

Water Resources Data Wisconsin Water Year 1997



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WI-97-1
Prepared in cooperation with the State of Wisconsin
and with other agencies



CALENDAR FOR WATER YEAR 1997

1996

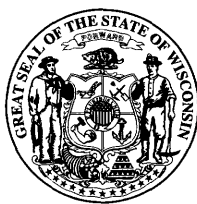
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1997

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by B.K. Holmstrom, D. L. Olson, and B.R. Ellefson



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Prepared in cooperation with the State of Wisconsin
and with other agencies

U. S. DEPARTMENT OF THE INTERIOR
BRUCE BABBITT, Secretary

U. S. GEOLOGICAL SURVEY
THOMAS J. CASADEVALL, Acting Director

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Dane County Regional Planning Commission
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City of Middleton
City of Beaver Dam
City of Thorp
Madison Metropolitan Sewerage District
Milwaukee Metropolitan Sewerage District
Green Bay Metropolitan Sewerage District
City of Hillsboro
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City of Peshtigo
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Menominee Indian Tribe of Wisconsin
Oneida Indian Tribe of Wisconsin
Town of Delavan
Green Lake Sanitary District
City of Fond du Lac
City of Barron
Lac du Flambeau Band of Lake Superior Chippewa
Stockbridge/Munsee Indian Tribe
City of Sparta
City of Brookfield
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Bad River Band of Lake Superior Chippewa Indians
Walworth County Metropolitan Sewerage District
City of Muskego
City of River Falls
Department of Agriculture, Trade and Consumer Protection
Milwaukee County
Wisconsin Department of Tourism

For additional information write to:

District Chief, Water Resources Division
U.S. Geological Survey
8505 Research Way
Middleton, Wisconsin 53562

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:

Thomas J. Popowski, Rice Lake, northwest
Jeffrey J. Hanig, Merrill, northeast
Josef Habale, Madison, southwest

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

S. R. Corsi	P.R. Homant	S. A. March	P. A. Stark
B.M. Esser	D.E. Housner	K. D. Richards	J.J. Steuer
C.H. Fan	K. R. Koenig	W. J. Rose	T.D. Stuntebeck
G. L. Goddard	W. R. Krug	T. D. Rutter	J. F. Walker
D. J. Graczyk	B. N. Lenz	J. G. Schuler	T. A. Wittwer
H. L. Hanson			

Additional assistance in data processing and preparation of the report was provided by:

R. B. Bodoh	M. M. Greenwood
G. W. Gill	H. R. House

This report was prepared under the general supervision of Warren A. Gebert, District Chief; Herbert S. Garn, Hydrologic Studies and Data Section Chief; Peter E. Hughes, Environmental Studies Section Chief; and James T. Krohelski, Hydrogeologic Studies and Data Section Chief.

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**SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH
RECORDS ARE PUBLISHED IN THIS VOLUME**

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[Letters after station names designate type of data: (c) chemical, (d) discharge, (g) gage height, (m) microbiological, (pr) precipitation, (r) radiochemical, (sd) secchi-depth, (s) sediment, (t) water temperature]

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DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

xv

The following continuous-record surface-water discharge stations in Wisconsin have been discontinued. Daily streamflow records were collected and published for the period of record, expressed in water years, shown for each station. Those stations with an asterisk (*) after the station number are currently operated as crest-stage partial-record stations. Some of the discontinued project stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back side of the title page of this report

Station name	Station number	Drainage area (mi ²)	Period of record
STREAMS TRIBUTARY TO LAKE SUPERIOR			
Tower Avenue at Superior, WI	04024080	0.034	1993-95
Little Balsam Creek at Patzau, WI	04024314	4.89	1976-78
Little Balsam Creek near Patzau, WI	04024315	5.05	1976-78
Little Balsam Creek Tributary near Patzau, WI	04024318	0.60	1976-78
Little Balsam Creek near Foxboro, WI	04024320	3.27	1977-78
Amnicon River near Poplar (Amnicon Falls), WI	04025000	110	1914-16
Bois Brule (Brule) River near Brule, WI	04026000	160	1914-17
Sioux River near Washburn, WI	04026300*	33.9	1965-66
Pine Creek at Moquah, WI	04026347	6.20	1976-78
Pine Creek Tributary at Moquah, WI	04026348	0.48	1976-78
Pine Creek near Moquah, WI	04026349	19.9	1976-78
Bad River near Mellen, WI	04026450*	82.0	1971-75
Bad River at Mellen, WI	04026500	98.3	1948-55
Alder Creek near Upson, WI	04026870	22.2	1972-77
Montreal River near Kimball, WI	04028500	100	1924-26
West Fork Montreal River at Gile, WI	04029000	75.0	1918-26, 1943-47
West Fork Montreal River near Kimball, WI	04029500	86.2	1924-26
STREAMS TRIBUTARY TO LAKE MICHIGAN			
North Branch Pine River at Windsor Dam nr Alvin, WI	04063640*	27.8	1967-68
Pine River near Florence, WI	04064000	510	1914-23
Pike River at Amberg, WI	04066500	255	1914-70
Menominee River near McAllister, WI	04067500	3,930	1945-61, 1979-86, 1988-90, 1993-95
Menominee River, at Mouth, at Marinette, WI	04067651	4,070	1988-90, 1994-95
Peshtigo River at High Falls near Crivitz, WI	04068000	537	1912-57
Pensaukee River near Krakow, WI	04071795	35.8	1993-95
Pensaukee River near Pensaukee, WI	04071858	134	1973-96
Suamico River at Suamico, WI	04072000	60.7	1951-52
Lawrence Creek near Westfield, WI	04072750	13.4	1968-73
Grand River near Kingston, WI	04073050	73.5	1968-75
West Branch White River near Wautoma, WI	04073405	38.9	1964-65
Silver Creek at South Koro Road near Ripon, WI	040734644	36.2	1987-96
Swamp Creek above Rice Lake at Mole Lake, WI	04074538	46.3	1977-83, 1985-87
Swamp Creek below Rice Lake at Mole Lake, WI	04074548	56.8	1977-79, 1982-85
Wolf River near White Lake, WI	04075000	485	1935-38
Evergreen Creek near Langlade, WI	04075200*	8.09	1964-73
Wolf River above West Branch Wolf River, WI	04075500	616	1928-62
West Branch Wolf River at Neopit, WI	04076000	93.2	1911-17
West Branch Wolf River near Keshena, WI	04076500	163	1928-32
Little Wolf River near Galloway, WI	04079602	22.6	1974-79
Spaulding Creek near Big Falls, WI	04079700*	5.57	1964-66
Little Wolf River at Royalton, WI	04080000	507	1914-70, 1983-85
Tomorrow River near Nelsonville, WI	04080798	44.0	1993-95
Emmons Creek near Rural, WI	04080950	25.1	1968-74
Storm Sewer to Mirror Lake at Waupaca, WI	04080976	0.04	1971-74
Waupaca River near Waupaca, WI	04081000	265	1916-66, 1983-85
Daggets Creek at Butte Des Morts, WI	04081800	10.6	1977
West Branch Fond du Lac River at Fond du Lac, WI	04083000	83.1	1939-54
East Branch Fond du Lac River near Fond du Lac, WI	04083500	78.4	1939-54

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
STREAMS TRIBUTARY TO LAKE MICHIGAN—CONTINUED			
Brothertown Creek at Brothertown, WI	04084200	5.10	1976–77
East River at Midway Road near De Pere, WI	04085109	47.0	1993–95
Kewaunee River near Kewaunee, WI	04085200	127	1965–96 ¹
East Twin River at Mishicot, WI	04085281	110	1972–96
Manitowoc River at Manitowoc, WI	04085427	526	1972–96
Onion River at Hingham, WI	04085813	37.2	1979–80
Onion River near Sheboygan Falls, WI	04085845	94.1	1979–82
Milwaukee River at Kewaskum, WI	04086150	138	1968–81
East Branch Milwaukee River near New Fane, WI	04086200	54.1	1968–81
North Branch Milwaukee River near Random Lake, WI	040863075	51.4	1993–95
North Branch Milwaukee River near Fillmore, WI	04086340	148	1968–81
Milwaukee River at Waubeka, WI	04086360	432	1968–81, 1994
Mud Lake Outlet near Decker Corner, WI	04086488	7.36	1983–84
Milwaukee River above North Ave Dam at Milwaukee, WI	04087010	702	1982–84
Menomonee River at Germantown, WI	04087018	19.0	1975–77
Jefferson Park Drainageway at Germantown, WI	04087019	1.82	1976–78
Menomonee River at Butler, WI	04087040	60.6	1975–79
Little Menomonee River near Freistadt, WI	04087050	8.0	1975–79
Noyes Creek at Milwaukee, WI	04087060	1.94	1975–80, 1990
Little Menomonee River at Milwaukee, WI	04087070	19.7	1975–77
Honey Creek at Wauwatosa, WI	04087119	10.3	1975–81
Schoonmaker Creek at Wauwatosa, WI	04087125	1.94	1975–79
Hawley Road Storm Sewer at Milwaukee, WI	04087130	1.83	1975–77
Menomonee River at Milwaukee, WI	04087138	134	1982–84
Kinnickinnic River at Milwaukee, WI	04087160	20.4	1976–83
Milwaukee River at Mouth at Milwaukee, WI	04087170	872	1994–96
ST. CROIX RIVER BASIN			
Namekagon River at Trego, WI	05332000	433	1914–27
Loon Creek near Danbury, WI	05335010	17.6	1970–71
Bashaw Brook near Shell Lake, WI	05335380	26.6	1964–66
Clam River near Webster, WI	05335500	361	1941–42
St. Croix River near Grantsburg, WI	05336000	2,980	1923–70
Wood River near Grantsburg, WI	05339000	185	1939–40
Rice Creek near Balsam Lake, WI	05341375	12.5	1988–89
Balsam Branch at Balsam Lake, WI	05341402	52.8	1988–90
Kinnickinnic River near River Falls, WI	05342000	165	1917–21
CHIPPEWA RIVER BASIN			
West Fork Chippewa River at Lessards, nr Winter, WI	05355500	474	1912–16
Couderay River near Couderay, WI	05356121	169	1981–83
Flambeau River at Flambeau Flowage (Flambeau Reservoir), WI	05357500	622	1927–61
Flambeau River near Butternut, WI	05358000	688	1914–39
Pine Creek near Oxbo, WI	05358300	38.9	1971–75
Flambeau River at Babbs Island near Winter, WI	05358500	967	1929–75
South Fork Flambeau River near Phillips, WI	05359500	609	1929–75
Price Creek near Phillips, WI	05359600*	16.9	1964–66
Flambeau River near (at) Ladysmith, WI	05360000	1,790	1903–06, 1914–61
Chippewa River near Holcombe, WI	05361000	3,720	1944–49
South Fork Jump River near Ogema, WI	05361500	327	1944–54
Chippewa River at Holcombe, WI	05362500	4,680	1943–49
Fisher River at (near) Holcombe, WI	05363000	81.5	1944–45
O'Neil Creek near Chippewa Falls, WI	05363500	78.1	1944–45
Yellow River near Hannibal, WI	05363700	86.7	1962–63
Yellow River at Cadott, WI	05364000*	364	1943–61

