36, T.41 N., R.6 E., Vilas County,
Hydrologic Unit 07070001, at north end of lake on dirt road off County Trunk Highway M, 6.1 mi north of
Woodruff.

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

GAGE.--Water-stage recorder.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.98 in., Aug. 10, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 2.35 in., Oct. 4.

 RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
 SUMMATION VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	1.77					---	.01	.00	.00	.59	.04
2	.01	.09					---	.01	.00	.00	.01	.00
3	.32	.01					---	.00	.00	.00	.01	1.16
4	2.35	.02					---	.00	.01	.64	.42	.61
5	.15	.00					---	.00	.00	.16	.24	.01
6	.01	.07					---	.00	.00	.04	.00	.00
7	.30	.00					---	.00	.23	.00	.33	.00
8	.09	.00					---	.00	.00	.00	.10	.00
9	.01	.00					---	.00	.00	.00	.00	.35
10	.01	.02					---	.00	.00	.00	.39	.27
11	.03	.00					---	.06	.99	.69	.01	.12
12	.47	.00					---	.00	.02	1.74	.00	.12
13	.00	.00					---	.15	.00	.01	.00	.01
14	.00	.05					---	.01	.00	.00	.28	.48
15	.00	.00					---	.00	.00	.08	.02	.34
16	.01	.00					---	.00	.00	.01	.32	.00
17	.00	.00					.00	.00	.00	.00	.01	.17
18	.00	.78					.04	.00	.00	1.02	.00	.01
19	.00	.00					.08	.00	1.09	.33	.00	.08
20	.00	.00					.02	.00	.00	.00	.06	.03
21	.00	.00					.03	.00	.61	.00	.01	.98
22	.00	---					.00	.00	.01	.00	.36	.03
23	.06	---					.00	.00	.24	.00	.01	.01
24	.00	---					.00	.00	.00	.60	.01	.00
25	.00	---					.31	.03	.19	.00	.11	.52
26	.00	---					.10	.00	.48	.01	.04	.07
27	.00	---					.02	.00	.00	.38	.04	.24
28	.00	---					.12	.00	.00	.00	.00	.45
29	.01	---					.24	.00	.00	.00	.01	.00
30	.00	---					.08	.00	.00	.00	.00	.00
31	.16	---					---	.00	---	.00	.00	---
TOTAL	4.11	2.81					1.04	0.27	3.87	5.71	3.38	6.10

GROUND-WATER LEVELS

455910089403701 WELL VI-41/07E/31-0085

LOCATION.--Lat 45°59'10", long 89°40'37", in SW 1/4 NW 1/4 SW 1/4 sec.31, T.41 N., R.7 E., Vilas County, Hydrologic Unit 07070001, 0.25 mi northeast of Vandercook Lake, about 6.1 mi north of Woodruff.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Augered water-table observation well, diameter 3 in., depth 60 ft, cased to 57 ft, well screened 57-60 ft.

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

GAGE.--Water-stage recorder. Datum of gage is 1,600.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good, except for period of missing record, Apr. 16 to Oct. 12, 1982.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed water level, 33.83 ft, Apr. 14, 1986; minimum observed water level, 31.47 ft, Mar. 27 and 28, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum observed water level, 33.83 ft, Apr. 14; minimum observed water level, 32.91 ft, Mar. 20, 27.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.93	33.31	33.39	33.28	33.18	33.02	33.04	33.72	33.68	33.59	33.44	33.26
2	32.94	33.32	33.35	33.28	33.17	33.02	33.17	33.69	33.68	33.59	33.43	33.25
3	32.98	33.33	33.31	33.28	33.16	32.99	33.26	33.70	33.68	33.58	33.42	33.25
4	33.02	33.35	33.35	33.28	33.18	32.99	33.34	33.75	33.67	33.57	33.42	33.27
5	33.12	33.38	33.36	33.32	33.16	33.01	33.44	33.75	33.67	33.57	33.40	33.25
6	33.24	33.40	33.34	33.26	33.14	32.99	33.51	33.75	33.67	33.55	33.39	33.24
7	33.29	33.41	33.38	33.22	33.16	32.97	33.62	33.74	33.67	33.54	33.39	33.23
8	33.31	33.38	33.38	33.26	33.15	33.01	33.68	33.71	33.65	33.54	33.39	33.23
9	33.28	33.37	33.35	33.29	33.14	33.03	33.72	33.70	33.64	33.51	33.38	33.23
10	33.29	33.35	33.36	33.26	33.12	33.01	33.75	33.70	33.64	33.51	33.37	33.25
11	33.29	33.34	33.38	33.31	33.12	32.95	33.78	33.70	33.64	33.49	33.36	33.24
12	33.32	33.37	33.40	33.29	33.12	32.95	33.79	33.69	33.65	33.49	33.36	33.22
13	33.29	33.37	33.39	33.27	33.13	32.98	33.81	33.69	33.65	33.51	33.36	33.20
14	33.30	33.36	33.39	33.27	33.13	32.98	33.83	33.69	33.65	33.51	33.36	33.19
15	33.30	33.34	33.38	33.27	33.11	32.96	33.82	33.69	33.65	33.50	33.35	33.19
16	33.27	33.39	33.37	33.28	33.10	32.94	33.79	33.68	33.65	33.50	33.34	33.18
17	33.30	33.35	33.36	33.29	33.11	32.94	33.79	33.68	33.64	33.50	33.32	33.21
18	33.29	33.37	33.33	33.27	33.10	32.94	33.81	33.68	33.63	33.49	33.31	33.21
19	33.27	33.40	33.32	33.25	33.09	32.94	33.81	33.68	33.63	33.48	33.31	33.19
20	33.28	33.39	33.32	33.25	33.07	32.91	33.80	33.67	33.64	33.48	33.30	33.18
21	33.29	33.33	33.34	33.28	33.06	32.92	33.78	33.67	33.64	33.48	33.30	33.18
22	33.30	33.37	33.38	33.22	33.08	32.96	33.76	33.67	33.62	33.48	33.32	33.21
23	33.32	33.38	33.36	33.21	33.06	32.92	33.77	33.67	33.62	33.48	33.33	33.23
24	33.30	33.34	33.32	33.26	33.04	32.92	33.77	33.67	33.62	33.48	33.32	33.23
25	33.27	33.35	33.32	33.27	33.06	32.97	33.77	33.67	33.62	33.48	33.32	33.22
26	33.29	33.38	33.37	33.22	33.08	32.94	33.78	33.67	33.61	33.48	33.30	33.20
27	33.25	33.34	33.32	33.23	33.02	32.91	33.77	33.67	33.61	33.47	33.29	33.20
28	33.24	33.36	33.32	33.25	33.01	32.92	33.77	33.67	33.60	33.47	33.29	33.19
29	33.26	33.33	33.31	33.20	---	32.92	33.77	33.68	33.60	33.47	33.28	33.22
30	33.26	33.34	33.33	33.17	---	32.93	33.76	33.68	33.60	33.47	33.27	33.20
31	33.28	---	33.30	33.15	---	32.98	---	33.68	---	33.44	33.26	---
MEAN	33.24	33.36	33.35	33.26	33.11	32.96	33.68	33.69	33.64	33.51	33.34	33.22
MAX	33.32	33.41	33.40	33.32	33.18	33.03	33.83	33.75	33.68	33.59	33.44	33.27
MIN	32.93	33.31	33.30	33.15	33.01	32.91	33.04	33.67	33.60	33.44	33.26	33.18
CAL YR 1985	MEAN 32.80		MAX 33.41	MIN 31.85								
WTR YR 1986	MEAN 33.36		MAX 33.83	MIN 32.91								

ACID DEPOSITION RECORDS

VANDERCOOK LAKE

QUALITY OF SURFACE WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS H) (71825)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)
455909089405602 - VANDERCOOK LAKE NEAR WOODRUFF, WI (LAT 45 59 09 LONG 089 40 56)												
OCT , 1985												
16...	1650	3.00	13	6.00	10.0	10.2	<.1	1.3	.36	.70	.11	3.0
DEC												
16...	1145	3.00	15	6.20	2.0	11.6	.05	1.2	.40	.40	.36	<.5
JAN , 1986												
14...	1250	3.00	13	6.10	2.0	--	.05	1.1	.30	.50	.22	.8
** 14...	1255	18.0	15	5.80	5.0	4.5	.08	1.2	.30	.50	.34	1.6
** 14...	1256	18.0	15	5.70	5.0	4.5	.05	1.1	.30	.50	.33	1.5
MAR												
03...	1305	3.00	14	5.80	4.0	10.4	.06	1.1	.40	.50	.26	.9
03...	1310	18.0	16	5.60	5.0	4.5	.08	1.2	.40	.50	.33	.9
31...	1325	3.00	12	5.60	4.5	5.3	.03	.90	.30	.50	.21	<.5
31...	1335	18.0	15	5.60	4.0	4.3	.02	1.1	.30	.50	.34	1.3
MAY												
05...	1320	3.00	13	6.10	13.0	10.7	.02	1.1	.30	.60	.13	.8
05...	1330	20.0	13	6.10	11.0	11.0	.03	1.1	.30	.50	.14	.8
JUN												
02...	1245	3.00	13	5.90	19.5	9.0	.03	1.1	.40	.60	.14	.7
02...	1255	18.0	13	5.70	17.0	9.5	.04	1.2	.40	.60	.17	1.0
30...	1215	3.00	14	6.00	22.0	8.3	.02	1.1	.30	.60	.20	.7
30...	1240	18.0	14	5.70	20.5	5.3	.05	1.4	.40	.80	.25	1.6
AUG												
05...	0855	3.00	14	6.00	23.0	7.2	.02	1.3	.40	.60	.18	1.0
05...	0900	15.0	14	6.00	23.0	--	.02	1.2	.40	.60	.18	1.0
SEP												
03...	0845	3.00	13	6.10	20.0	9.0	.03	1.1	.50	.50	.26	.8
** 03...	0850	18.0	13	6.10	19.0	8.0	.03	1.1	.50	.50	.21	.8
** 03...	0851	18.0	14	6.10	19.0	8.0	.02	1.2	.50	.50	.29	.8

455909089405602 - VANDERCOOK LAKE NEAR WOODRUFF, WI (LAT 45 59 09 LONG 089 40 56)

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (MG/L AS AL) (01106)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
455909089405602 - VANDERCOOK LAKE NEAR WOODRUFF, WI (LAT 45 59 09 LONG 089 40 56)												
OCT , 1985												
16...	3.8	.25	.03	<.01	--	<.01	.011	<.001	10	5	5	4.2
DEC												
16...	3.7	.30	.03	.04	--	<.01	.023	.003	20	10	4	4.3
JAN , 1986												
14...	3.7	.27	.05	.04	7	<.01	.023	.001	20	10	6	4.4
14...	3.6	.28	.05	.2	8	<.01	.220	.001	30	10	13	4.2
14...	3.6	.28	.05	.1	7	<.01	.230	<.001	20	12	14	3.9
MAR												
03...	3.7	.28	.05	.1	7	.02	.060	<.001	20	15	5	4.5
03...	3.7	.26	.04	.3	8	.02	.240	.001	10	15	15	4.0
31...	3.2	.30	.03	.1	--	.09	.100	.001	20	5	5	3.1
31...	3.7	.36	.05	.2	8	.08	.170	<.001	20	10	16	3.2
MAY												
05...	3.8	.28	.03	.2	7	.04	.022	<.001	10	5	10	3.9
05...	3.7	.28	.04	.2	7	.05	.022	<.001	10	5	9	4.4
JUN												
02...	3.4	.28	.04	.04	6	<.01	.021	<.001	20	3	2	4.9
02...	3.4	.28	.04	.04	7	<.01	.015	<.001	20	13	15	4.8
30...	3.9	.29	.04	.05	7	<.01	.011	<.001	10	10	1	3.7
30...	3.7	.29	.05	.06	8	<.01	.014	<.001	20	30	23	4.0
AUG												
05...	3.6	.26	.04	.03	7	<.01	.014	<.001	20	9	4	4.3
05...	3.5	.26	.03	.03	7	<.01	.019	<.001	20	8	4	4.3
SEP												
03...	4.0	.28	.04	.06	7	.01	.015	<.001	0	23	1	4.2
03...	3.9	.28	.03	.07	7	.01	.017	.002	0	19	1	4.2
03...	4.0	.28	.02	.07	7	.01	.025	.001	0	19	1	4.0

** SAMPLES WITH SAME DATES AND SAMPLING DEPTHS ARE REPLICATES.

ACID DEPOSITION RECORDS

371

VANDERCOOK LAKE

QUALITY OF PRECIPITATION

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CUMU- LATIVE PRECIP- ITATION (IN) (00045)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	ACIDITY (MG/L AS H) (71825)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CAC03) (90410)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)
455911089405903 - VANDERCOOK LK BULK PRECIP COLL NR WOODRUFF, WI (LAT 45 59 11 LONG 089 40 59)										
1985										
OCT 01 - NOV 08	6.64	16	4.40	.2	.21	.03	.50	.06	<1.0	1.4
NOV 08 - DEC 04	2.89	12	4.60	.1	.09	.10	<.20	.03	<1.0	.6
DEC 04 - DEC 31	.71	18	4.40	--	.09	<.01	.34	.07	--	1.0
1986										
JAN 01 - JAN 31	1.06	22	4.40	--	.44	.06	.27	.11	--	1.4
JAN 31 - MAR 03	1.68	21	4.40	--	.36	.05	.25	.08	--	1.6
MAR 03 - MAR 31	2.00	20	4.50	--	.48	.05	.26	.07	--	2.2
MAR 31 - MAY 05	2.51	14	5.00	--	.50	.10	.22	.24	--	2.2
MAY 05 - JUN 30	4.65	16	6.00	--	.57	.10	.22	.34	--	2.5
AUG 05 - SEP 03	2.61	26	4.40	--	.40	.10	.24	.16	--	3.5
SEP 03 - SEP 30	6.31	13	4.60	--	.27	.05	.34	.06	--	1.5
SEP 30 - NOV 02	--	18	4.40	--	.24	.05	.25	.07	--	2.0

460307089391203 - TROUT LK BULK PRECIP COLL NR BOULDER JCT, WI (LAT 46 03 07 LONG 089 39 12)										
1985										
OCT 01 - NOV 08	5.99	16	4.50	.2	.24	.04	.40	.74	<1.0	1.6
NOV 08 - DEC 04	3.00	12	4.60	.2	.11	.02	.20	.03	<1.0	.6
DEC 04 - DEC 31	.68	17	4.50	--	.09	<.01	.42	.06	--	.9
1986										
JAN 01 - JAN 31	1.07	21	4.40	--	.36	.05	.21	.09	--	1.2
JAN 31 - MAR 03	.87	19	4.40	--	.23	.04	.19	.06	--	1.3
MAR 03 - MAR 31	3.41	22	4.50	--	.41	.05	.31	.08	--	2.0
MAR 31 - MAY 05	2.30	17	4.90	--	.60	.10	.26	.10	--	2.8
MAY 05 - JUN 30	3.99	16	4.80	--	.65	.09	.29	.19	--	2.4
JUN 30 - AUG 05	7.64	9	4.80	--	.36	.06	.24	.07	--	1.1
AUG 05 - SEP 03	2.50	31	4.30	--	.55	.08	.27	.18	--	4.3
SEP 03 - SEP 30	4.01	13	4.60	--	.31	.05	.29	.05	--	1.6
SEP 30 - NOV 02	--	20	4.40	--	.26	.05	.23	.06	--	2.1