Station name	Station number	Drainage area (mi ²)	Period of record
CHIPPEWA RIVER BASIN--CONTINUED			
Duncan Creek at Bloomer, WI	05364500*	50.3	1944-52
Duncan Creek Tributary near Tilden, WI	05364850	4.17	1987-89
Duncan Creek at Chippewa Falls, WI	05365000	117	1943-55
Eau Claire River near Augusta, WI	05366000	509	1914-26
Bridge Creek at Augusta, WI	05366300	35.0	1980
Eau Claire River near Fall Creek, WI	05366500*	760	1943-55
Chippewa River at (near) Eau Claire, WI	05367000	6,620	1903-09, 1944-54
Red Cedar River near Cameron, WI	05367425	442	1966-70
Red Cedar River near Cameron, WI	05367426	443	1971-73
Red Cedar River near Colfax, WI	05367500	1,100	1914-80, 1990
Eau Galle River near Woodville, WI	05369900	39.4	1978-83
Eau Galle River at Low-Watr Bridge at Spring Valley, WI	05369945	47.9	1982-83, 1986-96
French Creek near Spring Valley, WI	05369955	6.03	1981-83
Lousy Creek near Spring Valley, WI	05369970	5.97	1981-83
Lohn Creek near Spring Valley, WI	05369985	2.53	1981-83
Eau Galle River at Elmwood, WI	05370500	91.6	1943-54
BUFFALO RIVER BASIN			
Buffalo River near Tell, WI	05372000	406	1933-51
WAUMANDEE CREEK BASIN			
Joos Valley Creek near Fountain City, WI	05378183	5.89	1990-96
Eagle Creek, at County Highway G, near Fountain City, WI	05378185	14.3	1990-96
TREMPEALEAU RIVER BASIN			
Bruce Valley Creek near Pleasantville, WI	05379288	10.1	1980
Elk Creek near Independence, WI	05379305	108	1980
Trempealeau River at Arcadia, WI	05379400	553	1960-77
Trempealeau River near Trempealeau, WI	05380000	719	1932-34
BLACK RIVER BASIN			
Black River at Medford, WI	05380806	48.1	1984-87
Poplar River near Owen, WI	05380900*	155	1964-66
LA CROSSE RIVER BASIN			
Little LaCrosse River near Leon, WI	05382500	76.9	1934-61, 1979-81
LaCrosse River near West Salem, WI	05383000	396	1914-70
COON CREEK BASIN			
Spring Coulee Creek near Coon Valley, WI	05386490	9.01	1979-81
Coon Creek at Coon Valley, WI	05386500	77.2	1934-40, 1978-81
Coon Creek near Stoddard, WI	05386999	120	1934-40, 1979-81
BAD AXE RIVER BASIN			
North Fork Bad Axe River near Genoa, WI	05387100*	80.8	1964-66
WISCONSIN RIVER BASIN			
Wisconsin River at Conover, WI	05390180	177	1967-71
Pelican River near Rhinelander, WI	05391226	101	1976-79
Wisconsin River at Whirlpool Rapids, nr Rhinelander, WI	05392000	1,220	1906-61
Bearskin Creek near Harshaw, WI	05392350*	31.1	1964-66
Tomahawk River near Bradley, WI	05392400	422	1915-27, 1929
Tomahawk River at Bradley, WI	05393000	544	1930-73
New Wood River near Merrill, WI	05394000	82.2	1953-61
Rib River at Rib Falls, WI	05396000	303	1925-57
Little Rib River near Wausau, WI	05396500	79.1	1914-16
East Branch Eau Claire River near Antigo, WI	05397000	81.5	1949-55

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
WISCONSIN RIVER BASIN--CONTINUED			
Eau Claire River near Antigo, WI	05397110	185	1975-81
Bull Junior Creek (Bull Creek Junior) nr Rothschild, WI	05398500	27.4	1944-52
Big Eau Pleine River near Colby, WI	05399000	78.1	1941-54
Hamann Creek near Stratford, WI	05399431	11.3	1977-79
Wisconsin River at Knowlton, WI	05400000	4,530	1921-42
Plover River near Stevens Point, WI	05400500	145	1914-20, 1944-52
Little Plover River near Arnott, WI	05400600	2.24	1959-75
Little Plover River at Plover, WI	05400650	19.0	1959-87
Fourmile Creek near Kellner, WI	05400870	75.0	1964-67
Buena Vista Creek near Kellner, WI	05400853	53.1	1964-67
Tenmile Creek Ditch 5 near Bancroft, WI	05401020	9.73	1964-73
Tenmile Creek near Nekoosa, WI	05401050	73.3	1963-79, 1988-94
Fourteenmile Creek near New Rome, WI	05401100	91.1	1964-79
Wisconsin River near Necedah, WI	05401500	5,990	1903-14, 1944-50
Big Roche a Cri Creek near Hancock, WI	05401510	9.61	1964-67
Big Roche a Cri Creek near Adams, WI	05401535	52.8	1964-78
Yellow River at Sprague, WI	05402500	392	1927-40
Yellow River at Necedah, WI	05403000	491	1941-57
Lemonweir River at New Lisbon, WI	05403500	507	1944-87, 1994
Hulbert Creek near Wisconsin Dells, WI	05403630	11.2	1971-77
Dell Creek near Lake Delton, WI	05403700	44.9	1957-65, 1971-80
Narrows Creek at Loganville, WI	05404200	40.1	1964-66
Wisconsin River at Prairie du Sac, WI	05406000	9,180	1946-54
Black Earth Creek at Cross Plains, WI	05406460	12.8	1985-86, 1990-93
Black Earth Creek at Mills Street at Cross Plains, WI	05406476	25.5	1990-95
Black Earth Creek at South Valley Road nr Black Earth, WI	05406497	40.6	1990-93
Trout Creek at Confluence with Arneson Creek near Barneveld, WI	05406573	8.37	1976-78
Trout Creek at Twin Parks Dam 8 nr Barneveld, WI	05406574	9.02	1976-79
Trout Creek at County Highway T nr Barneveld, WI	05406575	12.1	1976-78
Trout Creek near Ridgeway, WI	05406577	13.5	1976-79
Knight Hollow Creek near Arena, WI	05406590	7.57	1976-78
Otter Creek near Highland, WI	05406640	16.8	1968-69, 1970-75
Kickapoo River at Ontario, WI	05407500	151	1939, 1973-77
Knapp Creek near Bloomingdale, WI	05408500	8.44	1955-69
West Fork Kickapoo River near Readstown, WI	05409000	106	1939
Kickapoo River at Soldiers Grove, WI	05409500	530	1939
North Fork Nederlo Creek near Gays Mills, WI	05409830	2.21	1968-79
Nederlo Creek near Gays Mills, WI	05409890	9.46	1968-80
Kickapoo River at Gays Mills, WI	05410000	617	1914-34, 1964-77
GRANT RIVER BASIN			
Pigeon Creek near Lancaster, WI	05413400*	6.93	1964-66
Kuenster Creek at Muskellunge Road nr North Andover, WI	05413435	9.59	1982-96
Rattlesnake Creek near North Andover, WI	05413449	42.4	1987-96
Rattlesnake Creek near Beetown, WI	05413451	45.2	1990-91
GALENA RIVER BASIN			
Little Platte River near Platteville, WI	05414213	79.7	1987-90
Sinsinawa River near Hazel Green, WI	05414800	24.9	1987-90
Pats Creek near Belmont, WI	05414894	5.42	1981-82
Madden Branch Tributary near Belmont, WI	05414915	2.83	1981-82
Madden Branch near Meekers Grove, WI	05414920	15.04	1981-82
Galena River at Buncombe, WI	05415000	125	1939-92
APPLE RIVER BASIN			
Apple River near Shullsburg, WI	05418731	9.34	1981-82

Station name	Station number	Drainage area (mi ²)	Period of record
ROCK RIVER BASIN			
West Branch Rock River near Waupun, WI	05423000	40.7	1949–70, 1978–81
West Branch Rock River at County Trunk Highway D near Waupun, WI	05423100	43.9	1978–81
East Branch Rock River near Mayville, WI	05424000	179	1949–70
Rock River at Hustisford, WI	05424082	511	1978–85
Johnson Creek near Johnson Creek, WI	05425537	1.13	1978–80
Johnson Creek near Johnson Creek, WI	05425539	13.3	1978–80
Pratt Creek near Juneau, WI	05425928	3.54	1978–80
Rock River at Jefferson, WI	05426031	1,850	1978–94 ²
Whitewater Creek near Whitewater, WI	05426500	11.8	1926–28, 1946–54
Whitewater Creek at Millis Road near Whitewater, WI	05426900	20.6	1978–81
Whitewater Creek at Whitewater, WI	05427000	22.8	1926–28, 1946–54
Koshkonong Creek near Rockdale, WI	05427507	150	1977–82
Token Creek near Madison, WI	05427800	24.3	1964–66, 1976–81
Sixmile Creek near Waunakee, WI	05427900	41.1	1976–82
Pheasant Branch at Airport Road near Middleton, WI	05427943	9.61	1977–81
South Fork Pheasant Branch at Highway 14 near Middleton, WI	05427945	5.74	1978–81
Pheasant Branch at Century Avenue at Middleton, WI	05427950	20.8	1977–81
Pheasant Branch at mouth at Middleton, WI	05427952	24.5	1978–81
Willow Creek at Madison, WI	05427970	3.15	1974–83
Olbrich Park Storm Ditch at Madison, WI	05428665	2.57	1976–80
Manitou Way Storm Sewer at Madison, WI	05429040	0.23	1971–77
Nakoma Storm Sewer at Madison, WI	05429050	2.30	1972–77
Lake Wingra Outlet at Madison, WI	05429120	6.00	1971–77
Nine Springs Creek Storm Sewer Tributary at Madison, WI	05429268	0.18	1991–93
Door Creek near Cottage Grove, WI	05429580	15.3	1976–79
Yahara River near Edgerton, WI	05430000	430	1917–18
Oregon Branch at Oregon, WI	05430030	9.93	1979–81
Badfish Creek at County Highway A near Stoughton, WI	05430095	40.9	1956–66, 1986–88
Badfish Creek near Stoughton, WI	05430100	41.3	1956–66
Delavan Lake Trib at South Shore Drive at Delavan, WI	05431018	7.66	1985–86, 1989–91
Jackson Creek at Petrie Road near Elkhorn, WI	05431014	8.96	1984–95
Livingston Branch Pecatonica River nr Livingston, WI	05432055	16.4	1987–91
Yellowstone River near Blanchardville, WI	05433500*	28.5	1954–65, 1978–79
Pecatonica River at Dill, WI	05434000	944	1914–19
Steiner Branch near Waldwick, WI	05433510	5.9	1978–79
Skinner Creek at Skinner Hollow Road near Monroe, WI	05434235	32.6	1978–81
Skinner Creek at Klondyke Road near Monroe, WI	05434240	35.0	1978–81
West Branch Sugar River near Mount Vernon, WI	05435980	32.7	1979–80
Mount Vernon Creek near Mount Vernon, WI	05436000	16.4	1954–65, 1976–80
ILLINOIS RIVER BASIN			
White River near Burlington, WI	05545300	110	1964–66, 1973–82

¹ No winter record in water years 1965 and 1966² No winter record in water years 1993 and 1994

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following daily- or continuous-record surface-water-quality stations were discontinued prior to the 1997 water year. Discontinued stations with less than 1 year of record or where data collection frequency was less than daily are not included. Some of the stations in the list are still in operation for purposes other than collection of daily or continuous water-quality data. Information regarding these stations may be obtained from the District Office at the address given on the back of the title page of this report.

[Type of record: T (water temperature), SC (specific conductance), DO (dissolved-oxygen concentration), PH (pH), SED (daily sediment discharge), C (daily discharge of one or more chemical constituents)]

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record
STREAMS TRIBUTARY TO LAKE SUPERIOR				
Little Balsam Creek at Patzau, WI	04024314	5.00	SED	1976-78
Little Balsam Creek near Patzau, WI	04024315	4.57	SED	1976-78
Little Balsam Creek Tributary near Patzau, WI	04024318	0.64	SED	1976-78
Little Balsam Creek near Foxboro, WI	04024320	6.27	SED	1977-78
Nemadji River near South Superior, WI	04024430	420	SED	1974-78
North Fish Creek near Benoit, WI	04026346	36	SED	1990-91
Pine Creek at Moquah, WI	04026347	5.90	SED	1976-78
Pine Creek Tributary at Moquah, WI	04026348	0.57	SED	1976-78
Pine Creek near Moquah, WI	04026349	21.5	SED	1976-78
North Fish Creek near Moquah, WI	040263491	65.4	SED	1990-91
North Fish Creek near Ashland, WI	04026350	74.4	SED	1990-91
Bad River near Odanah, WI	04027000	597	T,SC	1976-78
White River near Mason, WI	04027080	--	T	1970-72
Sadjak Springs Trib to White River near Mason, WI	04027086	1.00	T	1970-72
Bad River at Odanah, WI	04027595	970	T,SC	1978-81
STREAMS TRIBUTARY TO LAKE MICHIGAN				
Escanaba River at mouth at Escanaba, MI	040590345	928	SED	1988-90
Popple River near Fence, WI	04063700	139	T	1964-80
Menominee River near McAllister, WI	04067500	3,930	T,SC	1979-80
			SED	1988-90
Menominee River at mouth at Marinette, WI	04067651	4,070	SED	1988-90
Peshigo River at Peshigo	04069500	1,080	T	1989-90
			SED	1988-90
Peshigo River at mouth near Peshigo, WI	04069530	1,100	SED	1988-90
Oconto River near Oconto, WI	04071765	966	SED	1989-90
Oconto River at mouth at Oconto, WI	04071775	982	SED	1989-90
Duck Creek near Howard, WI	04072150	108	C	1992
White Creek at Forest Glen Beach near Green Lake, WI	04073462	3.05	SED,C	1982-88
Middle Branch Embarrass River near Wittenberg, WI	0407809265	76.3	T	1990-91
Fox River at Appleton, WI	04084445	5,950	T	1987-90
			SED	1986-90
Fox River at State Highway 55 at Kaukauna, WI	04084475	5,980	SED	1989-90
Fox River at Wrightstown, WI	04085000	6,050	T,SC	1975-81
Fox River at Little Rapids, WI	04085054	6,100	SED	1989-90
Fox River at De Pere, WI	04085059	6,110	SED	1989-90
Bower Creek at Sunnyview Road near De Pere, WI	04085118	4.82	SED,C	1985-86
East River at Monroe Street in Green Bay, WI	040851378	144.9	SED,C	1985-86
Fox River at mouth at Green Bay, WI	04085139	6,330	T,SC,DO,PH	1989-90
Manitowoc River at Manitowoc, WI	04085427	526	T,SC	1979-80
Cedar Lake near Kiel, WI	04085500	1.43	T	1974-77
Onion River at Hingham, WI	04085813	37.2	T,SC,SED	1979-80
			C	1980
Onion River near Sheboygan Falls, WI	04085845	94.1	T,SC,SED	1979-80
			C	1980
Milwaukee River near Cedarburg, WI	04086600	607	SED	1982-84
Milwaukee River at Milwaukee, WI	04087000	696	T,SC	1973-80 ²
			SED	1982-84
Milwaukee River above North Avenue Dam at Milwaukee, WI	04087010	702	SED	1982-84
Menomonee River at Germantown, WI	04087018	19	SED	1975-77
Jefferson Park Drain at Germantown, WI	04087019	1.82	SED	1977-78

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record
STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED				
Menomonee River at Menomonee Falls, WI	04087030	34.7	SED	1975-77, 1982-84
Menomonee River at Butler, WI	04087040	60.64	SED	1975-77
Little Menomonee River near Freistadt, WI	04087050	8.0	SED	1975-77
Noyes Creek at Milwaukee, WI	04087060	1.94	SED	1975-77
Little Menomonee River at Milwaukee, WI	04087070	19.7	SED	1975-77
Underwood Creek at Wauwatosa, WI	04087088	18.2	SED	1975-77
Honey Creek at Wauwatosa, WI	04087119	10.3	SED	1975-77
Menomonee River at Wauwatosa, WI	04087120	123	SED	1975-77, 1982-84
Schoonmaker Creek at Wauwatosa, WI	04087125	1.94	SED	1975-77
Hawley Road Storm Sewer at Wauwatosa, WI	04087130	1.83	SED	1975-77
Menomonee River at Milwaukee, WI	04087138	134	SED	1983-84
Menomonee River at Falk Corp at Milwaukee, WI	04087140	133.82	SED	1975-77, 1982
Kinnickinnic River at South 11th Street at Milwaukee, WI	04087159	20.2	SED	1983-84
ST. CROIX RIVER BASIN				
Round Lake near Gordon, WI	461342091561002	--	T	1981-85
St. Croix River at St. Croix Falls, WI	05340500	6,240	T,SC SED	1975-81 1982
Rice Creek near Balsam Lake, WI	05341375	12.5	C	1988-89
Balsam Branch at Balsam Lake, WI	05341402	52.8	C	1988-89
CHIPPEWA RIVER BASIN				
Duncan Creek Tributary near Tilden, WI	05364850	4.17	T,C,SED DO	1987-89 1987-88 ¹
Red Cedar River near Colfax, WI	05367500	1,090	C	1959, 1990
Hay River at Wheeler, WI	05368000	418	C	1959, 1990
Chippewa River at Durand, WI	05369500	9,010	T,SC SED	1975-81 ² 1974-79
Eau Galle River near Woodville, WI	05369900	39.4	T,SC	1978-83 ²
Eau Galle River at Low-Water Bridge at Spring Valley, WI	05369945	47.9	T SC	1982-83, 1987-93 1983
Eau Galle River at Spring Valley, WI	05370000	64.1	T,SC	1978-90
WAUMANDEE CREEK BASIN				
Joos Valley Creek near Fountain City	05378183	5.89	T,C DO	1990-96 1990-92
Eagle Creek at County Highway G near Fountain City	05378185	14.3	T,C DO	1990-96 1990-92
TREMPEALEAU RIVER BASIN				
Bruce Valley Creek near Pleasantville, WI	05379288	10.1	T,SC,SED,C	1980
Elk Creek near Independence, WI	05379305	108	T,SC,SED,C	1980
BLACK RIVER BASIN				
Black River near Galesville, WI	05382000	2,080	SED	1976-79
WISCONSIN RIVER BASIN				
Lake Clara near Tomahawk, WI	453100089343002	0.46	T	1982-86
Little Rock Lake near Woodruff, WI	455946089415704	--	T	1984-87
Buena Vista Creek near Kellner, WI	05400853	53.1	T	1965-67
Tenmile Creek Ditch 5 near Bancroft, WI	05401020	9.73	T	1965-72
Dell Creek near Lake Delton, WI	05403700	44.9	T,SED	1958-65
Black earth Creek at Cross Plains, WI	05406460	12.8	C,SED T DO	1985-86 1985-86, 1990-95 1984-86, 1989-95
Brewery Creek at Cross Plains, WI	05406470	10.5	SED ³	1985-86
Black Earth Creek at Mills Street at Cross Plains, WI	05406476	25.5	T,DO	1990-95
Garfoot Creek near Cross Plains, WI	05406491	5.39	SED ³	1985-86
Black Earth Creek at Black Earth, WI	05406500	45.6	T DO SED C	1954-65, 1985-86 1986 ¹ 1956-65, 1985-86 1985-86
Trout Creek Confluence Ameson Creek near Barneveld, WI	05406573	8.37	T,SC	1976-79

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record
WISCONSIN RIVER BASIN--CONTINUED				
Trout Creek at Twin Parks Dam 8 near Barneveld, WI	05406574	9.02	SED	1976-79
Trout Creek at CTH T near Barneveld, WI	05406575	12.1	T,SED	1976-78
Trout Creek near Ridgeway, WI	05406577	13.5	T,SED	1976-79
Wisconsin River at Muscodia, WI	05407000	10,400	T,SC	1975-80 ¹ , 1981
			SED	1975-79
Kickapoo River at Ontario, WI	05407500	150	T	1974-77
			SED	1973-77
Kickapoo River near Rockton, WI	05407920	260	T,SED	1972-77
Kickapoo River at LaFarge, WI	05408000	266	T,SC	1971-77
			SED	1972-77
North Fork Nederlo Creek at mouth near Gays Mills, WI	05409842	2.31	T	1970 ¹ , 1974-78
South Fork Nederlo Creek near Gays Mills, WI	05409860	4.11	T	1970 ¹ , 1974-78
Nederlo Creek at Utica Town Hall near Gays Mills, WI	05409870	6.70	T	1968-78
GRANT RIVER BASIN				
Kuenster Creek at Muskellunge Road near North Andover	054134435	9.59	T,DO	1992-96
			C	1993-96
Rattlesnake Creek near North Andover	05413449	42.4	T,DO	1987-96
			C	1992-94
GALENA RIVER BASIN				
Little Platte River near Platteville, WI	05414213	79.7	T	1987-90
			DO	1987-90 ¹
Sinsinawa River near Hazel Green, WI	05414800	24.9	T	1987-90
			DO	1987-90 ¹
Pats Creek near Belmont, WI	05414894	5.42	T,SC,C	1981-82
			DO	1982 ¹
Madden Branch Tributary near Belmont, WI	05414915	2.83	T,SC,C	1981-82
			DO	1981 ¹
Madden Branch near Meekers Grove, WI	05414920	15.06	T,SC,C	1981-82
			DO	1981-82 ¹
			PH	1982 ¹
APPLE RIVER BASIN				
Apple River near Shullsburg, WI	05418731	9.34	T,SC,C	1981-82
			DO	1981 ¹
ROCK RIVER BASIN				
Crawfish River at Milford, WI	05426000	762	SED	1980-82
Rock River at Indianford, WI	05427570	2,630	T	1975-78
			SC,DO,PH	1976-78
South Fork Pheasant Branch at Hwy 14 near Middleton, WI	05427945	5.74	SED	1978-81
Pheasant Branch at Centruy Avenue at Middleton, WI	05427950	20.8	SED	1978-81
Pheasant Branch at mouth at Middleton, WI	05427952	24.5	SED	1978-81
Willow Creek at Madison, WI	05427970	3.15	SED	1973-84
Rock River at Afton, WI	05430500	3,340	T	1955-83
Jackson Creek at Petrie Road near Elkhorn, WI	05431014	8.96	C,SED	1984-85
				1993-95
Delavan Lake Trib at South Shore Drive at Delavan, WI	05431018	9.99	SED,C	1984-85, 1990-91
Livingston Branch Pecatonica River near Livingston, WI	05432055	16.4	T	1987-91
			DO	1987-91 ¹
Yellowstone River near Blanchardville, WI	05433500	28.5	T	1954-60
			SED	1958-60, 1978-79
Steiner Branch near Waldwick, WI	05433510	5.90	T,SC,SED,C	1978-79
Pecatonica River at Martintown, WI	05434500	1,034	SED	1980-82
Mount Vernon Creek near Mount Vernon, WI	05436000	16.4	T	1954-60
			SED	1956-60
Sugar River near Brodhead, WI	05436500	523	SED	1978-86

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

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Station name	Station numberr	Drainage area (mi ²)	Type of record	Period of record
ILLINOIS RIVER BASIN				
Powers Lake Tributary at Powers Lake, WI	05548163	1.83	C	1987

¹ Seasonal record, non-freezing periods² Numerous periods of missing record³ Station currently in operation for constituents(s) not listed here

INTRODUCTION

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." Lake stage and in-lake water-quality data previously published in this series are now published annually in a report series "Water-Quality and Lake-Stage Data for Wisconsin Lakes." This Open-File Report series began in 1994; 1997 water year data for lakes are published in Open-File Report 98-78.

Water-resources data for Wisconsin for the 1997 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. These volumes contain discharge records from 142 gaging stations and peak stage and discharge from 75 crest-stage stations; stage for 7 lakes and contents for 24 reservoirs; water-quality data from 49 streams and from 3 lakes; precipitation from 17 sites; and water-level records from 52 observation wells. 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.

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.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report WI-97-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

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)828-9901.

Water-resources data, including stage and discharge data at most streamflow-gaging stations, water levels in selected wells, and some water-quality data, are available through the World Wide Web on the Internet. Current and historical data provided in water-data reports are available. The Universal Resource Locator (URL) to the Wisconsin District's home page is: <http://www.dwdm.dn.er.usgs.gov/>.