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- NUM, DIS- SOLVED (UG/L AS AL) (01106)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
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455911089405903 - VANDERCOOK LK BULK PRECIP COLL NR WOODRUFF, WI (LAT 45 59 11 LONG 089 40 59)										
1985										
OCT 01 - NOV 08	<.20	.02	<.01	.17	.036	.010	30	6	16	2.2
NOV 08 - DEC 04	.15	.03	<.01	.22	.093	.003	10	14	2	4.1
DEC 04 - DEC 31	.18	.04	--	.41	.140	<.010	--	--	--	--
1986										
JAN 01 - JAN 31	.23	.05	--	.58	.310	.020	--	--	--	--
JAN 31 - MAR 03	.17	.04	--	.38	.230	<.010	--	--	--	--
MAR 03 - MAR 31	.18	.12	--	.42	.460	<.010	--	--	--	--
MAR 31 - MAY 05	.18	.02	--	.41	.440	<.010	--	--	--	--
MAY 05 - JUN 30	.19	.02	--	.40	1.00	.070	--	--	--	--
AUG 05 - SEP 03	.17	.03	--	.42	.620	<.010	--	--	--	--
SEP 03 - SEP 30	.11	.02	--	.18	.220	.020	--	--	--	--
SEP 30 - NOV 02	.11	.01	--	.30	.290	.020	--	--	--	--

460307089391203 - TROUT LK BULK PRECIP COLL NR BOULDER JCT, WI (LAT 46 03 07 LONG 089 39 12)										
1985										
OCT 01 - NOV 08	.02	<.01	<.01	.22	.217	.002	10	<3	3	1.5
NOV 08 - DEC 04	<.01	<.01	.01	.21	.099	.002	20	13	3	1.8
DEC 04 - DEC 31	.19	<.01	--	.38	.110	<.010	--	--	--	--
1986										
JAN 01 - JAN 31	.18	.04	--	.54	.290	.020	--	--	--	--
JAN 31 - MAR 03	.14	<.01	--	.34	.210	<.010	--	--	--	--
MAR 03 - MAR 31	.13	.06	--	.35	.380	<.010	--	--	--	--
MAR 31 - MAY 05	.16	.01	--	.48	.580	<.010	--	--	--	--
MAY 05 - JUN 30	.19	.02	--	.39	.550	<.010	--	--	--	--
JUN 30 - AUG 05	.14	.02	--	.27	.210	<.010	--	--	--	--
AUG 05 - SEP 03	.18	.03	--	.49	.720	<.010	--	--	--	--
SEP 03 - SEP 30	.12	.02	--	.21	.230	.020	--	--	--	--
SEP 30 - NOV 02	.12	.01	--	.34	.250	.020	--	--	--	--

ACID DEPOSITION RECORDS

VANDERCOOK LAKE

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	LOCAL IDENT- IFIER	GEO- LOGIC UNIT	DATE OF SAMPLE	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUC- TANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	ACIDITY (MG/L AS H) (71825)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
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VILAS

455901089412020	VI-41/06E/36-0875	110QRNR	10-16-85	11.00	16	5.90	11.0	.2	1.1
		110QRNR	12-05-85	11.00	16	5.80	3.0	.1	1.3
		110QRNR	01-14-86	11.00	15	5.90	2.5	.07	1.1
455904089404711	VI-41/06E/36-0957	110QRNR	03-03-86	11.00	16	5.80	3.0	.1	1.1
		110QRNR	10-16-85	21.00	56	6.40	8.5	.2	6.9
		110QRNR	12-05-85	21.00	53	6.40	7.0	.3	7.0
		110QRNR	01-14-86	21.00	53	6.50	7.0	.04	6.3
		110QRNR	03-03-86	21.00	52	6.40	5.5	.09	6.4
		110QRNR	03-31-86	21.00	55	6.50	6.0	.06	6.4
		110QRNR	05-05-86	21.00	55	6.50	7.0	<.01	6.6
		110QRNR	06-02-86	21.00	55	6.30	7.0	.06	6.8
		110QRNR	06-30-86	21.00	55	6.40	7.0	.07	6.7
		110QRNR	08-05-86	21.00	59	6.30	9.0	.03	6.7
		110QRNR	09-03-86	21.00	56	6.30	9.0	.07	6.3

STATION NUMBER	DATE OF SAMPLE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CAC03) (90410)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)
455901089412020	10-16-85	.35	.40	.34	3.0	.9	.34	<.01	.8	7	<.01
	12-05-85	.53	.60	.21	2.0	3.9	.19	<.01	.4	9	<.01
	01-14-86	.40	.50	.23	1.5	3.0	.36	.05	.4	8	<.01
	03-03-86	.40	.60	.21	2.2	2.3	.29	.03	.6	8	<.01
455904089404711	10-16-85	1.6	2.2	.45	18	7.8	.48	.12	17	47	<.01
	12-05-85	1.7	2.3	.31	20	7.2	.24	.09	17	48	.05
	01-14-86	1.4	2.1	.39	18	7.6	.30	.10	17	46	.04
	03-03-86	1.5	2.1	.36	19	7.4	.31	.07	17	47	.08
	03-31-86	1.5	2.1	.42	18	7.4	.32	.08	17	46	.04
	05-05-86	1.5	2.2	.35	19	7.5	.32	.09	17	47	.07
	06-02-86	1.6	2.2	.38	19	7.3	.32	.08	17	47	.05
	06-30-86	2.2	2.2	.35	19	7.3	.33	.07	16	47	.05
	08-05-86	1.6	2.2	.33	20	7.6	.32	.07	17	48	.07
	09-03-86	2.3	2.1	.40	20	7.6	.32	.07	16	48	.09

STATION NUMBER	DATE OF SAMPLE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
455901089412020	10-16-85	--	.213	.010	120	890	14	4.3
	12-05-85	--	.144	.004	80	780	13	7.0
	01-14-86	--	.100	.002	90	670	14	6.6
	03-03-86	--	.140	.002	80	730	15	3.9
455904089404711	10-16-85	--	.027	.011	20	4	5	3.0
	12-05-85	--	.011	.008	20	19	1	2.5
	01-14-86	--	.002	.006	20	16	2	1.7
	03-03-86	--	<.001	.005	10	5	<1	1.3
	03-31-86	--	<.001	<.001	10	<2	<1	1.6
	05-05-86	--	.009	.007	10	<2	<1	1.7
	06-02-86	--	.009	.006	20	<2	1	1.4
	06-30-86	--	.003	.002	20	4	<1	.90
	08-05-86	--	.006	.006	0	4	<1	1.2
	09-03-86	--	.007	.002	0	14	1	1.0

STAGE RECORDS

455946089415702 LITTLE ROCK LAKE NEAR WOODRUFF, WI

LOCATION.--Lat 45°59'46", long 89°41'57", in NW 1/4 NW 1/4 sec.36, T.41 N., R.6 E., Vilas County, Hydrologic Unit 07070001, 7 mi north of Woodruff, 800 ft west of U.S. Highway 57, and 200 ft southeast of boat landing.

DRAINAGE AREA.--0.22 mi². Area of lake, 0.07 mi².

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,600.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Lake does not have surface inlet or outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed gage height, 28.10 ft, Apr. 7-9, 1986; minimum observed gage height, 27.12 ft, July 31, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum observed gage height, 28.10 ft, Apr. 7-9; minimum observed gage height, 27.58 ft, Oct. 3.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.59	27.80	27.96	27.93	27.90	27.84	28.04	28.07	27.76	27.68	27.78	27.62
2	27.59	27.86	27.98	27.93	27.91	27.84	28.04	28.05	27.73	27.67	27.82	27.61
3	27.58	27.86	27.97	27.93	27.91	27.83	28.05	28.05	27.71	27.64	27.80	27.61
4	27.68	27.85	27.97	27.93	27.91	27.83	28.06	28.04	27.70	27.65	27.78	27.69
5	27.80	27.85	27.97	27.93	27.90	27.83	28.07	28.03	27.68	27.68	27.82	27.69
6	27.80	27.84	27.97	27.93	27.89	27.83	28.09	28.02	27.67	27.69	27.82	27.66
7	27.79	27.84	27.97	27.92	27.89	27.83	28.10	28.00	27.67	27.67	27.82	27.65
8	27.82	27.83	27.97	27.91	27.88	27.82	28.10	27.99	27.67	27.66	27.82	27.63
9	27.81	27.83	27.97	27.92	27.87	27.82	28.10	27.98	27.66	27.64	27.81	27.62
10	27.80	27.81	27.97	27.92	27.86	27.87	28.09	27.97	27.65	27.63	27.81	27.63
11	27.79	27.81	27.97	27.92	27.85	27.87	28.09	27.96	27.67	27.63	27.80	27.64
12	27.81	27.80	27.96	27.92	27.85	27.86	28.08	27.96	27.70	27.68	27.78	27.64
13	27.82	27.80	27.96	27.92	27.84	27.87	28.07	27.96	27.69	27.83	27.77	27.64
14	27.82	27.79	27.95	27.91	27.84	27.87	28.07	27.96	27.68	27.81	27.75	27.63
15	27.81	27.78	27.95	27.91	27.84	27.87	28.08	27.96	27.67	27.80	27.77	27.67
16	27.79	27.80	27.95	27.90	27.84	27.87	28.08	27.95	27.65	27.80	27.77	27.67
17	27.78	27.82	27.95	27.90	27.84	27.87	28.07	27.94	27.64	27.80	27.78	27.66
18	27.78	27.82	27.94	27.90	27.84	27.92	28.07	27.92	27.62	27.79	27.76	27.67
19	27.77	27.83	27.94	27.90	27.83	27.98	28.07	27.90	27.69	27.89	27.74	27.67
20	27.77	27.87	27.94	27.90	27.85	27.96	28.07	27.89	27.70	27.89	27.72	27.67
21	27.76	27.87	27.93	27.90	27.84	27.96	28.07	27.87	27.70	27.87	27.72	27.67
22	27.76	27.87	27.94	27.92	27.84	27.96	28.06	27.86	27.75	27.85	27.71	27.75
23	27.75	27.88	27.94	27.91	27.85	27.96	28.05	27.85	27.74	27.83	27.72	27.75
24	27.75	27.88	27.94	27.90	27.84	27.95	28.04	27.84	27.73	27.84	27.71	27.75
25	27.75	27.88	27.94	27.91	27.84	27.95	28.04	27.84	27.71	27.86	27.71	27.77
✓ 26	27.74	27.89	27.94	27.91	27.84	27.96	28.06	27.83	27.71	27.83	27.71	27.78
27	27.73	27.89	27.94	27.90	27.84	27.96	28.07	27.82	27.75	27.84	27.69	27.79
28	27.72	27.89	27.93	27.90	27.84	27.96	28.07	27.81	27.74	27.84	27.67	27.80
29	27.72	27.90	27.94	27.90	---	27.97	28.08	27.80	27.72	27.82	27.65	27.82
30	27.71	27.91	27.94	27.89	---	27.99	28.08	27.79	27.70	27.80	27.64	27.81
31	27.70	---	27.94	27.89	---	28.01	---	27.78	---	27.79	27.62	---
TOTAL	860.29	835.35	866.53	865.26	780.07	864.91	842.11	865.69	830.86	860.70	860.27	830.66
MEAN	27.75	27.85	27.95	27.91	27.86	27.90	28.07	27.93	27.70	27.76	27.75	27.69
MAX	27.82	27.91	27.98	27.93	27.91	28.01	28.10	28.07	27.76	27.89	27.82	27.82
MIN	27.58	27.78	27.93	27.89	27.83	27.82	28.04	27.78	27.62	27.63	27.62	27.61
CAL YR 1985	TOTAL	10070.81	MEAN	27.59	MAX	27.98	MIN	27.26				
WTR YR 1986	TOTAL	10162.70	MEAN	27.84	MAX	28.10	MIN	27.58				

ACID DEPOSITION RECORDS

GROUND-WATER LEVELS

455958089420501 WELL VI-41/06E/26-0895

LOCATION.--Lat 45°59'58", long 89°42'05", in NE 1/4 SE 1/4 SE 1/4 sec.2, T.41 N., R.6 E., Vilas County,
Hydrologic Unit 07070001, 0.5 mi northeast of Little Rock Lake, about 7 mi north of Woodruff.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Augured water-table observation well, diameter 3 in., depth 22 ft, cased to 20 ft,
screened 20-22 ft.

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,600.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.-- Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed water level, 27.08 ft, Apr. 26-28, 1986; minimum observed
water level, 25.11 ft, Mar. 21, 25, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum observed water level, 27.08 ft, Apr. 26-28; minimum observed water level,
25.93 ft, Oct. 1.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.93	26.52	26.63	26.51	26.32	26.14	26.19	27.07	26.76	26.44	26.33	26.12
2	25.96	26.53	26.62	26.51	26.30	26.14	26.28	27.04	26.74	26.44	26.32	26.11
3	25.98	26.54	26.61	26.50	26.30	26.12	26.37	27.04	26.72	26.42	26.32	26.09
4	26.01	26.55	26.61	26.50	26.30	26.11	26.43	27.06	26.71	26.41	26.32	26.08
5	26.06	26.56	26.62	26.50	26.29	26.11	26.49	27.07	26.70	26.40	26.31	26.08
6	26.15	26.58	26.63	26.48	26.28	26.10	26.56	27.05	26.69	26.38	26.31	26.07
7	26.21	26.59	26.64	26.46	26.28	26.09	26.62	27.01	26.68	26.37	26.31	26.07
8	26.27	26.59	26.64	26.46	26.27	26.09	26.68	26.99	26.66	26.36	26.31	26.07
9	26.30	26.59	26.63	26.49	26.27	26.08	26.75	26.99	26.64	26.35	26.31	26.06
10	26.33	26.59	26.63	26.46	26.26	26.08	26.81	26.99	26.64	26.35	26.30	26.05
11	26.36	26.59	26.63	26.46	26.25	26.06	26.87	26.99	26.62	26.34	26.30	26.04
12	26.40	26.60	26.64	26.47	26.24	26.06	26.90	26.98	26.62	26.33	26.30	26.03
13	26.42	26.60	26.64	26.43	26.23	26.06	26.94	26.98	26.60	26.34	26.29	26.02
14	26.44	26.60	26.64	26.42	26.23	26.06	26.98	26.98	26.59	26.35	26.29	26.01
15	26.46	26.60	26.63	26.42	26.23	26.05	26.97	26.97	26.58	26.37	26.28	26.01
16	26.46	26.62	26.62	26.41	26.22	26.04	26.98	26.96	26.56	26.38	26.26	26.01
17	26.48	26.61	26.62	26.42	26.22	26.04	27.02	26.94	26.55	26.39	26.25	26.01
18	26.49	26.62	26.60	26.41	26.20	26.05	27.04	26.93	26.54	26.38	26.24	26.00
19	26.49	26.63	26.60	26.40	26.20	26.05	27.06	26.91	26.52	26.38	26.24	25.99
20	26.49	26.62	26.60	26.39	26.18	26.03	27.06	26.90	26.51	26.39	26.23	25.99
21	26.50	26.58	26.59	26.38	26.17	26.03	27.06	26.90	26.51	26.39	26.23	25.99
22	26.51	26.59	26.62	26.36	26.17	26.06	27.06	26.89	26.50	26.40	26.22	26.01
23	26.52	26.61	26.61	26.35	26.17	26.04	27.06	26.88	26.50	26.40	26.22	26.03
24	26.53	26.61	26.58	26.37	26.16	26.03	27.07	26.87	26.49	26.39	26.21	26.04
25	26.52	26.60	26.57	26.37	26.15	26.06	27.07	26.85	26.49	26.39	26.21	26.04
26	26.52	26.62	26.59	26.34	26.17	26.05	27.08	26.84	26.49	26.38	26.20	26.04
27	26.52	26.61	26.58	26.34	26.14	26.04	27.08	26.84	26.47	26.38	26.18	26.05
28	26.51	26.62	26.57	26.35	26.14	26.06	27.08	26.82	26.47	26.38	26.16	26.05
29	26.51	26.61	26.56	26.34	---	26.07	27.07	26.81	26.46	26.37	26.16	26.07
30	26.51	26.61	26.55	26.33	---	26.08	27.07	26.80	26.45	26.36	26.15	26.07
31	26.51	---	26.54	26.32	---	26.13	---	26.79	---	26.35	26.14	---
TOTAL	817.35	797.79	824.84	818.95	734.34	808.21	805.70	835.14	797.46	817.76	813.90	781.30
MEAN	26.37	26.59	26.61	26.42	26.23	26.07	26.86	26.94	26.58	26.38	26.25	26.04
MAX	26.53	26.63	26.64	26.51	26.32	26.14	27.08	27.07	26.76	26.44	26.33	26.12
MIN	25.93	26.52	26.54	26.32	26.14	26.03	26.19	26.79	26.45	26.33	26.14	25.99

CAL YR 1985 TOTAL 9491.09 MEAN 26.00 MAX 26.64 MIN 25.11
WTR YR 1986 TOTAL 9652.74 MEAN 26.45 MAX 27.08 MIN 25.93

STAGE RECORDS

461342091561002 ROUND LAKE NEAR GORDON, WI

LOCATION.--Lat 46°13'42", long 91°56'10", in NE 1/4 NE 1/4 NW 1/4 sec.12, T.43 N., R.13 W., Douglas County, Hydrologic Unit 07030001, at north end of lake, 6.5 mi west of Gordon.