COOPERATION

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

Wisconsin Department of Natural Resources, George E. Meyer, secretary.
Southeastern Wisconsin Regional Planning Commission, Phillip Evenson, executive director.
U.S. Army Corps of Engineers.
Wisconsin Department of Transportation, Harold Amundson, chief bridge engineer.
The University of Wisconsin-Extension, Geological and Natural History Survey, James Robertson, state geologist and director.
Dane County Department of Public Works, Kenneth J. Kosciuk, director.
Dane County Regional Planning Commission, Thomas Favour, executive director.
City of Madison, Susan Bauman, mayor.
City of Middleton, Dan Ramsey, mayor.
City of Beaver Dam, Robert Sackett, utilities superintendent.
City of Thorp, Justin Rosemeyer, mayor.
Madison Metropolitan Sewerage District, James L. Nemke, chief engineer and director.
Milwaukee Metropolitan Sewerage District, Ralph Hollman, acting executive director.
Green Bay Metropolitan Sewerage District, Paul E. Thormodsgard, general manager.
City of Hillsboro, Janice G. Boekme, mayor.
Illinois Department of Transportation, Melvin Allison, chief, bureau of planning.
City of Waupun, Dennis Westhuis, manager, public utilities.
City of Peshtigo, J. F. Dale Berman, mayor.

Rock County Public Works Department, Thomas G. Kautz, parks and conservation director.

Village of Wittenberg, Nicole Nievinski.

Menominee Indian Tribe of Wisconsin, Betty Jo Wozniak, administrator.

Oneida Indian Tribe of Wisconsin, Pat Pelke, environmental department.

Town of Delavan, Wayne Polzon, town chairman.

Green Lake Sanitary District, Charlie Marks, administrator.

City of Fond du Lac, David Boede, city engineer.

City of Barron, Bard Kittleson, mayor.

Lac du Flambeau Band of Lake Superior Chippewa, Thomas Maulson, president.

Stockbridge/Munsee Indian Tribe, Virgil Murphy, tribal chairman.

City of Sparta, Milo Seubert, mayor.

City of Brookfield, Kathryn C. Bloomberg, mayor.

Fontana/Walworth Water Pollution Control Commission, Dean M. Donner, superintendent.

Bad River Band of Lake Superior Chippewa Indians, John Wilmer, tribal chairman.

Walworth County Metropolitan Sewerage District, Joseph S. Cannestra, administrator.

City of Muskego.

City of River Falls, Darrin Beier, city engineer.

Department of Agriculture, Trade and Consumer Protection, Ben Brancel, secretary.

Milwaukee County, Greg Failey, airport environmental compliance manager.

Wisconsin Department of Tourism, Marcy West, executive director

The following organizations aided in collecting streamflow records: Wisconsin Valley Improvement Co., Wisconsin Public Service Corp., Northern States Power Co., Dairyland Power Cooperative, Wisconsin Power and Light Co., Wisconsin Electric Power Co., Scott Paper Co., Milwaukee County Park Commission, and Niagara of Wisconsin Paper Corp. Organizations that supplied data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow

The statewide average precipitation of 31.79 inches for the 1997 water year was the same as the normal annual precipitation of 31.79 inches for water years 1961-90. Average precipitation values ranged from 78 percent of normal at Mauston 1 SE WWTP weather station in central Wisconsin to 139 percent of normal at Menomonie WWTP weather station in west central Wisconsin (Matt Menne, Acting State Climatologist, UW-Extension, Geological and Natural History Survey, written commun., 1998).

Runoff differed for rivers throughout the State and ranged from 70 percent in southeast Wisconsin to 169 percent in west central and northwest Wisconsin. Runoff was lowest (70 percent of the average annual runoff from 1964-97) for the Root River Canal near Franklin and highest (169 percent of the average annual runoff from 1902-70, 1987-97) for the Apple River near Somerset. Departures of runoff in the 1997 water year as a percent of long-term average runoff in the State are shown in Figure 1.

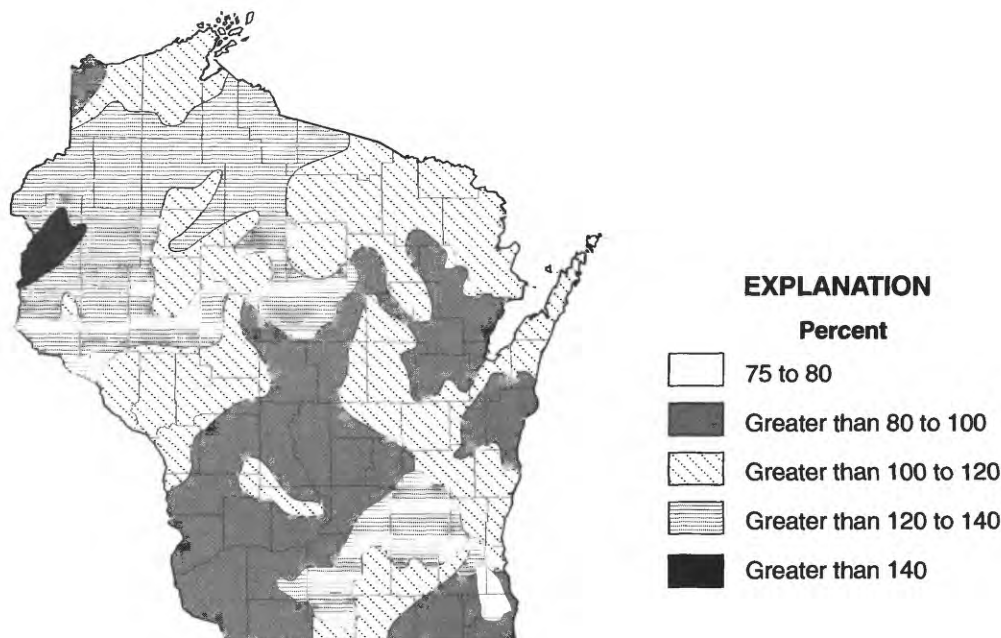


Figure 1. 1997 runoff as percentage of long-term average runoff.

ANNUAL DISCHARGE, IN CUBIC FEET PER SECOND

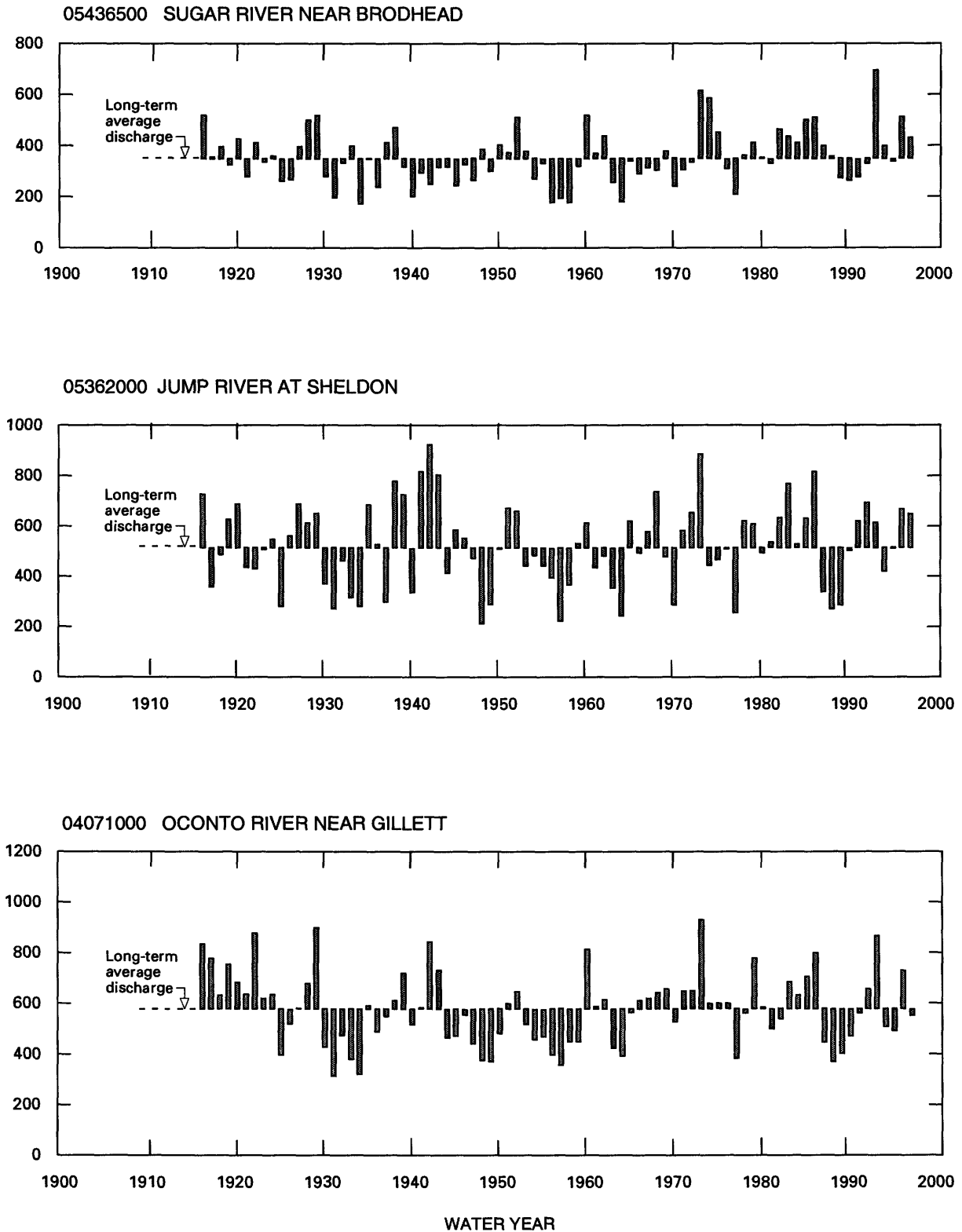


Figure 2. Comparison of annual discharge at representative gaging stations to their long-term average discharge for water years 1916 – 1997.

WATER RESOURCES DATA - WISCONSIN, 1997

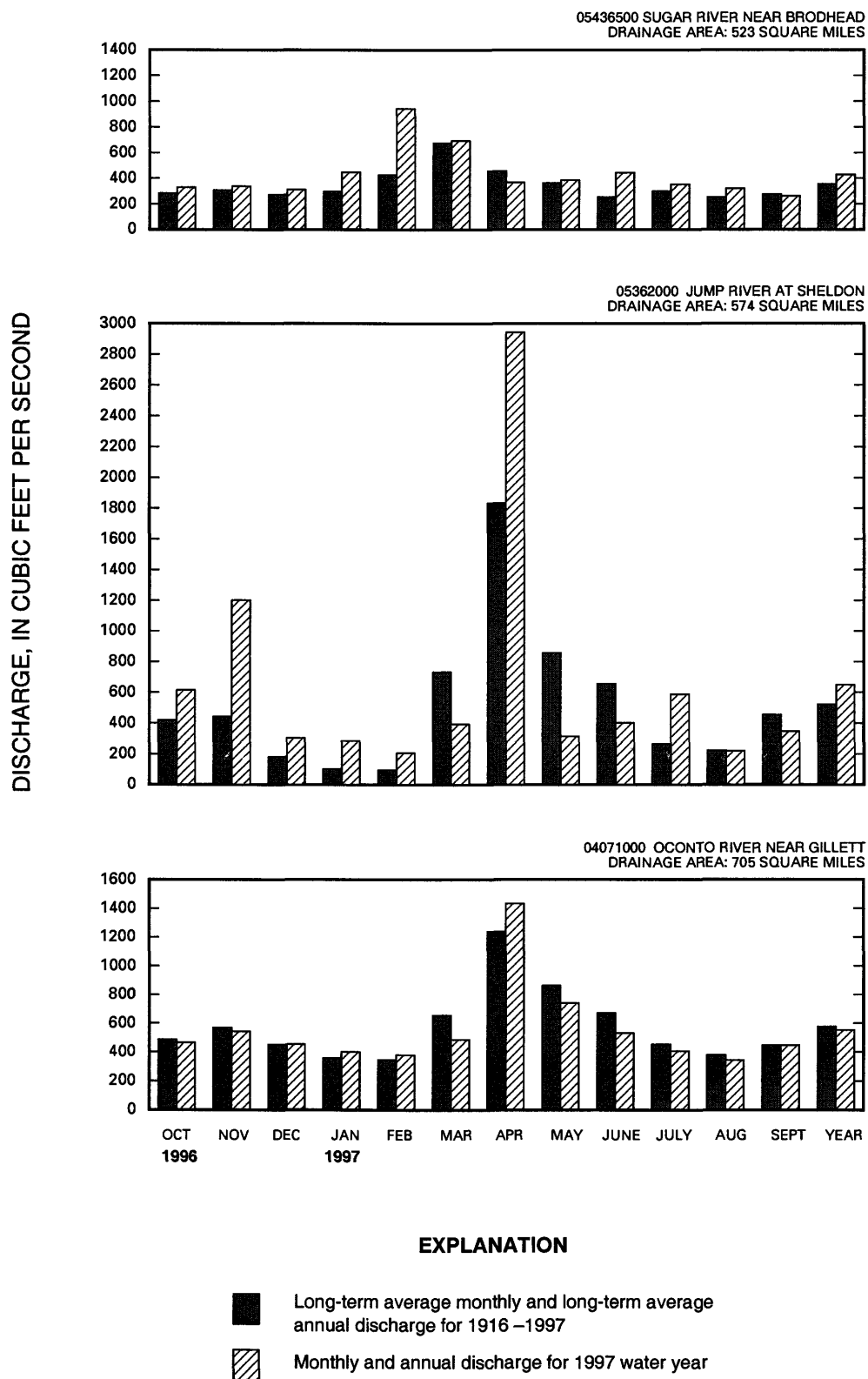


Figure 3. Comparison of discharge at representative gaging stations during 1997 water year with discharge for 1916–1997.

Annual discharges for the individual water years (1916-97) at the Oconto River near Gillett, Jump River at Sheldon, and Sugar River near Brodhead are shown in Figure 2. The comparison of monthly and annual discharges for the 1997 water year to discharge for a 82-year base period at the same three gaging stations are shown in Figure 3.

Low flows occurred at three gaging stations where the annual minimum 7-consecutive day average flows (Q7) had recurrence intervals of 2 or more years. The three stations were located in southern Wisconsin. The Q7 values and recurrence intervals for gaging stations that equalled or exceeded 2 years are listed in the following table:

Station number	Station name	Date	Q7 (ft ³ /s)	Recurrence interval (years)
04087223	Root River Canal near Franklin	Oct. 10-16	1.8	3
05414000	Platte River near Rockville	Dec. 19-25	36	2
05544200	Mukwonago River at Mukwonago	June 3-9	16	2

Runoff from snowmelt caused flooding in northern Wisconsin in early April. An isolated storm in July and major thunderstorms in June also caused floods with discharges that equalled or exceeded those with a recurrence interval of 10 years (Krug and others, 1991). Numerous thunderstorms moved through Milwaukee County on June 20 and 21 (Milwaukee Journal Sentinel, June 22, 1997) and caused major flooding. A number of communities in Milwaukee County recorded rainfall amounts of more than 6 inches for June 20 and 21, and the maximum recorded amount of 9.78 inches occurred at Brown Deer (Milwaukee Journal Sentinel, June 22, 1997). The rainfall in Brown Deer exceeded the 100-year 48-hour precipitation of between 7 and 8 inches for this area (Huff and Angel, 1992). The flooding caused at least \$87.7 million in damage according to Governor Thompson. The Clinton administration declared the flooding a disaster, freeing money to help people and businesses in southeastern Wisconsin (Wisconsin State Journal, July 8, 1997). Peak discharges at 15 stations which had recurrence intervals that equalled or exceed 10 years are summarized in the following table:

Station number	Station name	Date	Peak discharge (ft ³ /s)	Recurrence interval (years)
04069700	North Fork Oconto River near Wabeno	Apr. 5	250	10
04073400	Bird Creek at Wautoma	July 17	142	15
04074850	Lily River near Lily	Apr. 5	152	15
04086000	Sheboygan River at Sheboygan	June 21	6,380	11
04087000	Milwaukee River at Milwaukee	June 21	16,500	>100
04087030	Menomonee River at Menomonee Falls	June 21	1,500	70
04087088	Underwood River at Wauwatosa	June 21	4,650	>100
04087100	Honey Creek at Milwaukee	June 21	1,100	>100
04087120	Menomonee River at Wauwatosa	June 21	13,500	85
04087204	Oak Creek at South Milwaukee	June 21	1,110	40
05332500	Namekagon River near Trego	Apr. 7	2,610	34
05340500	St. Croix River at St. Croix Falls	Apr. 8	41,200	11
05405600	Rowan Creek at Poynette	June 16	990	15
05436200	Gill Creek near Brooklyn	Feb. 19	210	15
05548150	North Branch Nippersink Creek near Genoa City	Feb. 21	295	12

References cited:

- Huff, Floyd A., and Angel, James R., 1992, Rainfall Frequency Atlas of the Midwest: Midwestern Climate Center Research Report 92-03, Bulletin 71, p.95.
- Krug, W. R., Conger, D. H., and Gebert, W. A., 1991, Flood-frequency Characteristics of Wisconsin Streams: U.S. Geological Survey Water-Resources Investigations Report 91-4128, 185 p.
- Milwaukee Journal Sentinel, Storm system was 'one-two punch': Milwaukee, Wis., June 22, 1997.
- _____, The Big Flood of 97, Worst rain since '86 swamps metro area: Milwaukee, Wis., June 22, 1997.
- Wisconsin State Journal, Flooding victims qualify for aid: Madison, Wis., July 8, 1997.

Water Quality

Suspended-sediment and total phosphorus yields for the 1997 water year at two monitoring stations in southern Wisconsin showed suspended sediment yields slightly higher than the long-term annual average and total phosphorus yields lower than the long-term average. The suspended-sediment yield at the Grant River at Burton in southwestern Wisconsin was 255 tons/mi² (tons per square mile), or 104 percent of the average annual yield for 1978-97. The suspended-sediment yield for Jackson Creek Tributary near Elkhorn in southeastern Wisconsin for water year 1997 was 87 tons/mi², which was 118 percent of the average annual yield for the period 1984-97. The total phosphorus yield for Jackson Creek Tributary was 318 lbs/mi² (pounds per square mile), or 69 percent of the 1984-97 annual average.

Ground-Water Levels

Maps showing the seasonal ground-water trends for the year (fig. 4) are based on water-level data from 23 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 October through December 1996; WINTER consists of measurements from January through March 1997; SPRING consists of measurements from April through June 1997; and SUMMER consists of measurements from July through September 1997. Mean seasonal water levels were compared to the long-term mean seasonal water levels. The 1997 water level was considered normal if it was within one-half of the standard deviation on the long-term mean.

In general, shallow ground-water levels during the 1997 water year were normal to above normal for most of the wells in the State. Chippewa, Trempealeau, and Milwaukee Counties had below normal ground-water levels at the beginning of the water year, and some of those levels remained below normal for the entire water year. The large extent of normal and above-normal ground-water levels can be attributed to near normal rainfall during the 1997 water year and normal rainfall during the previous water year.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's Largest river basins--the Mississippi, Columbia, Colorado, and Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead federal agency, the USGS works together with over 100 organizations to accomplish the following objectives; (1) provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation chemistry monitoring sites, (2) provide the mechanism to evaluate the effectiveness of the significant reduction in SO₂ emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred, (3) provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO₂ and NO_x scheduled to begin in 2000.

Data from the network, as well as information about individual sites, are available through the world wide web at:

<http://nadp.nrel.colostat.edu/NADP>

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 53 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representative from key federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies.

Additional information about the NAWQA Program is available through the world wide web at:

http://wwwrvares.er.usgs.gov/nawqa/nawqa_home.html

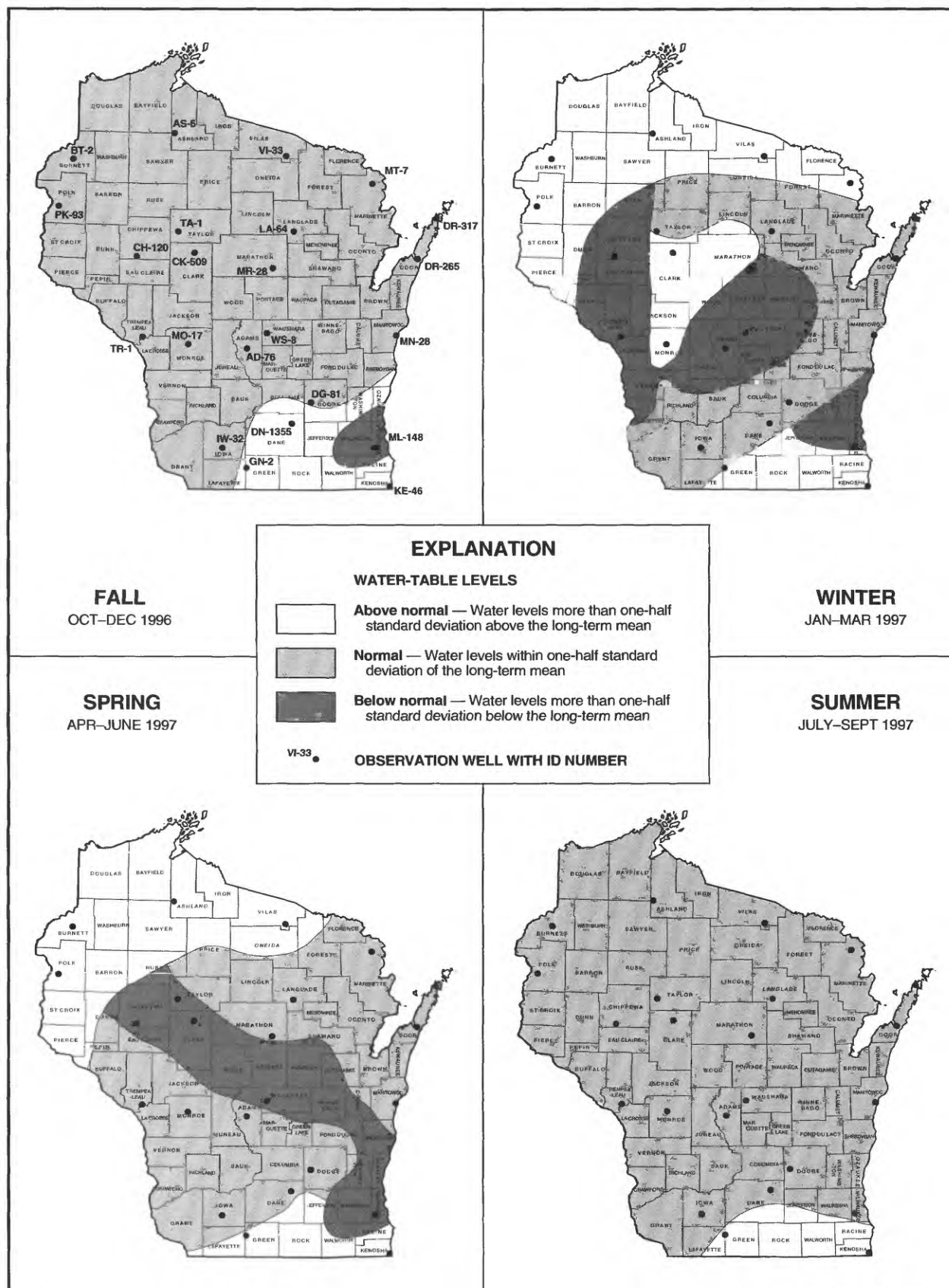


Figure 4. Relation of seasonal water-table levels to long-term means.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are from the 1997 water year that began October 1, 1996, and ended September 30, 1997. 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; precipitation data; surface and ground water; and ground-water-level data. 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 figure 6.

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

In this report each data station, whether streamsite or well, 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 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 on streams and a unique 15-digit number is used for lakes, wells, and precipitation monitoring sites.

Downstream Order and Station Number

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- to ten-digit number for each station, such as 04087000, 054310157, or 0407809265, which appears just to the left of the station name, includes the two-digit Part number "04" or "05" plus the six- to eight-digit downstream-order number ("087000", "4310157", or "07809265"). 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, Lake, and Precipitation Data Sites

Wells, springs, sites on lakes, and precipitation gages 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 are commonly published for such stations, they are referred to as "daily stations." By contrast, partial records consist of 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. Each type of station is 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, from a tape punched at selected intervals on a water-stage recorder, or from electronic data logger. 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. Acoustic velocity meters have also been installed at some locations where aforementioned problems occur. 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.