DRAINAGE AREA.--0.20 mi². Area of lake, 0.053 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,000.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Lake does not have surface inlet or outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed gage height, 47.67 ft, Sept. 27, 1986; minimum observed gage height, 43.63 ft, July 21-28, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum observed gage height, 47.67 ft, Sept. 27; minimum observed gage height, 46.18 ft, Mar. 30, 31.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.24	46.23	46.36	46.36	46.29	46.24	46.19	46.36	46.62	47.03	47.31	47.42
2	46.24	46.25	46.37	46.36	46.29	46.24	46.19	46.36	46.62	47.03	47.29	47.42
3	46.24	46.24	46.36	46.36	46.29	46.23	46.19	46.35	46.62	47.02	47.29	47.44
4	46.23	46.23	46.36	46.36	46.29	46.22	46.20	46.34	46.74	47.06	47.28	47.40
5	46.22	46.23	46.36	46.35	46.29	46.22	46.21	46.34	46.74	47.08	47.29	47.46
6	46.22	46.23	46.36	46.35	46.28	46.22	46.22	46.32	46.73	47.09	47.29	47.44
7	46.21	46.23	46.36	46.34	46.28	46.21	46.22	46.33	46.78	47.08	47.41	47.42
8	46.23	46.23	46.36	46.33	46.28	46.20	46.22	46.34	46.80	47.07	47.46	47.40
9	46.23	46.21	46.36	46.33	46.27	46.20	46.22	46.38	46.80	47.07	47.46	47.40
10	46.22	46.20	46.36	46.33	46.26	46.21	46.22	46.39	46.81	47.07	47.48	47.43
11	46.21	46.19	46.36	46.33	46.26	46.21	46.22	46.47	46.83	47.08	47.46	47.43
12	46.26	46.19	46.36	46.32	46.25	46.20	46.22	46.49	46.84	47.11	47.44	47.42
13	46.27	46.19	46.36	46.32	46.24	46.21	46.21	46.63	46.85	47.13	47.42	47.42
14	46.27	46.19	46.36	46.32	46.24	46.22	46.21	46.66	46.86	47.13	47.45	47.41
15	46.26	46.19	46.36	46.32	46.24	46.22	46.25	46.66	46.87	47.14	47.47	47.45
16	46.25	46.23	46.36	46.32	46.24	46.22	46.24	46.66	46.88	47.16	47.46	47.44
17	46.24	46.24	46.35	46.32	46.24	46.21	46.24	46.65	46.87	47.17	47.44	47.46
18	46.24	46.24	46.34	46.32	46.24	46.23	46.24	46.63	46.88	47.17	47.42	47.47
19	46.24	46.27	46.34	46.31	46.23	46.24	46.24	46.63	46.89	47.20	47.41	47.48
20	46.23	46.26	46.34	46.31	46.26	46.24	46.26	46.62	46.89	47.19	47.45	47.51
21	46.23	46.26	46.34	46.31	46.26	46.23	46.25	46.61	46.96	47.18	47.49	47.54
22	46.22	46.26	46.34	46.31	46.26	46.22	46.24	46.61	47.01	47.17	47.50	47.63
23	46.24	46.27	46.35	46.30	46.25	46.21	46.23	46.60	47.02	47.15	47.54	47.62
24	46.24	46.27	46.35	46.30	46.24	46.21	46.25	46.61	47.03	47.17	47.52	47.60
25	46.24	46.27	46.35	46.32	46.24	46.20	46.27	46.62	47.03	47.18	47.51	47.64
26	46.23	46.29	46.36	46.31	46.24	46.20	46.28	46.62	47.03	47.18	47.50	47.65
27	46.22	46.29	46.37	46.30	46.24	46.19	46.35	46.62	47.04	47.36	47.47	47.67
28	46.22	46.29	46.37	46.30	46.24	46.19	46.38	46.62	47.04	47.38	47.45	47.66
29	46.22	46.30	46.36	46.30	---	46.19	46.39	46.62	47.04	47.36	47.44	47.66
30	46.22	46.31	46.36	46.30	---	46.18	46.38	46.63	47.03	47.35	47.43	47.64
31	46.22	---	46.36	46.29	---	46.18	---	46.63	---	47.33	47.42	---
MEAN	46.23	46.24	46.36	46.32	46.26	46.21	46.25	46.53	46.87	47.16	47.43	47.50
MAX	46.27	46.31	46.37	46.36	46.29	46.24	46.39	46.66	47.04	47.38	47.54	47.67
MIN	46.21	46.19	46.34	46.29	46.23	46.18	46.19	46.32	46.62	47.02	47.28	47.40
CAL YR 1985	MEAN 46.10		MAX 46.37	MIN 45.87								
WTR YR 1986	MEAN 46.62		MAX 47.67	MIN 46.18								

ACID DEPOSITION RECORDS

PRECIPITATION QUANTITY

461342091561003 ROUND LAKE RAIN GAGE NEAR GORDON, WI

LOCATION.--Lat 46°13'42", long 91°56'10", in NE 1/4 NE 1/4 NW 1/4 sec.12, T.43 N., R.13 W., Douglas County,
Hydrologic Unit 07030001, at north end of lake, 6.5 mi west of Gordon.

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

GAGE.--Water-stage recorder.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.76 in., July 27, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 2.76 in., July 27.

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
SUMMATION VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.24					---	.00	.00	.00	.02	.05
2	.00	.00					---	.00	.00	.00	.01	.00
3	.01	.00					---	.00	1.09	.00	.00	.84
4	.01	.00					---	.00	.27	.63	.32	.04
5	.00	.00					---	.00	.00	.12	.00	.00
6	.00	.07					---	.00	.00	.00	.07	.00
7	.28	.00					---	.00	.56	.00	.28	.00
8	.08	.00					---	.79	.00	.00	.00	.00
9	.00	.00					---	.00	.00	.00	.76	.47
10	.01	.00					---	.28	.24	.00	.00	.14
11	.00	.00					---	.97	.29	.57	.00	.00
12	.71	---					---	.66	.00	.50	.00	.17
13	.00	---					---	1.40	.00	.01	.13	.00
14	.00	---					---	.00	.00	.00	.65	.40
15	.00	---					.01	.15	.00	.43	.00	.22
16	.00	---					.00	.00	.00	.00	.00	.00
17	.00	---					.00	.00	.00	.00	.00	.07
18	.00	---					.24	.00	.00	.00	.00	.00
19	.00	---					.03	.00	.01	.38	.00	.00
20	.00	---					.00	.00	.43	.00	1.05	.00
21	.00	---					.00	.00	1.08	.00	.00	.00
22	.00	---					.00	.00	.01	.00	.98	.00
23	.04	---					.00	.00	.28	.00	.00	.00
24	.00	---					.44	.00	.00	.45	.00	.00
25	.00	---					.07	.03	.00	.00	.00	.00
26	.00	---					.21	.00	.25	.00	.03	.00
27	.00	---					.77	.00	.00	2.76	.00	.00
28	.00	---					.37	.00	.00	.00	.00	.00
29	.11	---					.00	.00	.00	.00	.00	.00
30	.00	---					.02	.00	.00	.00	.01	.00
31	.00	---					---	.00	---	.00	.00	---
TOTAL	1.33	0.31					2.16	4.28	4.51	5.85	4.31	2.40

ACID DEPOSITION RECORDS
PRECIPITATION QUANTITY

377

461423091560303 ROUND LAKE RAIN GAGE AT WELL 51R NEAR GORDON, WI

LOCATION.--Lat 46°14'23", long 91°56'03", in NW 1/4 SW 1/4 NE 1/4 sec.1, T.43 N., R.13 W., Douglas County,
Hydrologic Unit 07030001, 0.80 mi north of lake, 6.5 mi west of Gordon.

PERIOD OF RECORD.--May 1985 to current year.

GAGE.--Water-stage recorder.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.61 in., Oct. 12, 1985.

EXTREMES FOR CURRENT PERIOD.--Maximum daily rainfall, 2.61 in., Oct. 12.

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
SUMMATION VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.63							---	.00	.00	.03	.03
2	.09							---	.00	.00	.03	.00
3	.18							---	1.23	.00	.00	.96
4	.18							---	.30	.66	.06	.03
5	.00							---	.00	.15	.00	.39
6	.00							---	.00	.00	.06	.06
7	1.17							---	.69	.00	.00	.00
8	.27							---	.00	.00	.00	.00
9	.00							.00	.00	.00	.00	.54
10	.00							.39	.33	.00	.00	.09
11	.00							.99	.36	.75	.00	.69
12	2.61							.75	.00	.57	.00	.72
13	.00							1.50	.00	.00	.18	.00
14	.09							.00	.00	.00	.66	.48
15	.00							.09	.03	.51	.00	.30
16	.00							.00	.00	.00	.00	.00
17	.00							.00	.00	.00	.00	.57
18	.00							.00	.00	.03	.00	.06
19	.00							.00	.03	.45	.00	.87
20	.00							.00	.36	.03	1.29	.00
21	.00							.00	1.17	.03	.03	1.38
22	.00							.15	.03	.00	1.05	.03
23	.90							.00	.21	.00	.00	.00
24	.00							.03	.00	.51	.00	.21
25	.00							.03	.00	.00	.00	.54
26	.00							.00	.30	.00	.06	.36
27	.00							.00	.00	2.28	.00	.03
28	.00							.00	.00	.00	.00	.09
29	.63							.00	.00	.00	.00	.00
30	.00							.00	.00	.00	.00	.00
31	---							.00	---	.03	.00	---
TOTAL	6.75							3.93	5.04	6.00	3.45	8.43

ACID DEPOSITION RECORDS
PRECIPITATION QUANTITY

461323091555003 ROUND LAKE RAIN GAGE AT WELL 55R NEAR GORDON, WI

LOCATION.--Lat 46°13'23", long 91°55'50", in SE 1/4 SW 1/4 NE 1/4 sec.12, T.43 N., R.13 W., Douglas County,
Hydrologic Unit 07030001, 0.25 mi southeast of lake, 6.5 mi west of Gordon.

PERIOD OF RECORD.--May 1985 to current year.

GAGE.--Water-stage recorder.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.76 in., July 27, 1986.

EXTREMES FOR CURRENT PERIOD.--Maximum daily rainfall, 2.76 in., July 27.

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
SUMMATION VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.45	.81						---	.00	.03	.06	.06
2	.18	.00						---	.00	.03	.03	.00
3	.09	.00						---	1.02	.00	.00	.87
4	.09	.00						---	.27	.51	.39	.09
5	.00	.00						---	.00	.18	.00	.00
6	.00	.45						---	.00	.00	.00	.00
7	1.53	.00						---	.54	.00	.72	.00
8	.00	.00						---	.00	.03	.00	.00
9	.09	.09						.00	.00	.00	.66	.42
10	.18	.09						.30	.36	.00	.03	.15
11	.09	.09						.93	.27	.57	.00	.03
12	2.43	---						.63	.03	.42	.00	.21
13	.00	---						1.50	.00	.00	.18	.00
14	.00	---						.03	.00	.03	.78	.42
15	.00	---						.15	.00	.48	.03	.33
16	.00	---						.00	.00	.00	.03	.00
17	.00	---						.00	.00	.00	.00	.45
18	.00	---						.00	.00	.00	.00	.03
19	.09	---						.00	.00	.42	.00	.93
20	.00	---						.00	.30	.03	1.14	.03
21	.00	---						.00	.99	.00	.00	1.38
22	.00	---						.00	.03	.00	.99	.00
23	.72	---						.00	.30	.00	.00	.00
24	.00	---						.00	.00	.66	.00	.15
25	.00	---						.06	.00	.00	.00	.42
26	.09	---						.00	.12	.03	.03	.33
27	.00	---						.00	.00	2.76	.00	.03
28	.00	---						.00	.00	.00	.00	.06
29	.45	---						.00	.00	.00	.00	.00
30	.09	---						.00	.00	.00	.09	.00
31	.00	---						.00	---	.00	.00	---
TOTAL	6.57	1.53						3.60	4.23	6.18	5.16	6.39

461423091560301 WELL DS-43/13W/01-0331

EXTREMES FOR CURRENT PERIOD.--Maximum observed water level, 57.89 ft, July 27; minimum observed water level, 55.51 ft, Apr. 17, 22.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56.06	56.13	56.31	56.31	56.07	55.86	55.61	55.59	56.52	57.67	57.88	57.67
2	56.05	56.13	56.30	56.30	56.06	55.87	55.59	55.56	56.56	57.69	57.87	57.66
3	56.06	56.11	56.27	56.29	56.05	55.84	55.58	55.56	56.62	57.70	57.85	57.67
4	56.08	56.09	56.30	56.28	56.06	55.83	55.58	55.63	56.68	57.73	57.85	57.69
5	56.06	56.11	56.31	56.29	56.05	55.84	55.59	55.69	56.72	57.75	57.85	57.66
6	56.04	56.16	56.31	56.27	56.02	55.82	55.59	55.71	56.78	57.74	57.85	57.63
7	56.03	56.17	56.33	56.20	56.03	55.79	55.58	55.68	56.85	57.73	57.86	57.62
8	56.06	56.16	56.34	56.20	56.02	55.81	55.57	55.67	56.89	57.75	57.87	57.62
9	56.00	56.14	56.32	56.28	56.00	55.84	55.56	55.68	56.92	57.77	57.86	57.63
10	55.98	56.13	56.32	56.26	55.99	55.84	55.55	55.69	56.97	57.79	57.85	57.67
11	55.99	56.12	56.31	56.28	55.98	55.79	55.56	55.71	57.04	57.81	57.81	57.68
12	56.03	56.16	56.34	56.29	55.98	55.77	55.56	55.74	57.07	57.83	57.79	57.65
13	56.03	56.18	56.34	56.23	55.98	55.78	55.55	55.77	57.10	57.83	57.80	57.60
14	56.03	56.19	56.35	56.23	55.99	55.78	55.56	55.79	57.13	57.81	57.82	57.58
15	56.04	56.17	56.36	56.21	55.98	55.76	55.55	55.81	57.19	57.82	57.82	57.59
16	56.01	56.22	56.34	56.23	55.97	55.75	55.52	55.82	57.24	57.84	57.82	57.57
17	56.02	56.24	56.34	56.24	55.98	55.74	55.51	55.83	57.25	57.85	57.77	57.61
18	56.02	56.24	56.31	56.22	55.97	55.75	55.53	55.85	57.30	57.86	57.73	57.63
19	55.99	56.26	56.31	56.19	55.95	55.75	55.56	55.86	57.35	57.86	57.72	57.62
20	55.98	56.24	56.31	56.18	55.93	55.69	55.56	55.89	57.38	57.85	57.73	57.62
21	56.00	56.20	56.33	56.19	55.90	55.68	55.53	55.92	57.42	57.85	57.70	57.61
22	56.03	56.22	56.38	56.15	55.92	55.72	55.51	55.97	57.46	57.86	57.71	57.64
23	56.07	56.25	56.39	56.11	55.91	55.70	55.53	56.02	57.48	57.86	57.73	57.66
24	56.08	56.25	56.34	56.14	55.89	55.66	55.55	56.07	57.50	57.88	57.71	57.67
25	56.04	56.25	56.31	56.18	55.90	55.71	55.54	56.12	57.53	57.88	57.72	57.68
26	56.06	56.29	56.37	56.13	55.93	55.69	55.55	56.17	57.57	57.87	57.71	57.67
27	56.04	56.27	56.35	56.10	55.89	55.64	55.56	56.23	57.59	57.89	57.68	57.66
28	56.03	56.28	56.33	56.14	55.85	55.66	55.60	56.29	57.61	57.88	57.66	57.64
29	56.05	56.27	56.34	56.13	---	55.66	55.59	56.34	57.63	57.87	57.66	57.65
30	56.05	56.27	56.35	56.08	---	55.64	55.59	56.41	57.65	57.88	57.67	57.65
31	56.09	---	56.34	56.06	---	55.63	---	56.47	---	57.88	57.67	---
MEAN	56.04	56.20	56.33	56.21	55.97	55.75	55.56	55.89	57.17	57.82	57.77	57.64
MAX	56.09	56.29	56.39	56.31	56.07	55.87	55.61	56.47	57.65	57.89	57.88	57.69
MIN	55.98	56.09	56.27	56.06	55.85	55.63	55.51	55.56	56.52	57.67	57.66	57.57
CAL YR 1985	MEAN	56.03	MAX	56.42	MIN	55.57						
WTR YR 1986	MEAN	56.53	MAX	57.89	MIN	55.51						

GROUND-WATER LEVELS

461342091561501 WELL DS-43/13W/12-0332

LOCATION.--Lat 46°13'42", long 91°56'15", in NW 1/4 NE 1/4 NW 1/4 sec.12, T.43 N., R.13 W., Douglas County, Hydrologic Unit 07030001, 100 ft northwest of Round Lake, about 6.5 mi west of Gordon.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Augured water-table observation well, diameter 3 in., depth 39 ft, cased to 36 ft, screened 36-39 ft.