Data Presentation

Streamflow data in this report are presented in a format that is considerably different from the format in data reports prior to the 1992 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or stations manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consists of four parts: the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station manuscripts

The manuscript provides, under various headings, descriptive information such as station location; period of record; historical extremes outside the period of record; 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.

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 sea level (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 an estimated record, this information will be presented as the first entry of the paragraph. 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 any other pertinent items.

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

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.

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.

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

Headings for AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, AND EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges in the EXTREMES FOR CURRENT YEAR paragraph, is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph, as appropriate. The RATING TABLE heading has also been deleted. No changes have been made to the data presentation of lake contents.

Data table of daily mean values

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly 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 is usually also 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.

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS _____ - _____, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period as appropriate. The designated period selected, "WATER YEARS _____ - _____," will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (see line headings below), except for the "ANNUAL" 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office (see address on back of title page of this report).

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the date of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

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

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile area drained, assuming the runoff is distributed uniformly in time and area.

Inches (INCHES) indicates the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that is exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge that is exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge that is exceeded 90 percent of the time for the designated period.

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 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 streamgaging stations, because interpretation of records of stream-water quality nearly always requires corresponding stream discharge data. The stream discharge shown with a water-quality analysis is the instantaneous value corresponding to the time of sample collection ("Streamflow, Instantaneous") whenever possible. When an instantaneous discharge value is not available, the daily mean discharge ("Discharge, in Cubic Feet per Second") is given if available. 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. More limited water-quality data are collected at gaging stations and other sites on streams. These data include measurements of water temperature and specific conductance made at gaging stations and water-quality analyses of samples collected at gaging stations and other sites on streams for reconnaissance and other special purposes. These data are presented separately 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 quality of the water at the time of sampling. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen concentration, are made on site when the samples are taken. To assure that measurements made in the laboratory also reflect the original quality of the water, 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 detailed in the TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. These references are listed in the PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS section of this report. These methods are consistent with ASTM standards and generally follow ISO standards.

One sample can adequately define 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 the discharge of suspended and dissolved materials. Water quality in lakes may differ with depth and laterally at a particular depth depending on thermal stratification and other physical and biological factors.

Water-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 digital monitors, daily maximum, minimum, and mean values for each constituent or property are computed and reported herein. Records of recorded values used in the computations are on file at the U.S. Geological Survey (USGS) Wisconsin District Office.

Transport of suspended and dissolved materials

Samples used for computing discharge of suspended and dissolved materials (suspended sediment, suspended solids, phosphorus, and nitrogen) are collected using a number of sampling methods. Sample types include flow-integrated samples collected using a depth-integrating sampler at multiple locations in a stream cross section (equal-width increment or EWI samples), samples collected using depth-integrating sampler at a single location in a cross section, or point samples collected by an automated sampler from a single point in a cross section. Coefficients are used to compensate for concentration differences between flow-integrated samples and samples collected at single points or single locations.

Samples are collected more frequently during periods of rapidly-changing stream discharge than during stable periods. Discharges of suspended and dissolved materials for days of rapidly-changing stream discharge are computed by the subdivided day (time-discharge weighted average) method. Methods used in the computation of sediment records are described in the TWRI Book 3, Chapters C1 and C3 listed in PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS. These methods are consistent with ASTM standards and generally follow ISO standards. For periods when no samples were collected, discharges of suspended and dissolved material are estimated from stream discharge and constituent concentrations from adjacent time periods and periods with similar stream discharges. Suspended-sediment and suspended-solids discharges of less than 0.005 tons/day are reported as 0.00 tons/day, and phosphorus and nitrogen discharges of less than 0.005 pounds per day (lb/day) are reported as 0.00 lb/day.

In addition to the records of suspended-sediment discharge and concentration, records of the periodic measurements of 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 USGS Iowa District Sediment Laboratory. Chemical analyses, other than field measurements, are done by the USGS National Water Quality Laboratory unless indicated otherwise in the descriptive heading for the station. Methods used by USGS laboratories to analyze water and sediment samples and to compute sediment records are described in the TWRI Book 5, Chapter C1. Methods used by the U.S. Geological Survey laboratories are given in the TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards.

In March 1989, the USGS National Water-Quality Laboratory discovered a bias in their turbidimetric method for sulfate analysis, indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and July 1989. The magnitude of the bias differs among stations.

A problem has been identified with total phosphorus and total Kjeldahl nitrogen analyses done by the USGS National Water Quality Laboratory prior to Oct. 1, 1991. Some time after 1975, an error was introduced during a rewrite of the laboratory method for digestion of samples for total phosphorus or total Kjeldahl nitrogen analyses. The error resulted in incomplete digestion of samples causing a negative bias in the total phosphorus and total Kjeldahl nitrogen concentrations reported for many samples. The amount of bias is variable, but it generally increases with increasing concentrations of particulate phosphorus, suspended sediment, or organic carbon in the sample. In the absence of split-sample data, there is no scientifically defensible way to correct for the bias. Total phosphorus loads calculated using concentration data for samples analyzed prior to October 1991 may also have a sizeable negative bias. A new digestion procedure was implemented effective Oct. 1, 1991, that eliminated the bias.

Dissolved Trace-Element Concentrations

Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter ($\mu\text{g/L}$) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the $\mu\text{g/L}$ level should be reviewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994. Full implementation of the protocols took place during the 1995 water year.

Collecting and Analyzing Agencies

All water-quality analyses stored in USGS computer files (WATSTORE) contain codes that identify the agencies that collected the sample (collecting agency) and analyzed it (analyzing agency). Codes in use for Wisconsin data are as follows:

<u>Agency</u>	<u>Agency Code</u>
U.S. Geological Survey	1028
U.S. Geological Survey, National Water- Quality Laboratory	80020
Wisconsin State Laboratory of Hygiene	85543
Wisconsin Department of Natural Resources	85545

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, laboratories (if other than USGS), cooperation, and extremes for daily discharges of suspended and dissolved materials. For each station, tables of data collected at less-than-daily frequency are presented first followed by tables of daily values.

The concentrations of some constituents are given as less than a particular value (see "Remark Codes"); 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.

The five-digit numbers in parentheses in column headings in many of the water-quality tables are codes that identify the constituent or property in USGS computer files (WATSTORE).

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 constituents or properties measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for each constituent or property.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor, temperature recorder, automated 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. Laboratories other than USGS laboratories are identified.

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 USGS 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 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:

PRINTED OUTPUT

REMARK

E, 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)

Records of Ground-Water Levels

Water-level data for 52 wells are given in this report. The locations of these wells are shown in 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 52 wells are presented in this report, water-level data are currently being collected for a total of 136 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 nine 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), that consists of a two-letter abbreviation of the county name, the township-range-section location of the well, and a four-digit identification number that is unique within the county.

Water-level records are obtained from direct measurements with a steel tape or from a continuous water-level 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 sea level and the distance 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.

Data Presentation

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.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method.

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) sea level; 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.

ACCESS TO U.S. GEOLOGICAL SURVEY WATER DATA

The U.S. Geological Survey provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (WWW). These data may be accessed at

<http://water.usgs.gov>

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division's District offices. (See address on the back of the title page.)

DEFINITION OF TERMS

Terms used in this report with reference to streamflow, water-quality, and other hydrologic data are defined below. For conversion of inch-pound units and International System (SI) units see the table on the inside of the back cover.

Acre-foot (acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot. It is the equivalent of 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Bacteria are microscopic, unicellular organisms, typically spherical, rod-like, or spiral and threadlike in shape, and often clumped into colonies. Some bacteria cause disease; others perform essential roles in the natural recycling of materials such as decomposing organic matter into forms available for reuse by plants.

Fecal coliform bacteria are present in the intestines of warmblooded animals and are used to determine the sanitary quality of water. They are defined as those organisms that produce blue colonies within 24 hours when incubated at $44.5^{\circ}\text{C} + 0.2^{\circ}$ on M-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 KF-streptococcus 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 foot per second (ft^3/s) represents a volume of 1 cubic foot of water passing a given point during 1 second and is the equivalent of 7.48 gallons per second, 448.8 gallons per minute, or 0.02832 cubic meters per second.

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.

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 $0.45\ \mu\text{m}$ 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 (CaCO_3). Hardness is commonly recognized by the increased quantity of soap required to produce lather.

Hydrologic unit designates part or all of a surface-drainage basin delineated by the Office of Water Data Coordination; each hydrologic unit is identified by an 8-digit number.

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

Micrograms per gram ($\mu\text{g/g}$) indicates the concentration of a chemical constituent as the mass (micrograms) of that constituent per unit mass (gram) of sediment.

Micrograms per kilogram ($\mu\text{g/kg}$) indicates the concentration of a chemical constituent as mass (micrograms) of that constituent per unit mass (kilogram) of sediment.

Micrograms per liter ($\mu\text{g/L}$) indicates the concentration of a chemical constituent as the mass (micrograms) of that constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter.

Milligrams per liter (mg/L) indicates the concentration of a chemical constituent or suspended sediment as the mass (milligrams) per unit volume (liter) of water.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent mean sea level at any particular place.

Partial-record station is a site for the systematic collection of limited streamflow or water-quality data over a period of years.

Particle size is measured as the diameter, in millimeters (mm), of suspended sediment and bed material determined by sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) measure the fall diameter of particles in distilled water (chemically dispersed) or native water (surface water at the time and point of sampling).

Particle-size classification for this report is based on recommendations of the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay	0.00024 - 0.004	Sedimentation.
Silt004 - .062	Sedimentation.
Sand062 - 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.

Sea level, in the report, refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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 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.

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.

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 µm membrane filter has been digested by dilute acid that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter usually is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45 mm 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, Branch of Information Services, Box 25286, Federal Center, 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."