PERIOD OF RECORD.--November 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,000.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.-- Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed water level, 47.72 ft Sept. 29, 30, 1986; minimum observed water level, 45.91 ft, June 24, 1985.

EXTREMES FOR CURRENT PERIOD.--Maximum observed water level, 47.72 ft, Sept. 29, 30; minimum observed water level, 46.18 ft, Mar. 30.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.24	46.31	46.42	46.43	46.34	46.27	46.19	46.36	46.88	47.28	47.42	47.46
2	46.25	46.30	46.40	46.43	46.33	46.26	46.21	46.34	46.89	47.27	47.41	47.46
3	46.25	46.29	46.42	46.41	46.33	46.24	46.22	46.36	46.92	47.27	47.40	47.46
4	46.26	46.29	46.44	46.42	46.34	46.25	46.23	46.40	46.94	47.28	47.39	47.46
5	46.24	46.31	46.44	46.44	46.32	46.25	46.25	46.41	46.98	47.28	47.40	47.51
6	46.24	46.31	46.44	46.39	46.32	46.23	46.25	46.38	47.00	47.27	47.40	47.54
7	46.24	46.31	46.46	46.37	46.32	46.21	46.26	46.34	47.03	47.27	47.42	47.53
8	46.25	46.30	46.44	46.42	46.34	46.26	46.24	46.35	47.04	47.26	47.45	47.54
9	46.22	46.30	46.43	46.44	46.31	46.25	46.24	46.39	47.06	47.26	47.45	47.53
10	46.23	46.28	46.43	46.40	46.30	46.24	46.25	46.41	47.08	47.27	47.46	47.56
11	46.24	46.29	46.44	46.44	46.30	46.21	46.27	46.45	47.10	47.27	47.46	47.56
12	46.27	46.31	46.45	46.40	46.30	46.21	46.25	46.49	47.11	47.28	47.46	47.53
13	46.27	46.30	46.43	46.39	46.31	46.24	46.25	46.53	47.12	47.29	47.46	47.51
14	46.28	46.30	46.46	46.37	46.30	46.24	46.26	46.58	47.13	47.28	47.46	47.50
15	46.28	46.29	46.43	46.39	46.29	46.22	46.25	46.61	47.16	47.29	47.46	47.53
16	46.27	46.33	46.43	46.40	46.30	46.21	46.24	46.63	47.14	47.31	47.46	47.53
17	46.28	46.33	46.43	46.39	46.30	46.21	46.26	46.64	47.15	47.31	47.46	47.57
18	46.26	46.34	46.41	46.37	46.29	46.25	46.28	46.66	47.17	47.31	47.46	47.57
19	46.26	46.35	46.42	46.36	46.27	46.22	46.30	46.67	47.17	47.32	47.46	47.57
20	46.26	46.33	46.42	46.37	46.26	46.19	46.29	46.68	47.17	47.32	47.46	47.59
21	46.27	46.32	46.46	46.37	46.27	46.23	46.27	46.70	47.19	47.32	47.46	47.61
22	46.29	46.35	46.47	46.33	46.29	46.25	46.27	46.72	47.21	47.31	47.46	47.64
23	46.30	46.35	46.45	46.34	46.27	46.19	46.29	46.73	47.23	47.31	47.46	47.67
24	46.29	46.33	46.41	46.38	46.27	46.21	46.28	46.75	47.24	47.32	47.46	47.68
25	46.28	46.35	46.43	46.37	46.28	46.24	46.30	46.77	47.26	47.32	47.46	47.69
26	46.29	46.38	46.49	46.33	46.30	46.19	46.30	46.79	47.26	47.31	47.46	47.69
27	46.26	46.36	46.43	46.36	46.24	46.19	46.33	46.81	47.26	47.35	47.46	47.71
28	46.27	46.38	46.45	46.38	46.26	46.22	46.36	46.83	47.27	47.38	47.46	47.71
29	46.27	46.37	46.44	46.34	---	46.22	46.35	46.85	47.27	47.40	47.46	47.72
30	46.29	46.39	46.47	46.33	---	46.18	46.38	46.87	47.27	47.41	47.46	47.72
31	46.31	---	46.43	46.33	---	46.22	---	46.88	---	47.42	47.46	---
MEAN	46.26	46.33	46.44	46.38	46.30	46.23	46.27	46.59	47.12	47.31	47.45	47.58
MAX	46.31	46.39	46.49	46.44	46.34	46.27	46.38	46.88	47.27	47.42	47.46	47.72
MIN	46.22	46.28	46.40	46.33	46.24	46.18	46.19	46.34	46.88	47.26	47.39	47.46
CAL YR 1985	MEAN 46.13		MAX 46.49		MIN 45.91							
WTR YR 1986	MEAN 46.69		MAX 47.72		MIN 46.18							

GROUND-WATER LEVELS

461342091554201 WELL DS-43/13W/12-0367

LOCATION.--Lat 46°13'42", long 91°55'42", in NW 1/4 NE 1/4 NE 1/4, sec.12, T.43 N., R.13 W., Douglas County, Hydrologic Unit 07030001, 0.25 mi northeast of Round Lake, about 6.5 mi west of Gordon.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Augered water-table observation well, diameter 3 in., depth 53 ft, cased to 50 ft, well screened 50-53 ft.

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

GAGE.--Water-stage recorder. Datum of gage is 1,000.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed water level, 47.33 ft, Sept. 29, 30, 1986; minimum observed water level, 43.08 ft, July 21, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum observed water level, 47.33 ft, Sept. 29, 30; minimum observed water level, 45.68 ft, Mar. 27.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45.74	45.80	45.87	45.87	45.83	45.76	45.72	45.86	46.27	46.66	46.93	47.12
2	45.75	45.79	45.87	45.87	45.82	45.76	45.71	45.85	46.28	46.66	46.94	47.11
3	45.76	45.78	45.87	45.87	45.82	45.73	45.72	45.85	46.29	46.66	46.93	47.13
4	45.77	45.78	45.88	45.87	45.83	45.73	45.73	45.88	46.32	46.68	46.93	47.15
5	45.75	45.79	45.89	45.89	45.82	45.74	45.76	45.89	46.35	46.69	46.94	47.13
6	45.75	45.80	45.89	45.86	45.81	45.72	45.76	45.88	46.37	46.69	46.94	47.12
7	45.76	45.80	45.90	45.84	45.82	45.70	45.77	45.84	46.40	46.69	46.96	47.12
8	45.76	45.78	45.90	45.86	45.81	45.74	45.77	45.84	46.41	46.70	47.01	47.12
9	45.73	45.77	45.90	45.89	45.81	45.74	45.76	45.87	46.42	46.70	47.02	47.12
10	45.74	45.76	45.90	45.85	45.80	45.73	45.76	45.89	46.44	46.71	47.04	47.14
11	45.75	45.76	45.90	45.87	45.80	45.70	45.77	45.92	46.46	46.72	47.04	47.14
12	45.78	45.77	45.91	45.85	45.80	45.70	45.77	45.95	46.46	46.74	47.04	47.12
13	45.79	45.78	45.90	45.84	45.81	45.71	45.76	45.99	46.47	46.75	47.05	47.10
14	45.79	45.77	45.91	45.84	45.81	45.72	45.77	46.04	46.48	46.75	47.06	47.10
15	45.79	45.76	45.90	45.84	45.80	45.71	45.77	46.07	46.50	46.76	47.07	47.13
16	45.77	45.80	45.90	45.86	45.80	45.70	45.76	46.09	46.50	46.78	47.08	47.13
17	45.79	45.81	45.89	45.86	45.80	45.70	45.76	46.11	46.51	46.79	47.07	47.15
18	45.77	45.81	45.88	45.84	45.79	45.73	45.77	46.12	46.53	46.79	47.06	47.16
19	45.75	45.82	45.88	45.84	45.77	45.71	45.80	46.13	46.54	46.80	47.06	47.16
20	45.75	45.81	45.88	45.84	45.75	45.69	45.80	46.14	46.54	46.80	47.07	47.18
21	45.77	45.80	45.89	45.84	45.76	45.70	45.79	46.15	46.57	46.80	47.08	47.20
22	45.78	45.82	45.92	45.81	45.78	45.73	45.78	46.16	46.58	46.81	47.11	47.24
23	45.80	45.83	45.90	45.81	45.77	45.69	45.79	46.17	46.59	46.81	47.13	47.26
24	45.79	45.83	45.88	45.85	45.77	45.69	45.78	46.17	46.60	46.82	47.13	47.26
25	45.78	45.83	45.89	45.86	45.77	45.73	45.80	46.18	46.62	46.82	47.15	47.29
26	45.79	45.85	45.92	45.83	45.79	45.69	45.81	46.20	46.63	46.82	47.14	47.30
27	45.74	45.84	45.90	45.83	45.75	45.68	45.82	46.21	46.64	46.87	47.13	47.31
28	45.76	45.85	45.89	45.86	45.72	45.71	45.85	46.22	46.64	46.91	47.13	47.32
29	45.77	45.85	45.89	45.83	---	45.71	45.86	46.23	46.65	46.92	47.13	47.33
30	45.77	45.85	45.91	45.82	---	45.70	45.87	46.26	46.65	46.93	47.12	47.33
31	45.79	---	45.88	45.82	---	45.72	---	46.27	---	46.93	47.12	---
MEAN	45.77	45.80	45.89	45.85	45.79	45.72	45.78	46.05	46.49	46.77	47.05	47.18
MAX	45.80	45.85	45.92	45.89	45.83	45.76	45.87	46.27	46.65	46.93	47.15	47.33
MIN	45.73	45.76	45.87	45.81	45.72	45.68	45.71	45.84	46.27	46.66	46.93	47.10
CAL YR 1985	MEAN	45.64	MAX	45.92	MIN	45.39						
WTR YR 1986	MEAN	46.18	MAX	47.33	MIN	45.68						

ACID DEPOSITION RECORDS

GROUND-WATER LEVELS

461323091555001 WELL DS-43/13W/12-0393

LOCATION.--Lat 46°13'23", long 91°55'50", in SE 1/4 SW 1/4 NE 1/4 sec.12, T.43 N., R.13 W., Douglas County,
Hydrologic Unit 07030001, 0.25 mi southeast of Round Lake, about 6.5 mi west of Gordon.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Augered water-table observation well, diameter 3 in., depth 48 ft, cased to 45 ft,
screened 45-48 ft.

PERIOD OF RECORD.--May 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,000.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.-- Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed water level, 48.70 ft, Sept. 30, 1986; minimum observed water
level, 46.74 ft, Apr. 1, 1986

EXTREMES FOR CURRENT PERIOD.--Maximum observed water level, 48.70 ft, Sept. 30; minimum observed water level,
46.74 ft, Apr. 1.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47.08	47.21	47.32	47.23	46.99	46.89	46.74	47.24	48.21	48.64	48.44	48.51
2	47.09	47.21	47.29	47.22	46.98	46.89	46.76	47.22	48.25	48.64	48.42	48.52
3	47.10	47.21	47.28	47.20	46.97	46.86	46.78	47.25	48.31	48.64	48.40	48.55
4	47.12	47.21	47.31	47.20	46.99	46.86	46.80	47.29	48.35	48.66	48.41	48.56
5	47.10	47.23	47.31	47.21	46.97	46.87	46.85	47.32	48.38	48.65	48.42	48.54
6	47.10	47.24	47.31	47.15	46.96	46.85	46.87	47.31	48.40	48.60	48.42	48.53
7	47.09	47.24	47.34	47.09	46.96	46.83	46.89	47.29	48.42	48.58	48.44	48.54
8	47.07	47.23	47.33	47.14	46.95	46.88	46.88	47.30	48.43	48.60	48.43	48.56
9	47.00	47.22	47.31	47.21	46.95	46.89	46.90	47.31	48.46	48.60	48.42	48.58
10	47.02	47.21	47.30	47.16	46.94	46.87	46.93	47.31	48.49	48.61	48.41	48.61
11	47.05	47.22	47.31	47.21	46.94	46.82	46.96	47.33	48.51	48.63	48.39	48.61
12	47.09	47.25	47.33	47.16	46.94	46.81	46.97	47.34	48.53	48.63	48.39	48.57
13	47.08	47.26	47.32	47.13	46.95	46.83	46.98	47.35	48.53	48.58	48.42	48.54
14	47.09	47.26	47.34	47.12	46.94	46.82	47.00	47.36	48.54	48.54	48.46	48.54
15	47.10	47.25	47.32	47.13	46.94	46.80	47.00	47.38	48.57	48.55	48.45	48.56
16	47.08	47.28	47.31	47.16	46.94	46.79	47.00	47.39	48.56	48.56	48.44	48.55
17	47.11	47.28	47.30	47.15	46.95	46.79	47.02	47.41	48.55	48.55	48.39	48.60
18	47.10	47.29	47.28	47.11	46.94	46.83	47.05	47.43	48.59	48.53	48.38	48.60
19	47.09	47.29	47.27	47.09	46.93	46.79	47.09	47.46	48.60	48.52	48.40	48.60
20	47.10	47.27	47.27	47.09	46.91	46.77	47.11	47.50	48.60	48.50	48.42	48.59
21	47.12	47.24	47.30	47.10	46.90	46.78	47.11	47.55	48.62	48.48	48.38	48.61
22	47.14	47.29	47.34	47.02	46.92	46.81	47.12	47.61	48.62	48.47	48.44	48.63
23	47.16	47.29	47.32	47.01	46.90	46.77	47.16	47.67	48.63	48.47	48.44	48.65
24	47.15	47.27	47.27	47.09	46.89	46.77	47.17	47.73	48.61	48.48	48.44	48.66
25	47.15	47.28	47.27	47.09	46.91	46.81	47.18	47.79	48.63	48.45	48.48	48.67
26	47.17	47.31	47.34	47.00	46.93	46.76	47.20	47.85	48.65	48.43	48.46	48.67
27	47.14	47.29	47.27	47.02	46.88	46.75	47.22	47.92	48.64	48.45	48.44	48.67
28	47.15	47.31	47.28	47.09	46.87	46.79	47.25	47.98	48.64	48.43	48.45	48.68
29	47.18	47.29	47.26	47.01	---	46.80	47.24	48.04	48.63	48.42	48.48	48.69
30	47.18	47.30	47.29	46.98	---	46.76	47.25	48.11	48.63	48.44	48.49	48.70
31	47.20	---	47.24	46.97	---	46.77	---	48.17	---	48.43	48.50	---
MEAN	47.11	47.26	47.30	47.11	46.94	46.82	47.02	47.52	48.52	48.54	48.43	48.60
MAX	47.20	47.31	47.34	47.23	46.99	46.89	47.25	48.17	48.65	48.66	48.50	48.70
MIN	47.00	47.21	47.24	46.97	46.87	46.75	46.74	47.22	48.21	48.42	48.38	48.51

WTR YR 1986 MEAN 47.60 MAX 48.70 MIN 46.74

STAGE RECORDS

462458091274402 EAST EIGHTMILE LAKE NEAR IRON RIVER, WI

LOCATION.--Lat 46°24'58", long 91°27'44", in NW 1/4 NE 1/4 NW 1/4 sec.2, T.45 N., R.9 W., Bayfield County, Hydrologic Unit 07030001, at south end of lake, 10.2 mi south of Iron River.

DRAINAGE AREA.--0.25 mi². Area of lake, 0.050 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,100.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Lake does not have surface inlet or outlet.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed gage height, 72.06 ft, Sept. 26-30, 1986; minimum observed gage height, 66.54 ft, July 2, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum observed gage height, 72.06 ft, Sept. 26-30; minimum observed gage height, 70.52 ft, Oct. 20-22, 28-31, Nov. 11-15.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70.54	70.53	70.69	70.73	70.73	70.78	70.93	71.13	71.26	71.47	71.69	71.76
2	70.55	70.54	70.70	70.73	70.73	70.78	70.93	71.12	71.24	71.47	71.69	71.76
3	70.55	70.54	70.70	70.73	70.73	70.78	70.93	71.11	71.23	71.45	71.68	71.79
4	70.55	70.54	70.70	70.73	70.73	70.78	70.93	71.10	71.26	71.45	71.67	71.86
5	70.56	70.54	70.70	70.73	70.73	70.78	70.95	71.10	71.26	71.47	71.67	71.86
6	70.55	70.53	70.70	70.73	70.73	70.78	70.96	71.10	71.26	71.48	71.67	71.85
7	70.54	70.53	70.70	70.73	70.73	70.78	70.97	71.09	71.30	71.49	71.70	71.83
8	70.55	70.53	70.70	70.72	70.73	70.78	70.98	71.06	71.33	71.48	71.72	71.82
9	70.56	70.53	70.70	70.72	70.73	70.78	70.98	71.06	71.32	71.48	71.73	71.81
10	70.55	70.53	70.70	70.72	70.73	70.79	70.99	71.08	71.32	71.48	71.77	71.83
11	70.53	70.52	70.70	70.72	70.73	70.79	70.99	71.12	71.35	71.49	71.77	71.84
12	70.55	70.52	70.70	70.72	70.73	70.79	70.99	71.15	71.37	71.54	71.75	71.85
13	70.56	70.52	70.70	70.72	70.73	70.79	70.99	71.29	71.37	71.60	71.75	71.85
14	70.56	70.52	70.70	70.72	70.73	70.80	70.98	71.32	71.37	71.60	71.76	71.85
15	70.56	70.52	70.70	70.72	70.73	70.80	71.01	71.33	71.37	71.62	71.78	71.85
16	70.55	70.54	70.70	70.72	70.73	70.80	71.01	71.34	71.37	71.64	71.78	71.84
17	70.55	70.56	70.70	70.72	70.73	70.80	71.01	71.34	71.37	71.64	71.78	71.86
18	70.55	70.57	70.70	70.72	70.73	70.82	71.00	71.33	71.37	71.65	71.77	71.87
19	70.53	70.60	70.70	70.72	70.73	70.84	71.01	71.31	71.37	71.68	71.76	71.89
20	70.52	70.60	70.70	70.72	70.77	70.85	71.02	71.30	71.37	71.69	71.76	71.93
21	70.52	70.60	70.70	70.72	70.77	70.84	71.02	71.28	71.39	71.68	71.76	71.94
22	70.52	70.60	70.70	70.72	70.77	70.84	71.01	71.28	71.44	71.67	71.77	72.03
23	70.53	70.60	70.70	70.72	70.77	70.83	71.00	71.27	71.45	71.67	71.79	72.03
24	70.53	70.60	70.71	70.72	70.77	70.82	71.01	71.27	71.46	71.66	71.79	72.03
25	70.53	70.61	70.71	70.73	70.77	70.81	71.03	71.27	71.45	71.66	71.79	72.05
26	70.53	70.62	70.72	70.73	70.77	70.81	71.04	71.27	71.46	71.66	71.79	72.06
27	70.53	70.62	70.73	70.73	70.78	70.81	71.10	71.27	71.48	71.71	71.78	72.06
28	70.52	70.62	70.73	70.73	70.78	70.82	71.12	71.27	71.49	71.72	71.76	72.06
29	70.52	70.63	70.73	70.73	---	70.82	71.13	71.27	71.48	71.72	71.75	72.06
30	70.52	70.64	70.73	70.73	---	70.83	71.13	71.27	71.48	71.71	71.75	72.06
31	70.52	---	70.73	70.73	---	70.86	---	71.28	---	71.71	71.76	---
MEAN	70.54	70.57	70.71	70.72	70.74	70.81	71.01	71.22	71.37	71.59	71.75	71.91
MAX	70.56	70.64	70.73	70.73	70.78	70.86	71.13	71.34	71.49	71.72	71.79	72.06
MIN	70.52	70.52	70.69	70.72	70.73	70.78	70.93	71.06	71.23	71.45	71.67	71.76
CAL YR 1985	MEAN 70.17		MAX 70.73	MIN 69.72								
WTR YR 1986	MEAN 71.08		MAX 72.06	MIN 70.52								

ACID DEPOSITION RECORDS
PRECIPITATION QUANTITY

462458091274403 EAST EIGHTMILE LAKE RAIN GAGE NEAR IRON RIVER, WI

LOCATION.--Lat 46°24'58", long 91°27'44", in NW 1/4 NE 1/4 NW 1/4 sec.2, T.45 N., R.9 W., Bayfield County,
Hydrologic Unit 07030001, at south end of lake, 10.2 mi south of Iron River.

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

GAGE.--Water-stage recorder.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 3.06 in., July 9, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.84 in., May 13.

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
SUMMATION VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24						---	.03	.00	.00	.11	.05
2	.01						---	.00	.00	.00	.08	.00
3	.00						---	.00	.42	.00	.00	1.23
4	.15						---	.00	.17	.27	.17	.34
5	.01						---	.00	.00	.34	.03	.21
6	.00						---	.00	.00	.01	.02	.00
7	.25						---	.00	.80	.00	1.16	.00
8	.20						---	.24	.00	.02	.01	.00
9	---						---	.16	.00	.03	.92	.47
10	.01						---	.15	.34	.00	.01	.32
11	.00						---	.66	.47	.82	.00	.17
12	.58						---	.38	.01	1.09	.00	.22
13	---						---	1.84	.00	.05	.19	.00
14	---						---	.02	.05	.01	.72	.15
15	---						---	.41	.05	.76	.00	.12
16	---						---	.02	.09	.00	.00	.01
17	---						.01	.00	.00	.01	.00	.67
18	---						.26	.00	.00	.05	.00	.05
19	---						.10	.00	.13	.76	.00	.86
20	---						.02	.00	.11	.00	.57	.07
21	---						.00	.00	.95	.02	.00	1.36
22	---						.01	.00	.05	.00	.74	.02
23	---						.00	.00	.39	.01	.18	.00
24	---						.51	.05	.00	.38	.00	.04
25	---						.11	.12	.15	.00	.00	.54
26	---						.10	.00	.47	.00	.10	.00
27	---						.84	.00	.02	1.23	.00	.04
28	---						.31	.00	.00	.00	.00	.12
29	---						.05	.00	.00	.00	.00	.02
30	---						.03	.00	.00	.00	.47	.00
31	---						---	.00	---	.00	.00	---
TOTAL	1.45						2.35	4.08	4.67	5.86	5.48	7.08

ACID DEPOSITION RECORDS

385

PRECIPITATION QUANTITY

462457091273103 EAST EIGHTMILE LAKE RAIN GAGE AT WELL 45R NEAR IRON RIVER, WI

LOCATION.--Lat 46°24'57", long 91°27'31", in NE 1/4 NE 1/4 NW 1/4 sec.2, T.45 N., R.9 W., Bayfield County,
Hydrologic Unit 07030001, 300 ft southeast of lake, 10.2 mi south of Iron River.

PERIOD OF RECORD.--May 1985 to current year.

GAGE.--Water-stage recorder.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.97 in., June 26, 1985.

EXTREMES FOR CURRENT PERIOD.--Maximum daily rainfall, 1.95 in., June 29.

 RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
 SUMMATION VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.72	1.44						---	.00	.00	.00	.06
2	.09	.00						---	.00	.00	.00	.00
3	.00	.00						---	.39	.00	.00	1.14
4	.63	.00						---	.15	.24	.00	.30
5	.00	.00						---	.00	.36	.00	.00
6	.09	.63						---	.00	.03	.00	.00
7	.36	.00						---	.81	.00	.00	.00
8	.09	.00						---	.00	.00	.00	.00
9	.00	.00						---	.00	.00	.00	.39
10	.00	.09						---	.33	.00	.00	.18
11	.00	.18						---	.03	.87	.00	.18
12	1.71	.00						---	.03	1.11	.00	.21
13	.09	.00						---	.00	.06	.09	.00
14	.00	.00						.00	.00	.00	.69	.12
15	.00	---						.39	.03	.78	.03	.12
16	.00	---						.24	.06	.00	.00	.00
17	.00	---						.03	.00	.00	.00	.69
18	.00	---						.00	.00	.03	.00	.03
19	.00	---						.00	.00	.78	.00	.96
20	.00	---						.00	.00	.00	.57	.03
21	.00	---						.00	.00	.00	.00	1.41
22	.00	---						.00	.00	.00	.69	.03
23	.54	---						.00	.00	.00	.03	.00
24	.00	---						.03	.00	.39	.00	.00
25	.00	---						.09	.00	.00	.00	.54
26	.00	---						.00	.00	.00	.06	.00
27	.00	---						.00	.00	.45	.00	.00
28	.00	---						.00	.00	.03	.00	.15
29	.36	---						.00	1.95	.00	.00	.00
30	.09	---						.00	.00	.00	.51	.00
31	.00	---						.00	---	.00	.00	---
TOTAL	4.77	2.34						0.78	3.78	5.13	2.67	6.54

ACID DEPOSITION RECORDS

PRECIPITATION QUANTITY

462428091265803 EAST EIGHTMILE LAKE RAIN GAGE AT WELL 15R NEAR IRON RIVER, WI

LOCATION.--Lat 46°24'28", long 91°26'58", in NE 1/4 NE 1/4 SE 1/4 sec.2, T.45 N., R.9 W., Bayfield County,
Hydrologic Unit 07030001, 0.75 mi southeast of lake, 10.2 mi south of Iron River.

PERIOD OF RECORD.--May 1985 to current year.

GAGE.--Water-stage recorder.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.82 in., June 26, 1985.

EXTREMES FOR CURRENT PERIOD.--Maximum daily rainfall, 1.71 in., Oct. 12.

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
SUMMATION VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.72	1.44						---	.03	.00	.09	.18
2	.00	.00						---	.03	.00	.09	.00
3	.09	.00						---	.48	.00	.00	1.11
4	.81	.00						---	.09	.30	.18	.24
5	.09	.00						---	.03	.39	.00	.00
6	.00	.72						---	.00	.00	.09	.00
7	.72	.00						---	.93	.00	.93	.03
8	.54	.00						---	.00	.03	.00	.03
9	.00	.09						---	.03	.00	.00	.51
10	.00	.09						---	.30	.00	.00	.15
11	.00	.09						---	.60	.99	.00	.15
12	1.71	.00						---	.00	.87	.00	.21
13	.00	.00						.18	.00	.03	.12	.00
14	.00	.00						.00	.03	.00	.60	.18
15	.09	---						.42	.03	.81	.03	.09
16	.00	---						.06	.09	.03	.03	.03
17	.00	---						.00	.00	.03	.03	.78
18	.00	---						.00	.00	.06	.03	.03
19	.18	---						.00	.09	.78	.03	1.02
20	.00	---						.00	.12	.00	.54	.03
21	.00	---						.03	.99	.03	.00	1.38
22	.00	---						.00	.06	.00	.75	.06
23	.63	---						.03	.30	.00	.00	.06
24	.09	---						.06	.00	.45	.00	.06
25	.00	---						.15	.18	.00	.03	.60
26	.00	---						.03	.42	.00	.09	.03
27	.00	---						.03	.06	1.17	.00	.00
28	.00	---						.03	.03	.00	.00	.12
29	.36	---						.03	.00	.00	.00	.03
30	.09	---						.03	.00	.00	.39	.00
31	.00	---						.03	---	.00	.00	---
TOTAL	6.12	2.43						1.11	4.92	5.97	4.05	7.11

462428091265801 WELL BA-45/09W/02-0186

EXTREMES FOR CURRENT YEAR.--Maximum observed water level, 74.06 ft, Sept. 29, 30; minimum observed water level, 72.39 ft, Oct. 9.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72.41	72.56	72.70	72.77	72.83	72.84	72.86	72.98	73.25	73.55	73.77	73.94
2	72.41	72.56	72.67	72.77	72.84	72.86	72.84	72.96	73.25	73.56	73.77	73.94
3	72.42	72.55	72.66	72.77	72.84	72.84	72.83	72.97	73.27	73.57	73.77	73.95
4	72.44	72.54	72.70	72.78	72.85	72.84	72.84	73.02	73.28	73.60	73.77	73.96
5	72.44	72.55	72.71	72.81	72.86	72.86	72.88	73.03	73.28	73.60	73.78	73.96
6	72.44	72.57	72.71	72.77	72.84	72.85	72.89	73.04	73.31	73.60	73.79	73.95
7	72.45	72.57	72.72	72.72	72.84	72.79	72.91	73.00	73.33	73.60	73.81	73.95
8	72.45	72.56	72.72	72.77	72.85	72.85	72.90	72.99	73.33	73.60	73.81	73.97
9	72.39	72.56	72.72	72.83	72.85	72.88	72.89	73.00	73.33	73.60	73.81	73.98
10	72.41	72.55	72.72	72.80	72.84	72.88	72.90	73.01	73.36	73.60	73.82	73.99
11	72.43	72.55	72.73	72.83	72.84	72.84	72.92	73.04	73.38	73.63	73.82	73.99
12	72.48	72.57	72.75	72.80	72.84	72.83	72.93	73.04	73.38	73.63	73.83	73.99
13	72.46	72.57	72.74	72.78	72.86	72.85	72.93	73.06	73.38	73.63	73.84	73.94
14	72.46	72.58	72.75	72.80	72.87	72.85	72.93	73.08	73.39	73.63	73.86	73.94
15	72.48	72.58	72.75	72.80	72.87	72.85	72.93	73.09	73.40	73.65	73.86	73.96
16	72.45	72.61	72.75	72.83	72.87	72.83	72.91	73.09	73.40	73.66	73.86	73.96
17	72.48	72.61	72.75	72.85	72.87	72.83	72.91	73.10	73.39	73.67	73.86	73.99
18	72.47	72.62	72.74	72.84	72.88	72.86	72.94	73.11	73.42	73.67	73.85	74.00
19	72.46	72.63	72.74	72.83	72.87	72.84	72.96	73.11	73.45	73.69	73.86	73.99
20	72.46	72.62	72.75	72.84	72.84	72.78	72.96	73.13	73.45	73.69	73.88	73.99
21	72.48	72.58	72.77	72.85	72.82	72.81	72.94	73.14	73.46	73.69	73.86	74.00
22	72.50	72.64	72.80	72.81	72.85	72.88	72.93	73.16	73.49	73.69	73.89	74.03
23	72.52	72.65	72.79	72.79	72.85	72.82	72.96	73.16	73.49	73.71	73.89	74.04
24	72.51	72.63	72.75	72.85	72.84	72.81	72.96	73.17	73.49	73.72	73.89	74.04
25	72.50	72.64	72.76	72.86	72.86	72.87	72.96	73.18	73.49	73.72	73.90	74.05
26	72.52	72.67	72.82	72.81	72.88	72.84	72.97	73.18	73.52	73.72	73.90	74.05
27	72.49	72.64	72.77	72.82	72.83	72.81	72.97	73.20	73.53	73.75	73.91	74.05
28	72.49	72.67	72.78	72.86	72.81	72.86	72.99	73.21	73.53	73.75	73.91	74.05
29	72.52	72.64	72.79	72.84	---	72.87	72.97	73.22	73.53	73.75	73.91	74.06
30	72.52	72.66	72.82	72.81	---	72.85	72.99	73.24	73.54	73.76	73.92	74.06
31	72.54	---	72.78	72.80	---	72.87	---	73.25	---	73.76	73.93	---
MEAN	72.47	72.60	72.75	72.81	72.85	72.84	72.92	73.10	73.40	73.66	73.85	73.99
MAX	72.54	72.67	72.82	72.86	72.88	72.88	72.99	73.25	73.54	73.76	73.93	74.06
MIN	72.39	72.54	72.66	72.72	72.81	72.78	72.83	72.96	73.25	73.55	73.77	73.94
CAL YR 1985	MEAN	72.12	MAX	72.82	MIN	71.72						
WTR YR 1986	MEAN	73.10	MAX	74.06	MIN	72.39						

ACID DEPOSITION RECORDS

GROUND-WATER LEVELS

462457091273101 WELL BA-45/09W/02-0200

LOCATION.--Lat 46°24'57", long 91°27'31", in NE 1/4 NE 1/4 NW 1/4, sec.2, T.45 N., R.9 W., Bayfield County, Hydrologic Unit 07030001, 300 ft southeast of East Eightmile Lake, about 10.2 mi south of Iron River.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Augured water-table observation well, diameter 3 in., depth 50 ft, cased to 47 ft, well screened 47-50 ft.