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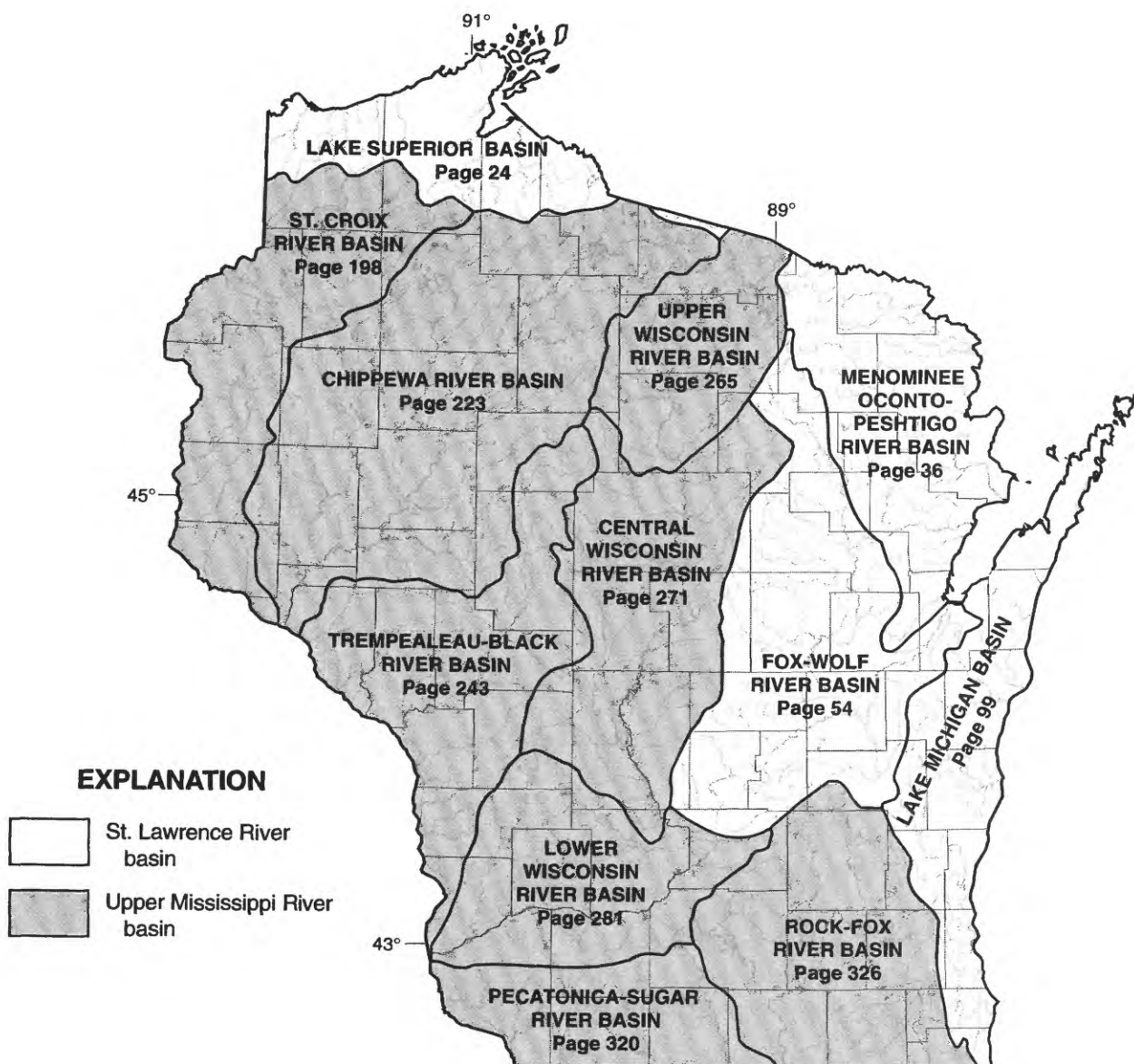
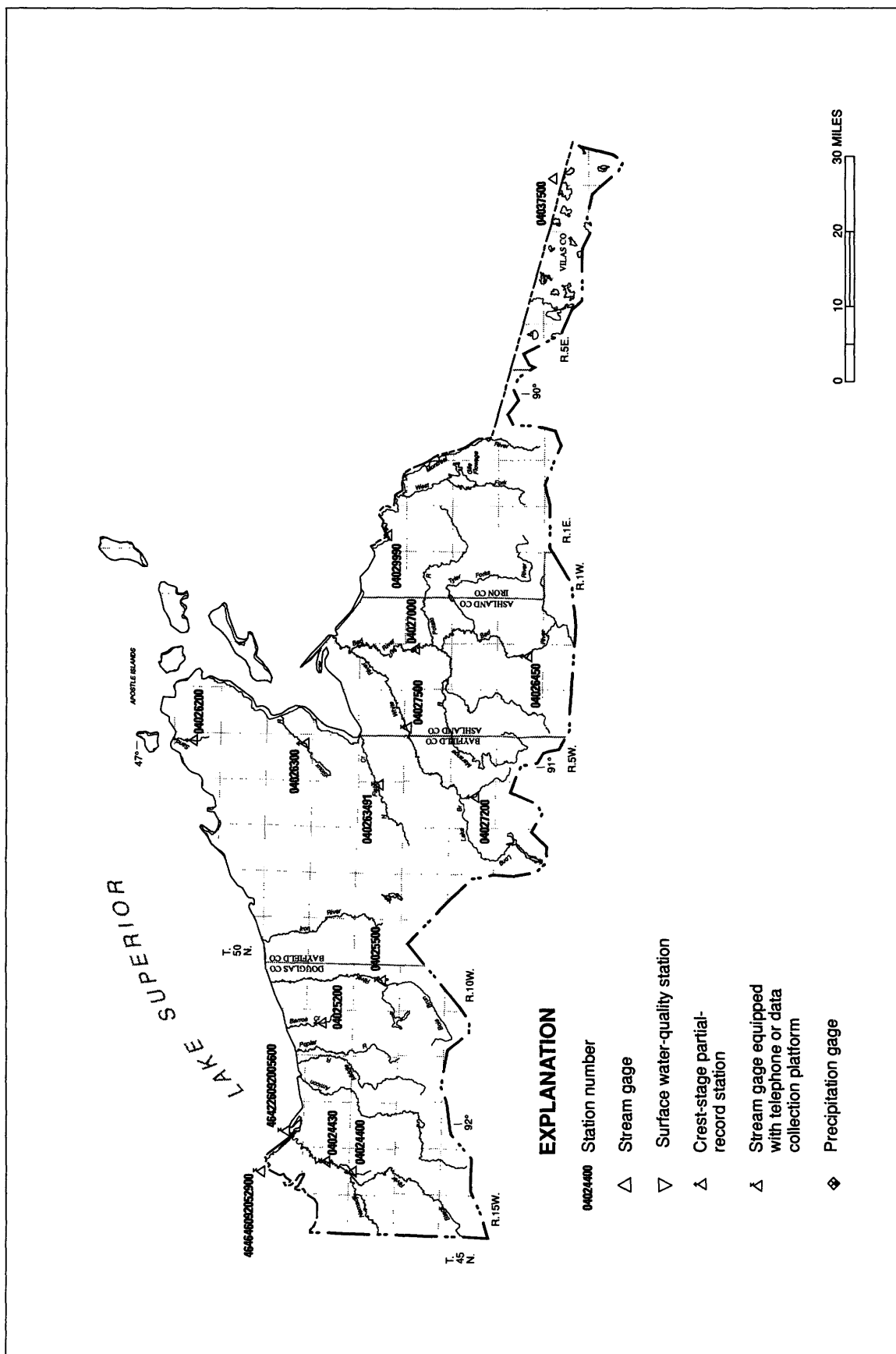


Figure 5. Major surface-water drainage basins and index of hydrologic records.

ST. LAWRENCE RIVER BASIN RECORDS



Base from U.S. Geological Survey 1:100,000 digital data, modified by Wisconsin Department of Natural Resources. Wisconsin Transverse Mercator projection.

LAKE SUPERIOR BASIN

STREAMS TRIBUTARY TO LAKE SUPERIOR
464646092052900 SUPERIOR BAY DULUTH SHIP CANAL AT DULUTH, MN

25

LOCATION.--Lat 46°46'46", long 92°05'29", in SE 1/4 SE 1/4 sec.27, T.50 N., R.14 W., St. Louis County, Hydrologic Unit 04020300, on left bank about 200 ft downstream from lift bridge on Lake Avenue at Canal Park marine museum in Duluth, MN.

DRAINAGE AREA.--4,200 mi², approximately, equals total drainage area to Superior Bay.

PERIOD OF RECORD.--October 1994 to current year (fragmentary).

REVISED RECORDS.--WRD WI-96-1: Drainage area.

GAGE.--Acoustical Velocity Meter (AVM) system. Two-path transducer installation.

REMARKS.--No estimated daily discharges. Records fair (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1260	-1190	1380	885	532	1560	1800	---	807	1030	924	752
2	-3720	122	1470	415	743	-330	3400	---	1020	3520	714	717
3	156	1830	1910	6.7	347	493	2730	---	545	1750	-374	477
4	558	1810	825	2770	875	989	4670	---	564	3100	-500	613
5	761	1430	1110	3690	1340	864	5620	---	1130	5420	541	1920
6	-1360	2630	1070	767	69	729	11600	---	830	3030	1060	175
7	375	187	1400	421	1140	282	9220	790	560	3350	1350	-641
8	51	-347	2460	1030	1560	372	9550	-1450	1100	2100	2200	205
9	-2840	-2370	1280	639	415	1600	8710	-5560	1400	1480	969	-14
10	-487	-2000	58	2510	849	247	7630	1620	1300	1830	-1030	-439
11	221	-1250	-224	1310	769	1020	5920	-1910	886	580	1010	824
12	492	-164	1550	337	263	637	5890	-5660	-92	334	-993	731
13	103	929	793	929	804	524	5090	1370	232	1280	-214	1180
14	773	37	173	-116	484	982	5950	-849	180	1270	683	1830
15	647	735	2000	2930	189	407	6820	-2800	1010	1940	-2170	-271
16	502	1100	-108	1260	352	-79	5560	1600	-850	916	-879	-114
17	803	6160	101	574	289	577	4700	1190	-99	844	1190	925
18	-1030	2660	2210	1170	911	667	---	2300	2050	68	869	1280
19	1370	3990	2160	1070	660	898	---	-59	380	-742	213	-98
20	546	2470	252	381	324	240	---	-619	755	991	12	-548
21	1490	2950	1360	1390	616	1410	---	1160	476	1110	1400	1620
22	200	2180	2690	677	1370	1280	---	1280	1420	1960	301	1190
23	-1330	2920	3940	205	497	1000	---	1300	-278	1160	-127	1150
24	-93	2650	2810	1630	1350	391	---	1040	1880	567	-269	1190
25	1360	2420	1070	1310	790	1630	---	1130	966	1010	795	-971
26	1390	2020	825	157	-211	706	---	1820	3720	732	468	421
27	1170	1930	302	1640	894	-372	---	1520	3480	1250	-269	-1560
28	834	531	1940	-11	660	1880	---	1780	1680	689	1090	1150
29	1510	980	784	817	---	1020	---	1620	2430	1150	-688	-1500
30	-2020	2170	-215	525	---	2120	---	1510	2910	1050	246	-2730
31	-276	---	-34	847	---	1200	---	980	---	1590	649	---
TOTAL	3416	39520	37342	32165.7	18881	24944	---	---	32392	46359	9171	9464
MEAN	110	1317	1205	1038	674	805	---	---	1080	1495	296	315
MAX	1510	6160	3940	3690	1560	2120	---	---	3720	5420	2200	1920
MIN	-3720	-2370	-224	-116	-211	-372	---	---	-850	-742	-2170	-2730

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1997, BY WATER YEAR (WY)

	1995	1996	1997	1995	1996	1997	1995	1996	1997	1995	1996	1997
MEAN	1022	872	1035	1391	1197	1159	2852	1256	944	1700	421	336
MAX	1933	1317	1205	1993	1786	1580	4563	1437	1080	1905	547	647
(WY)	1996	1997	1997	1996	1996	1995	1996	1996	1997	1996	1996	1995
MIN	110	638	936	1038	674	805	1141	1076	809	1495	296	46.5
(WY)	1997	1995	1995	1997	1997	1997	1995	1995	1996	1997	1997	1996

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1995 - 1997

ANNUAL TOTAL	510854.0											
ANNUAL MEAN	1396									1476		
HIGHEST ANNUAL MEAN										1476		1996
LOWEST ANNUAL MEAN										1476		1996
HIGHEST DAILY MEAN	13400	Apr 20				11600	Apr 6		13400	Apr 20		1996
LOWEST DAILY MEAN	-3720	Oct 2				-5660	May 12		-5660	May 12		1997
ANNUAL SEVEN-DAY MINIMUM	-738	Nov 8				-1970	May 9		-1970	May 9		1997
10 PERCENT EXCEEDS	3000					2670			2840			
50 PERCENT EXCEEDS	1180					867			996			
90 PERCENT EXCEEDS	-204					-373			-365			

STREAMS TRIBUTARY TO LAKE SUPERIOR
464226092005600 SUPERIOR BAY ENTRY CHANNEL AT SUPERIOR, WI

LOCATION.--Lat 46°42'26", long 92°00'56", in SW 1/4 SW 1/4 sec.21, T.49 N., R.13 W., Douglas County, Hydrologic Unit 04010301, on right bank about 600 ft northeast of Coast Guard Station at northwest end of Wisconsin Point at Superior.

DRAINAGE AREA.--4,200 mi², approximately, equals total drainage area to Superior Bay.

PERIOD OF RECORD.--October 1995 to current year (fragmentary).

GAGE.--Acoustical Velocity Meter (AVM) system. Two-path transducer installation.