PERIOD OF RECORD.--December 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,100.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed water level, 72.33 ft Sept. 29, 30, 1986; minimum observed water level, 70.03 ft, Feb. 27, Mar. 2, 3, 1985.

EXTREMES FOR CURRENT PERIOD.--Maximum observed water level, 72.33 ft, Sept. 29, 30; minimum observed water level, 70.77 ft, Oct. 1.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70.77	70.89	71.00	71.09	71.09	71.10	71.16	71.39	71.64	71.85	71.99	72.08
2	70.78	70.89	71.01	71.08	71.10	71.12	71.17	71.38	71.64	71.84	71.99	72.07
3	70.79	70.89	71.01	71.08	71.10	71.11	71.18	71.39	71.66	71.85	71.99	72.08
4	70.80	70.89	71.02	71.08	71.10	71.10	71.19	71.41	71.67	71.86	71.99	72.11
5	70.80	70.89	71.03	71.09	71.10	71.09	71.20	71.42	71.67	71.86	71.99	72.12
6	70.81	70.90	71.03	71.09	71.08	71.09	71.22	71.42	71.68	71.84	71.99	72.12
7	70.81	70.91	71.04	71.06	71.09	71.07	71.24	71.39	71.69	71.85	72.00	72.12
8	70.82	70.91	71.05	71.06	71.09	71.08	71.25	71.39	71.69	71.85	72.01	72.13
9	70.81	70.90	71.04	71.11	71.09	71.11	71.25	71.39	71.69	71.83	72.02	72.13
10	70.82	70.90	71.04	71.09	71.09	71.11	71.27	71.40	71.71	71.84	72.02	72.14
11	70.83	70.89	71.04	71.09	71.09	71.10	71.27	71.42	71.72	71.84	72.03	72.14
12	70.84	70.90	71.05	71.10	71.09	71.08	71.28	71.43	71.73	71.85	72.03	72.13
13	70.85	70.91	71.05	71.07	71.09	71.09	71.28	71.45	71.74	71.86	72.04	72.11
14	70.85	70.91	71.05	71.08	71.11	71.11	71.30	71.48	71.74	71.87	72.04	72.12
15	70.86	70.90	71.06	71.08	71.11	71.10	71.29	71.50	71.75	71.89	72.04	72.13
16	70.85	70.92	71.06	71.08	71.11	71.09	71.28	71.52	71.75	71.91	72.05	72.13
17	70.86	70.92	71.06	71.09	71.11	71.09	71.30	71.54	71.74	71.92	72.04	72.15
18	70.86	70.92	71.06	71.09	71.12	71.10	71.31	71.55	71.76	71.93	72.04	72.15
19	70.86	70.93	71.06	71.08	71.10	71.11	71.33	71.56	71.77	71.94	72.04	72.16
20	70.86	70.93	71.06	71.08	71.09	71.07	71.33	71.57	71.77	71.94	72.05	72.17
21	70.86	70.91	71.07	71.09	71.08	71.08	71.32	71.59	71.77	71.95	72.04	72.19
22	70.87	70.93	71.09	71.08	71.09	71.12	71.32	71.60	71.79	71.95	72.06	72.23
23	70.87	70.95	71.08	71.06	71.10	71.11	71.34	71.60	71.80	71.95	72.06	72.26
24	70.88	70.96	71.07	71.09	71.10	71.08	71.34	71.61	71.80	71.96	72.06	72.27
25	70.87	70.96	71.07	71.12	71.10	71.11	71.34	71.61	71.82	71.96	72.07	72.30
26	70.88	70.99	71.10	71.10	71.12	71.12	71.34	71.62	71.83	71.96	72.07	72.30
27	70.88	70.98	71.09	71.09	71.11	71.10	71.35	71.63	71.83	71.97	72.06	72.31
28	70.87	70.99	71.09	71.12	71.09	71.12	71.38	71.64	71.84	71.98	72.06	72.32
29	70.87	70.99	71.09	71.12	---	71.13	71.38	71.64	71.85	71.99	72.06	72.33
30	70.87	70.99	71.10	71.09	---	71.12	71.39	71.65	71.85	71.99	72.07	72.33
31	70.88	---	71.10	71.09	---	71.14	---	71.66	---	71.99	72.07	---
MEAN	70.84	70.93	71.06	71.09	71.10	71.10	71.29	71.51	71.75	71.91	72.03	72.18
MAX	70.88	70.99	71.10	71.12	71.12	71.14	71.39	71.66	71.85	71.99	72.07	72.33
MIN	70.77	70.89	71.00	71.06	71.08	71.07	71.16	71.38	71.64	71.83	71.99	72.07

WTR YR 1986 MEAN 71.40 MAX 72.33 MIN 70.77

GROUND-WATER LEVELS

462512091274501 WELL BA-45/09W/35-0255

LOCATION.--Lat 46°25'12", long 91°27'45", in SW 1/4 SW 1/4 NE 1/4, sec.35, T.45 N., R.9 W., Bayfield County, Hydrologic Unit 07030001, 40 ft northwest of East Eightmile Lake, about 10.2 mi south of Iron River.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Augered water-table observation well, diameter 3 in., depth 10 ft, cased to 8 ft, well screened 8-10 ft.

PERIOD OF RECORD.--October 1985 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 1,100.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR CURRENT PERIOD.--Maximum observed water level, 71.88 ft, Sept. 24-30; minimum observed water level, 70.38 ft, Oct. 24-31.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	70.39	70.52	70.57	70.54	70.56	70.85	70.94	71.11	71.33	71.55	71.61
2	---	70.40	70.53	70.57	70.54	70.56	70.80	70.94	71.11	71.32	71.54	71.61
3	---	70.40	70.53	70.57	70.54	70.56	70.77	70.93	71.11	71.32	71.54	71.63
4	---	70.40	70.54	70.57	70.54	70.56	70.77	70.93	71.12	71.32	71.53	71.69
5	---	70.40	70.55	70.57	70.54	70.56	70.78	70.93	71.12	71.33	71.53	71.69
6	---	70.40	70.55	70.56	70.54	70.56	70.79	70.93	71.12	71.33	71.53	71.68
7	---	70.40	70.55	70.55	70.54	70.56	70.79	70.91	71.15	71.33	71.54	71.67
8	---	70.40	70.55	70.55	70.54	70.56	70.79	70.90	71.17	71.33	71.57	71.66
9	---	70.40	70.55	70.56	70.54	70.56	70.79	70.91	71.17	71.33	71.57	71.65
10	---	70.40	70.55	70.56	70.54	70.57	70.79	70.92	71.18	71.33	71.61	71.67
11	---	70.40	70.55	70.56	70.54	70.57	70.79	70.97	71.20	71.34	71.61	71.68
12	---	70.40	70.55	70.55	70.54	70.57	70.79	70.99	71.22	71.40	71.60	71.68
13	---	70.40	70.56	70.54	70.54	70.57	70.79	71.11	71.22	71.46	71.59	71.68
14	---	70.40	70.56	70.54	70.54	70.58	70.79	71.14	71.22	71.46	71.61	71.68
15	---	70.40	70.56	70.54	70.54	70.58	70.82	71.14	71.22	71.46	71.62	71.68
16	---	70.41	70.56	70.54	70.54	70.58	70.82	71.16	71.23	71.48	71.62	71.68
17	---	70.42	70.56	70.54	70.54	70.58	70.82	71.16	71.22	71.48	71.62	71.70
18	---	70.42	70.56	70.54	70.54	70.59	70.82	71.16	71.22	71.48	71.61	71.71
19	---	70.46	70.56	70.54	70.54	70.61	70.83	71.15	71.22	71.52	71.61	71.71
20	---	70.46	70.56	70.54	70.54	70.61	70.83	71.14	71.22	71.53	71.61	71.76
21	---	70.44	70.56	70.54	70.54	70.61	70.84	71.14	71.25	71.53	71.62	71.77
22	---	70.45	70.57	70.53	70.55	70.62	70.84	71.13	71.29	71.52	71.63	71.87
23	---	70.45	70.56	70.53	70.55	70.61	70.84	71.13	71.29	71.51	71.64	71.87
24	70.38	70.46	70.56	70.54	70.55	70.61	70.84	71.12	71.30	71.51	71.64	71.86
25	70.38	70.46	70.56	70.54	70.55	70.61	70.85	71.12	71.30	71.51	71.64	71.88
26	70.38	70.48	70.58	70.54	70.57	70.62	70.86	71.12	71.31	71.50	71.63	71.88
27	70.38	70.48	70.57	70.54	70.56	70.61	70.90	71.12	71.33	71.55	71.62	71.88
28	70.38	70.48	70.57	70.54	70.56	70.62	70.93	71.12	71.33	71.56	71.61	71.88
29	70.38	70.48	70.57	70.54	---	70.66	70.93	71.12	71.33	71.56	71.60	71.88
30	70.38	70.48	70.58	70.54	---	70.69	70.94	71.12	71.33	71.56	71.60	71.88
31	70.38	---	70.57	70.54	---	70.78	---	71.12	---	71.56	71.61	---
MEAN	---	70.43	70.56	70.55	70.54	70.60	70.83	71.06	71.22	71.44	71.60	71.74
MAX	---	70.48	70.58	70.57	70.57	70.78	70.94	71.16	71.33	71.56	71.64	71.88
MIN	---	70.39	70.52	70.53	70.54	70.56	70.77	70.90	71.11	71.32	71.53	71.61

ACID DEPOSITION RECORDS

GROUND-WATER LEVELS

462457091273501 WELL BA-45/09W/02-0256

LOCATION.--Lat 46°24'57", long 91°27'35", in NW 1/4 NE 1/4 NW 1/4, sec.2, T.45 N., R.9 W., Bayfield County,
Hydrologic Unit 07030001, 30 ft southeast of East Eightmile Lake, about 10.2 mi south of Iron River.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Augured water-table observation well, diameter 3 in., depth 10 ft, cased to 8 ft,
well screened 8-10 ft.

PERIOD OF RECORD.--October 1985 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 1,100.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR CURRENT PERIOD.--Maximum observed water level, 71.99 ft, Sept. 22-30; minimum observed water
level, 70.65 ft, Nov. 19, 21.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	70.74	70.81	70.84	70.87	71.05	71.15	71.30	71.51	71.72	71.81
2	---	---	70.75	70.81	70.85	70.86	71.02	71.14	71.29	71.50	71.71	71.81
3	---	---	70.72	70.81	70.85	70.86	71.01	71.13	71.29	71.50	71.70	71.83
4	---	---	70.76	70.82	70.85	70.86	71.01	71.14	71.32	71.51	71.70	71.89
5	---	---	70.77	70.83	70.85	70.86	71.02	71.14	71.32	71.51	71.70	71.89
6	---	---	70.77	70.83	70.85	70.86	71.03	71.13	71.32	71.52	71.70	71.87
7	---	---	70.77	70.83	70.85	70.86	71.04	71.11	71.35	71.52	71.73	71.86
8	---	---	70.77	70.83	70.85	70.86	71.04	71.11	71.36	71.52	71.76	71.86
9	---	---	70.77	70.83	70.85	70.85	71.04	71.12	71.36	71.51	71.76	71.85
10	---	---	70.77	70.82	70.84	70.85	71.04	71.12	71.37	71.50	71.80	71.88
11	---	---	70.77	70.82	70.85	70.85	71.04	71.16	71.39	71.52	71.79	71.89
12	---	---	70.77	70.81	70.86	70.85	71.04	71.18	71.41	71.57	71.77	71.89
13	---	---	70.78	70.81	70.86	70.85	71.03	71.29	71.41	71.61	71.77	71.88
14	---	---	70.79	70.81	70.86	70.85	71.04	71.34	71.41	71.61	71.79	71.88
15	---	---	70.79	70.81	70.86	70.85	71.06	71.34	71.41	71.63	71.81	71.88
16	---	---	70.79	70.82	70.86	70.84	71.05	71.35	71.41	71.66	71.81	71.88
17	---	---	70.79	70.82	70.86	70.85	71.05	71.35	71.40	71.66	71.80	71.90
18	---	---	70.78	70.82	70.86	70.88	71.06	71.35	71.40	71.66	71.79	71.91
19	---	70.65	70.78	70.81	70.86	70.88	71.07	71.34	71.42	71.69	71.78	71.92
20	---	70.66	70.78	70.81	70.87	70.88	71.07	71.33	71.42	71.70	71.79	71.96
21	---	70.65	70.79	70.82	70.87	70.88	71.07	71.32	71.44	71.69	71.80	71.97
22	---	70.66	70.80	70.82	70.87	70.90	71.07	71.32	71.48	71.68	71.81	71.99
23	---	70.67	70.80	70.82	70.87	70.88	71.07	71.31	71.48	71.68	71.83	71.99
24	70.71	70.68	70.80	70.83	70.87	70.87	71.06	71.31	71.49	71.68	71.82	71.99
25	70.71	70.68	70.80	70.84	70.87	70.89	71.08	71.31	71.49	71.68	71.82	71.99
26	70.71	70.70	70.83	70.83	70.88	70.88	71.09	71.31	71.50	71.68	71.82	71.99
27	---	70.69	70.82	70.83	70.87	70.88	71.13	71.31	71.51	71.73	71.81	71.99
28	---	70.70	70.82	70.85	70.84	70.89	71.16	71.31	71.51	71.74	71.80	71.99
29	---	70.70	70.82	70.84	---	70.91	71.16	71.31	71.51	71.73	71.79	71.99
30	---	70.71	70.83	70.84	---	70.92	71.16	71.31	71.51	71.73	71.80	71.99
31	---	---	70.81	70.84	---	70.96	---	71.31	---	71.72	71.81	---
MEAN	---	---	70.78	70.82	70.86	70.87	71.06	71.25	71.41	71.62	71.78	71.91
MAX	---	---	70.83	70.85	70.88	70.96	71.16	71.35	71.51	71.74	71.83	71.99
MIN	---	---	70.72	70.81	70.84	70.84	71.01	71.11	71.29	71.50	71.70	71.81

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
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
04074548	Swamp Creek below Rice Lake at Mole Lake, WI	56.8	1977-79, 1982-85
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
04078500	Embarrass River near Embarrass, WI	384	1919-85
04079602	Little Wolf River near Galloway, WI	22.5	1973-79
04079700	Spaulding Creek near Big Falls, WI	4.9	1964-66
04080000	Little Wolf River at Royalton, WI	507	1914-70, 1982-85
04080950	Emmons Creek near Rural, WI	27	1968-74
04080976	Storm Sewer to Mirror Lake at Waupaca, WI	0.04	1971-74
04081000	Waupaca River near Waupaca, WI	265	1916-66, 1982-85
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
04086488	Mud Lake Outlet near Decker Corner, WI	7.36	1982-84
04087010	Milwaukee River above North Avenue Dam at Milwaukee, WI	702	1982-84
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
04087138	Menomonee River at Milwaukee, WI	134	1981-84
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
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
05356121	Couderay River near Couderay, WI	169	1981-83
05357500	Flambeau River at Flambeau Flowage (Flambeau Reservoir), WI	666	1927-61
05358000	Flambeau River near Butternut, WI	737	1914-38

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
05365500	Chippewa River at Chippewa Falls, WI	5,650	1888-1983
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
05369900	Eau Galle River near Woodville, WI	39.4	1978-83
05369945	Eau Galle River at Low-Water Bridge at Spring Valley, WI	47.9	1981-83
05369955	French Creek near Spring Valley, WI	6.03	1980-83
05369970	Lousy Creek near Spring Valley, WI	5.97	1980-83
05369985	Lohn Creek near Spring Valley, WI	2.53	1980-83
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

Station number	Station name	Drainage area (sq mi)	Period of record
05406590	Knight Hollow Creek near Arena, WI	7.57	1976-77
05406640	Otter Creek near Highland, WI	16.6	1968-69, 1970-75
05407500	Kickapoo River at Ontario, WI	151	1938-39, 1973-77
05408500	Knapp Creek near Bloomingdale, WI	8.47	1954-69
05409000	West Fork Kickapoo River near Readstown, WI	106	1938-39
05409500	Kickapoo River at Soldiers Grove, WI	530	1938-39
05409830	North Fork Nederlo Creek near Gays Mills, WI	2.21	1967-79
05409890	Nederlo Creek near Gays Mills, WI	9.46	1967-80
05410000	Kickapoo River at Gays Mills, WI	617	1913-34, 1964-77
05413400	Pigeon Creek near Lancaster, WI	6.81	1964-66
05414894	Pats 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
05424082	Rock River at Hustisford, WI	511	1978-85
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
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
05427970	Willow Creek at Madison, WI	3.15	1973-83
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
05433500	Yellowstone River near Blanchardville, WI	28.5	1954-65, 1977-79
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

WISCONSIN DISTRICT PUBLICATIONS

The reports listed below are a partial list of reports prepared by the Wisconsin District in cooperation with other agencies since 1948. The list contains reports that are relevant and contribute significantly to understanding the hydrology of Wisconsin's water resources.

The reports published in a U.S. Geological Survey series are for sale by the U.S. Geological Survey, Box 25425, Federal Center, Denver, CO 80225. Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices can be obtained by writing to the above address or by calling (303)236-7476. Copies of reports published by the University of Wisconsin, Geological and Natural History Survey, can be obtained from their office at 3817 Mineral Point Road, Madison, WI 53705.

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- Batten, W.G., and Hindall, S.M., 1980, Sediment deposition in the White River Reservoir, northwestern Wisconsin: U.S. Geological Survey Water-Supply Paper 2069, 30 p.
- Sherrill, M.G., 1978, Geology and ground water in Door County, Wisconsin, with emphasis on contamination potential in the Silurian dolomite: U.S. Geological Survey Water-Supply Paper 2047, 38 p.
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- Bell, E.A., and Sherrill, M.G., 1974, Water availability in central Wisconsin area of near-surface crystalline rock: U.S. Geological Survey Water-Supply Paper 2022, 32 p.
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- Olcott, P.G., 1966, Geology and water resources of Winnebago County, Wisconsin: U.S. Geological Survey Water-Supply Paper 1814, 61 p.
- Weeks, E.P., Erickson, D.W., and Holt, C.L.R., Jr., 1965, Hydrology of the Little Plover River basin, Portage County, Wisconsin, and the effects of water-resources development: U.S. Geological Survey Water-Supply Paper 1811, 78 p.
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- Summers, W.K., 1965, Geology and ground-water resources of Waushara County, Wisconsin: U.S. Geological Survey Water-Supply Paper 1809-B, 32 p.
- Holt, C.L.R., Jr., and Knowles, D.B., 1963, The water situation in Wisconsin in the role of ground water in the national water situation: U.S. Geological Survey Water-Supply Paper 1800, p. 943-960.
- Cline, D.R., 1965, Geology and ground-water resources of Dane County, Wisconsin: U.S. Geological Survey Water-Supply Paper 1779-U, 64 p.
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- Berkstresser, C.F., Jr., 1964, Ground-water resources of Waupaca County, Wisconsin: U.S. Geological Survey Water-Supply Paper 1669-U, 38 p.
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- Cline, D.R., 1963, Hydrology of upper Black Earth Creek basin, Wisconsin, with a section on surface water by M.W. Busby: U.S. Geological Survey Water-Supply Paper 1669-C, 27 p.
- Collier, C.R., 1963, Sediment characteristics of small streams in southern Wisconsin, 1954-59: U.S. Geological Survey Water-Supply Paper 1669-B, 34 p.
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INDEX

- Access to WATSTORE data..... 24
- Accuracy of the records..... 17
- Acid deposition records..... 355
- Adams County, ground-water levels in..... 319
- quality of ground water in..... 345
- Afton, Rock River at..... 251, 315
- Allen Creek (Fox-Wolf River basin), near Fort Atkinson..... 300
- Allen Creek tributary (Menominee-Oconto-Pestigo River basin), near Alvin..... 294
- Alma Lake near St. Germain..... 160
- Amnicon Lake near South Range..... 39
- Anvil Lake near Eagle River..... 159
- Apple Creek near Kaukauna..... 295
- Arkansaw Creek tributary near Arkansaw..... 297
- Armstrong Creek near Armstrong Creek..... 295
- Ashland, White River near..... 42, 04
- Ashland County, ground-water levels in..... 319
- Babcock, Yellow River at..... 175, 311
- Bad River near Mellen..... 294
- at Odanah..... 43
- near Odanah..... 41, 304
- Bad Axe River, North Fork near Genoa..... 298
- Bad Axe River basin, crest-stage partial-record stations in..... 298
- Badfish Creek near Cooksville..... 249, 315
- at County Highway A near Stoughton..... 248
- Baraboo, Baraboo River near..... 181, 311
- Devils Lake near..... 180
- Baraboo River near Baraboo..... 181, 326
- Bark River near Rome..... 239, 314
- Barron County, ground-water levels in..... 319
- Bashaw Brook near Shell Lake..... 296
- Bear Branch near Platteville..... 300
- Bear Lake near Hazelhurst..... 165
- Bear River near Powell..... 296
- Bearskin Creek near Harshaw..... 298
- Beaverdam River at Beaver Dam..... 235, 314
- Berlin, Fox River at..... 73, 304
- Big Cedar Lake near West Bend..... 95
- Big Eau Pleine River near Stratford..... 172, 310
- Big Sandy Creek near Wausau..... 299
- Big Sissabagama Lake near Stone Lake..... 122
- Big Sissabagama Tributary near Stone Lake..... 308
- Bird Creek at Wautoma..... 295
- Black Earth Creek at Black Earth..... 205
- at Cross Plain..... 183
- near Cross Plains..... 311
- Low flow site No, 1..... 312
- Low flow site No, 3..... 312
- Low flow site No, 4..... 312
- Low flow site No, 6..... 312
- Low flow site No, 7..... 312
- Low flow site No, 8..... 312
- Low flow site No, 9..... 313
- Low flow site No, 10..... 313
- Tributary..... 313
- Tributary, Low flow site No, 11..... 313
- Tributary near Cross Plains..... 312
- Black River basin, crest-stage partial-record stations in..... 298
- gaging-station records in..... 148
- water-quality partial-record stations in..... 309
- Black River near Galesville..... 150
- at Medford..... 148, 309
- at Neillsville..... 149, 310
- tributary near Whittlesey..... 298
- Blanchardville, East Branch Pecatonica River near..... 277, 315
- Bois Brule River near Brule..... 40, 304
- Bone Lake near Luck..... 118
- Boulder Junction, Trout Lake bulk precipitation collector..... 371
- Brewery Creek at Cross Plains..... 191
- at Enchanted Valley Road near Cross Plains..... 312
- Brodhead, Sugar River near..... 279
- Brown County, ground-water levels in..... 320
- Bruce, Chippewa River near..... 124, 308
- Flambeau River near..... 125, 308
- Brule, Bois Brule River near..... 40, 304
- Brule River near Florence..... 47
- Buffalo River near Mondovi..... 297
- tributary near Osseo..... 297
- Buffalo River basin, crest-stage partial-record stations in..... 297
- gaging station records in..... 140
- Bugle Lake at Independence..... 146
- Buncombe, Galena River at..... 225, 314
- Burnett County, ground-water levels in..... 321
- Burton, Grant River at..... 221
- Cawley Creek near Neillsville..... 298
- Cedar Creek near Cedarburg..... 96, 306
- Cedarburg, Cedar Creek near..... 96, 306
- Milwaukee River near..... 97, 306
- Chippewa County, ground-water levels in..... 321
- Chippewa River at Bishop's Bridge, near Winter..... 121, 308
- near Bruce..... 124, 308
- at Durand..... 130
- Chippewa River basin, crest-stage partial-record stations in..... 296
- gaging-station records in..... 121
- location map of..... 120
- water-quality partial-record stations in..... 308
- Cisco Branch, Ontonagon River at Cisco Lake outlet, MI..... 45
- Clam Lake near Siren..... 114
- Clark County, ground-water levels in..... 321
- Clinton, Turtle Creek at Carvers Rock Road near..... 275, 315
- Cooksville, Badfish Creek near..... 249, 315
- Cooperation..... 2
- Crawfish River at Milford..... 237
- Crooked Creek near Boscobel..... 300
- Cross Plains, Black Earth Creek at..... 183
- Black Earth Creek near..... 311
- Black Earth Creek Tributary near..... 313
- Brewery Creek at..... 191
- Brewery Creek at Enchanted Valley Road near..... 312
- Garfoot Creek near..... 198
- Crystal Lake at Strum..... 140
- Dakota, Sharon Lake near..... 66
- Danbury, St. Croix River near..... 113, 307
- Dane County, ground-water levels in..... 322
- Darlington, Pecatonica River at..... 276, 315
- Definition of terms..... 25
- Delavan, Delavan Lake Outlet at Borg Road near..... 272
- Delavan Lake, near Delavan..... 271
- at center near Delavan Lake..... 266
- at North End near Lake Lawn..... 269
- at SW End near Delavan Lake..... 264
- Inlet at US Hwy 50 at Lake Lawn..... 260
- Outlet at Borg Road near Delavan..... 272
- Tributary at South Shore Drive at Delavan Lake..... 263
- Dell Creek near Lake Delton..... 299
- Des Plaines River at Russell, IL..... 285
- Devil Creek near Merrill..... 299
- Devils Lake near Baraboo..... 180
- Discontinued gaging stations, list of..... 391
- Dodge County, ground-water levels in..... 322
- Dodge, Trempealeau River at..... 147, 309
- Door County, ground-water levels in..... 323
- Douglas County, ground-water levels in..... 323
- Douglas Creek near Prentice..... 296

Downstream order and station number.....	13	Hay Creek near Prentice.....	296
Duncan Creek at Bloomer.....	297	Hay River at Wheeler.....	128, 309
Durand, Chippewa River at.....	130	Hazelhurst, Bear Lake near.....	165
Eagle Creek near Fountain City.....	297	Honey Creek at Milwaukee.....	296
Eagle River, Anvil Lake near.....	159	Hulbert Creek near Wisconsin Dells.....	299
East Eightmile Lake near Iron River.....	383	Hunting River near Elcho.....	295
rain gage near Iron River.....	384	Hydrologic bench-mark program, explanation of.....	10
rain gage at well 15R near Iron River.....	386		
rain gage at well 45R near Iron River.....	385	Illinois River basin, crest-stage partial-	
East Twin River at Mishicot.....	88, 305	record stations in.....	301
Eau Claire River (Central Wisconsin River		gaging-station records in.....	285
basin) at Kelly.....	170, 310	water-quality partial-records stations in.....	316
Eau Claire River (Chippewa River basin) near		Independence, Bugle Lake at.....	146
Fall Creek.....	297	Indianford, Rock River at.....	240, 314
North Fork, near Thorp.....	127, 309	Introduction.....	1
Eau Galle River at Spring Valley.....	134	Iowa County, ground-water levels in.....	325
at Low-Water Bridge near Spring Valley.....	133, 309	Iron River, East Eightmile Lake near.....	383
Elkhorn, Jackson Creek at Petrie Road near.....	252	East Eightmile Lake rain gage near.....	384
Jackson Creek Tributary near.....	253	East Eightmile Lake rain gage at 15R,.....	386
Evergreen Creek near Langlade.....	295	East Eightmile Lake rain gage at 45R,.....	385
Explanation of the records.....	12		
records of ground-water levels.....	22	Jackson County, ground-water levels in.....	326
records of ground-water quality.....	24	Jackson Creek at Petrie Road near Elkhorn.....	252
records of stage and water discharge.....	13	tributary near Elkhorn.....	253
records of surface-water quality.....	18	Jefferson, Rock River at.....	238
		Johnson Creek near Knowlton.....	299
Fence, Popple River near.....	49	Jump River at Sheldon.....	126, 308
Fish Lake near Sauk City.....	182	North Fork near Phillips.....	297
Fisher Creek tributary at Janesville.....	300	Juneau County, ground-water levels in.....	326
Flambeau River near Bruce.....	125, 308		
Florence, Brule River near.....	47	Kelly, Eau Claire River at.....	170, 310
Menominee River near.....	48	Kenosha County, ground-water levels in.....	326
Fond du Lac County, ground-water levels in.....	324	Kewaunee River near Kewaunee.....	87, 305
Forest County, ground-water levels in.....	324	Kickapoo River at La Farge.....	216, 313
Fourmile Creek near Three Lakes.....	298	at Steuben.....	217, 313
Fox River (Lake Michigan basin) at Berlin.....	73, 304	Killsnake River near Chilton.....	295
at Rapide Croche Dam, near Wrightstown.....	83	Kinnickinnic River (Lake Michigan basin) at	
at Wrightstown.....	84	South 11th Street at Milwaukee.....	104, 306
Fox-Wolf River basin location map.....	61	Kinnickinnic River tributary (St. Croix River basin)	
Fox River (Illinois River basin) at Waukesha.....	286, 316	at River Falls.....	296
at Wilmot.....	291, 316		
Franklin, Root River near.....	106, 307	La Crosse River basin, gaging station records in.....	153
Root River Canal near.....	107, 307	La Farge, Kickapoo River at.....	216, 313
French Creek near Ettrick.....	298	Lafayette County, ground-water levels in.....	327
Fulton, Yahara River near.....	250, 315	La Grange, Pleasant Lake near.....	290
		Lake Clara near Tomahawk.....	360
Galena River at Buncombe.....	225, 314	Outlet near Tomahawk.....	359
Galena River basin, crest-stage partial-		Rain gage near Tomahawk.....	361
record stations in.....	300	Tributary near Tomahawk.....	358
gaging-station records in.....	225	Lake Lawn, Delavan Lake at north end near.....	269
water-quality, partial-record stations in.....	314	Delavan Lake inlet at US Hwy 50 near.....	260
Galesville, Black River near.....	150	Lake Mendota at Madison.....	245
Garfoot Creek near Cross Plains.....	198	Lake Michigan, streams tributary to, crest-stage	
Gill Creek near Brooklyn.....	301	partial-record stations in.....	294
Gillett, Oconto River near.....	59, 304	gaging station records in.....	47
Goggle-Eye Creek near Thorp.....	297	miscellaneous sites in.....	302
Gordon, Round Lake near.....	375	Lake Michigan basin location map.....	86
Round Lake rain gage near.....	376	water-quality partial-record stations in.....	304
Round Lake rain gage at well 51R near.....	377	Lake Monona at Madison.....	246
Round Lake rain gage at well 55R near.....	378	Lake Morris near Mt. Morris.....	79
Grand Marsh, Patrick Lake near.....	64	Lake Superior, streams tributary to, basin location map.....	35
Grant County, ground-water levels in.....	324	crest-stage partial-records in.....	294
Grant River at Burton.....	221	gaging station records in.....	36
Grant River basin, crest-stage partial-record stations in.....	300	water-quality partial-record stations in.....	304
gaging-stations records in.....	221	Lake Tomahawk, Muskellunge Lake near.....	163
Green County, ground-water levels in.....	325	Wisconsin River at Rainbow Lake near.....	164, 310
Green Lake, White Creek at Forest Glen beach near.....	67	Lake Winnebago at Oshkosh.....	81
Ground water, chemical analysis.....	345	near Stockbridge.....	82
levels of, by counties.....	319	Lakes: Alma near St. Germain.....	160
Gudegast Creek near Starks.....	298	Amnicon near South Range.....	39
		Anvil near Eagle River.....	159
		Bear near Hazelhurst.....	165

Big Cedar near West Bend.....	95	McKenzie Lake near Spooner.....	112
Big Sissabagama near Stone Lake.....	122	Madden Branch near Belmont.....	300
Bone near Luck.....	118	Madison:	
Bugle at Independence.....	146	Lake Mendota at.....	245
Clam near Siren.....	114	Lake Monona at.....	246
Clara near Tomahawk.....	360	Spring Harbor Storm Sewer at.....	243
Crystal at Strum.....	140	Manitowoc County, ground-water levels in.....	328
Delavan at center near Delavan Lake.....	266	Manitowoc River at Manitowoc.....	89
at north end near Lake Lawn.....	269	Marathon County, ground-water levels in.....	329
at SW end near Delavan Lake.....	264	Marinette County, ground-water levels in.....	329
Devils near Baraboo.....	180	Marquette County, ground-water levels in.....	330
East Eightmile near Iron River.....	383	Martintown, Pecatonica River at.....	278, 316
Fish near Sauk City.....	182	Mauneshia River near Sun Prairie.....	300
Little Rock near Woodruff.....	373	Medford, Black River at.....	148, 309
Little St, Germain near St, Germain.....	162	Menominee-Oconto-Peshtigo River basin location map.....	46
McCasin near Lakewood.....	56	Menominee River below Pemene Creek	
McKenzie near Spooner.....	112	near Pembine.....	52, 304
Mendota at Madison.....	245	near Florence.....	48
Monona at Madison.....	246	near McAllister.....	53
Montello at Montello.....	65	Menomonee River at Menomonee Falls.....	101, 306
Moon near St, Germain.....	161	at Wauwatosa.....	103, 306
Morris near Mt, Morris.....	79	Menomonee, Red Cedar River at.....	129, 309
Muskellunge near Lake Tomahawk.....	163	Merrill, Prairie River near.....	167, 310
Neshonoc at West Salem.....	153	Wisconsin River at.....	168, 310
North near North Lake.....	227	Middleton, Pheasant Branch at.....	241
Oconomowoc, No, 1 (center) near Oconomowoc.....	231	Milford, Crawfish River at.....	237
No, 2 (off Hewitt Point) at Oconomowoc.....	233	Milwaukee County, ground-water levels in.....	331
Okauchee, at Okauchee.....	228	Milwaukee, Kinnickinnic River at South 11th	
near Okauchee.....	230	Street at.....	104, 306
No, 1, at Okauchee.....	229	Milwaukee River at.....	98
No, 2, at Okauchee.....	230	Milwaukee River at Milwaukee.....	98
No, 3, at Okauchee.....	230	near Cedarburg.....	97, 306
No, 4, at Okauchee.....	230	Mishicot, East Twin River at.....	88, 305
Park at Pardeeville.....	62	Mishonagon Creek near Woodruff.....	298
Patrick near Grand Marsh.....	64	Mississippi River at McGregor, IA.....	154
Pleasant near La Grange.....	290	at Prescott.....	119
Powers at Powers Lake.....	292	at Winona, MN.....	141
Redstone near La Valle.....	179	Mole Lake, Swamp Creek above Rice Lake at.....	74, 305
Round near Gordon.....	375	Monroe County, ground-water levels in.....	332
Sharon near Dakota.....	66	Montello Lake at Montello.....	65
Vandercook near Woodruff.....	367	Moon Lake near St, Germain.....	161
Wheeler near Lakewood.....	58	Mormon Creek basin, crest-stage partial-	
Wind at Wind Lake.....	288	record stations in.....	298
Winnebago at Oshkosh.....	81	Mormon Creek near La Crosse.....	298
near Stockbridge.....	82	Mt, Calvary, Wolf Lake near.....	92
Wolf near Mt, Calvary.....	92	Mount Morris, Lake Morris near.....	79
Lakewood, McCasin Lake near.....	56	Mud Creek near Nashville.....	295
Wheeler Lake near.....	58	Mukwonago River at Mukwonago.....	287, 316
Langlade County, ground-water levels in.....	327	Muscoda, Wisconsin River at.....	213
Langlade, Wolf River at.....	76, 305	Muskellunge Lake near Lake Tomahawk.....	163
La Valle, Redstone Lake near.....	179	Muskrat Creek at Conover.....	298
Lemonweir River at New Lisbon.....	176, 311		
Lightning Creek at Almena.....	297	Narrows Creek at Loganville.....	299
Lily River near Lily.....	295	National stream-quality accounting network,	
Lincoln County, ground-water levels in.....	328	explanation of.....	10
quality of ground water in.....	366	Neillsville, Black River at.....	149, 310
Little Frog Creek near Minong.....	296	Nemadji River near South Superior.....	36
Little Menomonee River near Freistadt.....	295	Neshonoc Lake at West Salem.....	153
Little Pine Creek near Irma.....	298	Neshota River tributary near Denmark.....	295
Little Plover River at Plover.....	173, 311	New Lisbon, Lemonweir River at.....	176, 311
Little Popple River near Aurora.....	294	New London, Wolf River at.....	78, 305
Little River, North Branch near Coleman.....	295	Nippersink Creek North Branch tributary near	
Little Rock Lake near Woodruff.....	373	Genoa City.....	301
Little St, Germain Lake near St, Germain.....	162	North Lake near North Lake.....	227
Little Turtle Creek at Allens Grove.....	301	Numbering system for ground-water and lake-data sites.....	13
Lloyd Creek near Doering.....	299		
Luck, Bone Lake near.....	118	Oak Creek at South Milwaukee.....	105, 307
		near South Milwaukee.....	296
McAllister, Menominee River near.....	53	Oconomowoc Lake, No, 1 (center) at Oconomowoc.....	231
McCasin Lake near Lakewood.....	56	No, 2 (off Hewitt Point) at Oconomowoc.....	233
McFarland, Yahara River near.....	247, 314	Oconto County, ground-water levels in.....	333
McGregor, IA, Mississippi River at.....	154	Oconto River near Gillett.....	59, 304

North Branch, near Wabeno	295	Rock River basin, crest-stage partial-record stations in	300
Odanah, Bad River at	43	gaging-station records in	227
Bad River near	41, 304	water-quality partial-record stations in	314
Okauchee Lake, at Okauchee	228	Rock River at Afton	251, 315
near Okauchee	230	at Indianford	240, 314
No, 1, at Okauchee	229	at Jefferson	238
No, 2, at Okauchee	230	at Rockton, IL	284
No, 3, at Okauchee	230	at Watertown	234
No, 4, at Okauchee	230	East Branch, tributary near Slinger	300
Oneida County, ground-water levels in	333	Rockton, IL, Rock River at	284
Onemile Creek near Mauston	299	Rockville, Platte River at	224, 314
Ontonagon River, Cisco Branch at Cisco Lake outlet, MI	45	Rocky Branch near Richland Center	299
Oshkosh, Lake Winnebago at	81	Rome, Bark River near	239, 314
Outagamie County, ground-water levels in	334	Root River near Franklin	106, 307
Pardeeville, Park Lake at	62	at Racine	108, 307
Patrick Lake near Grand Marsh	64	Root River Canal near Franklin	107, 307
Pats Creek near Elk Grove	300	West Branch, tributary near North Cape	296
Pearl Creek at Grandview	294	Rothschild, Wisconsin River at	171
Pearson Creek near Maple	294	Round Lake near Gordon	375
Pecatonica River, at Darlington	276, 315	rain gage near Gordon	376
at Martintown	278, 316	rain gage at well 51R near Gordon	377
East Branch, near Blanchardvill	277, 315	rain gage at well 55R near Gordon	378
Pecatonica-Sugar River basin location map	220	Rowan Creek at Poynette	299
Pembin, Menominee River below		Rusk County, ground-water levels in	339
Pemene Creek near	52, 304	Russell, IL, Des Plaines River at	285
Pensaukee River near Pensaukee	60, 304	St, Croix County, ground-water levels in	339
near Pulaski	295	St, Croix River near Danbury	113, 307
Peshtigo River at Peshtigo	57, 304	at St, Croix Falls	115
near Cavour	294	St, Croix River basin, crest-stage partial- record stations in	296
Pet Brook tributary near Edgar	299	gaging-station records in	112
Pheasant Branch at Middleton	241	location map	111
Pigeon Creek near Lancaster	300	miscellaneous sites in	302
Pike Creek near Kenosha	296	water-quality partial-record stations in	307
Pike River near Racine	109, 307	St, Germain, Alma Lake near	160
Pine Creek, East Branch tributary near Dallas	297	Little St, Germain Lake near	162
Pine River, North Branch at Windsor Dam near Alvin	294	Moon Lake near	161
Platte River basin, crest-stage partial-record stations in	300	Sand River Tributary near Red Cliff	294
gaging-stations records in	224	Sauk City, Fish Lake near	182
water-quality partial-record stations in	314	Sauk County, ground-water levels in	340
Platte River near Rockville	224, 314	Sawyer Creek at Oshkosh	295
Pleasant Lake near La Grange	290	Sediment	19
Plover, Little Plover River at	173, 311	Seth Creek near Cadott	297
Polk County, ground-water levels in	334	Sharon Lake near Dakota	66
Poplar River near Owen	298	Shawano, Wolf River near	77, 305
Popple River near Fence	49	Shawano County, ground-water levels in	340
South Branch near Newald	294	Sheboygan River at Sheboygan	94, 305
Portage County, ground-water levels in	335	Sheldon, Jump River at	126, 308
quality of ground water in	345	Sioux River near Washburn	294
Powers Lake at Powers Lake	292	Siren, Clam Lake near	114
Prairie River near Merrill	167, 310	Smith Creek near Parks Falls	296
Prescott, Mississippi River at	119	South Milwaukee, Oak Creek at	105, 307
Price County, ground-water levels in	337	South Range, Amnicon Lake near	39
Price Creek near Phillips	296	South Superior, Nemadji River near	36
Publications on techniques of water- resources investigations	31	Spaulding Creek near Big Falls	295
Raccoon Creek, East Fork tributary near Beloit	301	Special networks and programs	10
Racine County, ground-water levels in	338	Spirit River at Spirit Falls	166, 310
Racine, Root River at	108, 307	Spooner, McKenzie Lake near	112
Pike River near	109, 307	Spring Creek near Durand	297
Radiochemical surveillance network, explanation of	12	Spring Harbor Storm Sewer at Madison	243
Red Cedar River at Menomonie	129, 309	Spring Valley, Eau Galle River at	134
Redstone Lake near La Valle	179	Eau Galle River at Low-Water Bridge at	133, 309
Reservoirs in Wisconsin River basin	218	Squaw Creek near Harrison	298
Richland County, ground-water levels in	338	Station identification numbers	12
Richland Creek near Plugtoun	300	Steuben, Kickapoo River at	217, 313
Robbins Creek at Columbus	300	Stockbridge, Lake Winnebago near	82
Rock Branch near Mineral Point	301	Stone Lake, Big Sissabagama Lake near	122
Rock County, ground-water levels in	339	Big Sissabagama Tributary near	308
Rock-Fox River basin, location map	226	Stoney Brook near Superior	294
		Stoughton, Badfish Creek at County Highway A near	248
		Stratford, Big Eau Pleine River near	172, 310

Strum, Crystal Lake at.....	140	White River (Illinois River basin), tributary	
Sugar Creek at Elkhorn.....	301	near Burlington.....	301
Sugar River near Brodhead.....	279	White River (tributary to Lake Superior)	
tributary, near Pine Bluff.....	301	near Ashland.....	42, 304
Summary of hydrologic conditions.....	3	Willow Creek near Eau Claire.....	297
Swamp Creek above Rice Lake at Mole Lake.....	74, 305	Wilmot, Fox River at.....	291, 316
Taylor County, ground-water levels in.....	340	Wind Lake at Wind Lake.....	288
Thorp, North Fork Eau Claire River near.....	127, 309	Winnebago County, ground-water levels in.....	344
Token Creek near Madison.....	300	Winona, MN, Mississippi River at.....	141
Tomahawk, Lake Clara near.....	360	Winter, Chippewa River at Bishop's Bridge near.....	121, 308
Lake Clara outlet near.....	359	Wisconsin Dells, Wisconsin River near.....	177, 311
Lake Clara rain gage near.....	361	Wisconsin District Publications.....	394
Lake Clara Tributary near.....	358	Wisconsin Rapids, Wisconsin River at.....	174
Trade River near Frederic.....	296	Wisconsin River basin, crest-stage partial-	
Trappe River tributary near Merrill.....	299	record stations in.....	298
Trempealeau County, ground-water levels in.....	342	gaging-station records in.....	159
Trempealeau-Black River basin location map.....	139	location map:	
Trempealeau River basin, gaging-station records in.....	146	upper Wisconsin River basin.....	158
water-quality partial-record stations in.....	309	central Wisconsin River basin.....	169
Trempealeau River at Dodge.....	147, 309	lower Wisconsin River basin.....	178
Trout Lake bulk precipitation collector near		miscellaneous sites in.....	303
Boulder Junction.....	371	reservoirs in.....	218
Turtle Creek at Carvers Rock Road near Clinton.....	275, 315	water-quality partial-record stations in.....	310
Underwood Creek at Wauwatosa.....	102, 306	Wisconsin River at Merrill.....	168, 310
Vandercook Lake near Woodruff.....	367	at Muscoda.....	213
rain gage near Woodruff.....	368	at Rainbow Lake near Lake Tomahawk.....	164, 310
Vilas County, quality of ground water in.....	372	at Rothschild.....	171
Walworth County, ground-water levels in.....	342	at Wisconsin Rapids.....	174
Watertown, Rock River at.....	234	near Wisconsin Dells.....	177, 311
WATSTORE data, access to.....	24	tributary at Wausau.....	299
Waukesha County, ground-water levels in.....	343	Wolf Lake near Mt. Calvary.....	92
Waukesha, Fox River at.....	286, 316	Wolf River at Langlade.....	76, 305
Waumandee Creek basin, crest-stage partial-		at New London.....	78, 305
record stations in.....	297	near Shawano.....	77, 305
Waupaca County, ground-water levels in.....	343	Wood County, quality of ground water.....	348
Waushara County, ground-water levels in.....	344	Woods Creek near Fence.....	294
Wauwatosa, Menomonee River at.....	103, 306	Woodruff, Little Rock Lake near.....	373
Underwood Creek at.....	102, 306	Vandercook Lake near.....	367
Weber Creek near Mercer.....	296	Vandercook Lake rain gage near.....	368
Webster Creek at New Lisbon.....	299	Wrightstown, Fox River at.....	84
West Bend, Big Cedar Lake near.....	95	Fox River at Rapide Croche Dam near.....	83
West Salem, Neshonoc Lake at.....	153	Yahara River at McFarland.....	247, 314
Wheeler, Hay River at.....	128, 309	near Fulton.....	250, 315
Wheeler Lake near Lakewood.....	58	Yellow River (central Wisconsin River basin)	
White Creek at Forest Glen beach near Green Lake.....	67	at Babcock.....	175, 311
		tributary near Pittsville.....	299
		Yellow River (Chippewa River basin) at Cadott.....	297
		Yellowstone River near Blanchardville.....	301

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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