REMARKS.--Estimated daily discharges: June 12, July 18, Aug. 2, and Sept. 26. Records fair except estimated daily discharges, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2140	6670	1650	2030	1190	3380	3300	5830	712	6650	4000	1550
2	8460	6080	269	2080	1560	-534	5600	4900	-9.3	8710	65	1980
3	428	3220	1370	361	615	1390	5960	10100	1920	9090	2210	2280
4	932	2070	1900	-977	1610	2180	9060	4110	689	9920	2000	962
5	121	4190	3170	1640	2040	882	10600	9690	1260	9930	1870	1980
6	3970	8020	2440	39	219	1040	20500	2820	504	7590	2190	1030
7	1390	2900	2230	859	1410	66	13100	2750	1550	5800	1230	3100
8	1940	7130	780	1350	1910	323	12900	9760	1940	6260	-1170	1790
9	5300	9540	2130	1880	389	3210	13500	9640	847	4520	2500	2250
10	2280	8180	1400	2970	869	577	11800	809	-1510	3690	4200	1240
11	304	6740	3050	1300	1330	913	10700	9320	-2410	2940	2150	-392
12	2080	4510	4350	1100	168	115	10500	9330	-2900	3220	2560	-153
13	1570	1820	1600	2300	1670	1610	9140	1500	1290	3420	2240	1290
14	-1140	2090	508	274	1160	2920	10100	5260	-199	5080	879	1090
15	2700	3630	3130	1360	663	616	12400	7830	3800	2260	4580	933
16	1130	2740	427	-377	363	-386	10500	1640	1720	1420	2350	4580
17	4550	12700	1060	540	969	1450	8270	1650	267	3330	876	494
18	---	5970	538	1860	1730	1020	8390	3290	1630	4420	752	-1640
19	---	5700	-335	1570	832	942	8990	6260	272	2580	1370	4570
20	---	5880	1140	205	2110	769	9260	5010	2990	440	2290	3270
21	---	5710	286	2000	1400	3140	9210	2700	2140	2430	980	1180
22	---	3640	-1720	1660	1130	1620	8460	2530	98	111	682	-430
23	---	3320	176	2670	502	1190	8460	3700	1330	1820	1340	1280
24	---	3910	-2710	3240	1950	838	7500	3260	4340	1700	1290	5020
25	---	2940	-1390	2340	697	2510	6580	3360	5310	2560	1360	3580
26	---	2200	-1560	560	-420	1410	6440	3550	5880	2980	2390	3080
27	8520	3200	-591	3140	1780	780	6530	3180	7530	3410	2140	---
28	2260	2110	3930	324	684	3800	4890	2350	5850	2590	371	---
29	1740	2770	841	1470	---	1540	9780	2650	4650	2330	1890	---
30	12900	4440	903	1870	---	3520	4780	1660	6920	-319	3280	---
31	8260	---	4170	2000	---	2060	---	812	---	717	383	---
TOTAL	---	144020	35142	43638	30530	44891	277200	141251	58410.7	121599	55248	---
MEAN	---	4801	1134	1408	1090	1448	9240	4556	1947	3923	1782	---
MAX	---	12700	4350	3240	2110	3800	20500	10100	7530	9930	4580	---
MIN	---	1820	-2710	-977	-420	-534	3300	809	-2900	-319	-1170	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1997, BY WATER YEAR (WY)

	1995	1996	1997	1995	1996	1997	1995	1996	1997	1995	1996	1997
MEAN	---	4801	1134	1408	1090	1448	9240	4772	2143	4790	1835	1768
MAX	---	4801	1134	1408	1090	1448	9240	4987	2338	5657	1887	1768
(WY)	---	1997	1997	1997	1997	1997	1997	1996	1996	1996	1996	1996
MIN	---	4801	1134	1408	1090	1448	9240	4556	1947	3923	1782	1768
(WY)	---	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR
(APRIL 18 - DECEMBER 31)

FOR 1997 WATER YEAR

WATER YEARS 1995 - 1997

HIGHEST DAILY MEAN	21200	Apr 20	20500	Apr 6	21200	Apr 20 1996
LOWEST DAILY MEAN	-4490	Jun 15	(a) -2900	Jun 12	-4490	Jun 15 1996
ANNUAL SEVEN-DAY MINIMUM	-1070	Dec 21	-1070	Dec 21	-1070	Dec 21 1996
10 PERCENT EXCEEDS	8260		8350		8260	
50 PERCENT EXCEEDS	3030		2080		2390	
90 PERCENT EXCEEDS	-27		268		269	

(a) Estimated

STREAMS TRIBUTARY TO LAKE SUPERIOR
04024430 NEMADJI RIVER NEAR SOUTH SUPERIOR, WI

27

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.

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 sea level.

REMARKS.--Estimated daily discharges: Ice-affected period, Nov. 12 to Apr. 18. Records good except those for ice-affected period, which is poor (see page 11). Gage-height telemeter at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	557	390	180	150	150	1100	535	173	147	130	71
2	104	436	360	190	140	150	1700	477	157	153	117	71
3	94	367	340	190	140	150	2500	423	140	238	107	67
4	93	338	320	180	140	160	3700	375	127	868	96	65
5	82	314	320	180	140	170	4200	339	138	557	91	62
6	77	306	320	180	140	170	4600	310	178	373	90	59
7	74	401	310	180	140	170	5000	283	164	287	82	57
8	73	411	300	180	140	160	4100	296	139	275	75	56
9	72	347	290	180	140	170	3200	310	124	318	69	66
10	76	308	270	190	140	170	2800	296	111	277	64	71
11	80	244	240	190	140	170	2500	274	119	213	60	63
12	70	220	230	180	140	170	2300	265	90	172	58	60
13	69	210	220	170	140	170	2100	250	81	157	56	56
14	77	200	210	170	130	160	1900	237	79	245	56	56
15	75	200	210	160	130	160	2400	249	80	345	64	55
16	73	300	210	150	130	160	2400	283	102	289	92	57
17	92	2500	200	150	130	170	1800	269	98	273	160	71
18	212	3600	200	150	130	170	2000	260	98	227	135	82
19	207	2500	190	150	140	180	2150	328	94	184	123	89
20	177	1900	180	150	140	190	2100	432	89	158	135	77
21	158	1400	180	160	140	200	1940	363	82	142	259	71
22	159	1100	190	160	140	210	1680	307	76	127	235	67
23	187	860	190	150	140	220	1470	273	71	119	189	64
24	434	740	180	150	140	220	1310	265	186	113	160	56
25	383	600	170	140	140	230	1140	271	713	171	137	61
26	312	440	170	130	150	250	989	260	407	857	125	57
27	500	350	160	130	150	300	881	238	272	515	110	53
28	444	370	160	130	150	450	867	222	212	329	97	56
29	344	400	160	130	---	640	764	179	180	237	83	59
30	1230	400	170	140	---	900	645	178	160	187	76	60
31	904	---	180	150	---	1000	---	186	---	153	72	---
TOTAL	7046	22319	7220	5020	3910	7940	66236	9233	4740	8706	3403	1915
MEAN	227	744	233	162	140	256	2208	298	158	281	110	63.8
MAX	1230	3600	390	190	150	1000	5000	535	713	868	259	89
MIN	69	200	160	130	130	150	645	178	71	113	56	53
CFSM	.54	1.77	.55	.39	.33	.61	5.26	.71	.38	.67	.26	.15
IN.	.62	1.98	.64	.44	.35	.70	5.87	.82	.42	.77	.30	.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1997, BY WATER YEAR (WY)

	MEAN	353	331	143	84.6	94.8	462	1419	630	488	360	196	364
MAX	1082	1200	418	177	336	1088	2426	1355	1357	790	978	1485	
(WY)	1983	1992	1992	1984	1984	1995	1986	1979	1993	1986	1986	1986	
MIN	41.0	33.9	28.2	27.3	29.8	102	244	120	82.9	46.6	40.6	34.4	
(WY)	1977	1977	1977	1977	1977	1980	1987	1980	1988	1988	1976	1976	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1974 - 1997
ANNUAL TOTAL	175976	147688	
ANNUAL MEAN	481	405	410
HIGHEST ANNUAL MEAN			786
LOWEST ANNUAL MEAN			200
HIGHEST DAILY MEAN	6270	(a) 5000	7630
LOWEST DAILY MEAN	59	53	(a) 19
ANNUAL SEVEN-DAY MINIMUM	62	57	(a) 26
INSTANTANEOUS PEAK FLOW		(b)	(c) 13700
INSTANTANEOUS PEAK STAGE		(a) 23.01	25.97
ANNUAL RUNOFF (CFSM)	1.14	.96	.98
ANNUAL RUNOFF (INCHES)	15.59	13.08	13.27
10 PERCENT EXCEEDS	999	889	1000
50 PERCENT EXCEEDS	210	177	152
90 PERCENT EXCEEDS	81	71	58

- (a) Ice affected
(b) Unknown, ice affected
(c) From rating curve extended above 9,000 ft³/s

STREAMS TRIBUTARY TO LAKE SUPERIOR

04025500 BOIS BRULE RIVER AT 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.--118 mi².

PERIOD OF RECORD.--October 1942 to September 1981, January 1984 to current year. Prior to January 1943, monthly discharge published in WSP 1307. January 1984 to September 1994, incorrectly published as "near Brule."

REVISED RECORDS.--WSP 1337: 1943(M), 1944, 1945-50(M). WDR WI-92-1: Drainage area.

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

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 13-15, 18-29, Dec. 4, Dec. 14 to Feb. 17, Feb. 22-25, Mar. 7, 8, and 14-17. Records good except those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	242	209	160	150	159	201	244	166	155	141	144
2	151	225	204	170	150	158	248	234	162	160	139	139
3	150	211	198	170	140	156	289	226	159	175	141	136
4	148	202	190	170	140	158	332	218	163	214	141	134
5	148	204	190	160	150	157	386	212	171	203	137	133
6	148	203	188	150	150	153	536	205	167	198	136	133
7	147	201	186	150	150	150	522	200	162	182	135	133
8	146	196	183	150	140	150	498	205	159	194	133	133
9	147	193	181	150	140	155	452	211	156	188	132	135
10	145	191	179	160	150	154	421	203	153	177	133	133
11	143	184	176	150	150	154	393	201	151	166	131	132
12	143	179	177	150	150	153	379	205	151	159	130	131
13	142	170	175	150	140	151	372	201	148	173	130	131
14	141	170	160	150	150	150	379	198	145	275	133	132
15	143	170	160	150	150	150	400	200	158	232	145	132
16	143	223	160	150	140	140	401	197	167	204	163	138
17	168	413	160	140	150	150	379	191	162	192	156	143
18	175	360	160	140	156	155	386	192	160	177	149	140
19	169	300	160	150	156	155	402	201	157	166	142	137
20	160	270	150	150	155	156	390	199	153	160	153	134
21	158	250	160	150	156	158	378	192	149	157	153	132
22	158	240	160	160	150	157	360	185	145	154	148	132
23	219	230	160	160	150	157	341	183	141	153	144	131
24	248	220	170	150	150	158	324	184	166	151	141	131
25	232	210	160	150	150	162	309	180	222	174	141	130
26	217	200	150	140	154	162	292	175	201	180	139	130
27	201	190	150	140	153	169	283	172	180	172	136	131
28	186	190	150	140	152	178	288	169	163	162	135	135
29	197	200	160	140	---	182	276	170	156	152	134	134
30	292	210	160	150	---	186	257	171	162	146	139	133
31	271	---	160	150	---	186	---	168	---	143	147	---
TOTAL	5390	6647	5286	4700	4172	4919	10874	6092	4855	5494	4357	4022
MEAN	174	222	171	152	149	159	362	197	162	177	141	134
MAX	292	413	209	170	156	186	536	244	222	275	163	144
MIN	141	170	150	140	140	140	201	168	141	143	130	130
CFSM	1.47	1.88	1.45	1.28	1.26	1.34	3.07	1.67	1.37	1.50	1.19	1.14
IN.	1.70	2.10	1.67	1.48	1.32	1.55	3.43	1.92	1.53	1.73	1.37	1.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1997, BY WATER YEAR (WY)

MEAN	160	162	143	133	133	153	279	236	194	168	148	158
MAX	259	295	205	164	187	265	399	495	416	345	252	297
(WY)	1978	1972	1972	1984	1966	1945	1976	1950	1944	1952	1986	1951
MIN	110	119	113	104	104	105	157	140	122	108	114	108
(WY)	1949	1949	1948	1948	1948	1943	1959	1958	1948	1964	1948	1948

STREAMS TRIBUTARY TO LAKE SUPERIOR
04025500 BOIS BRULE RIVER AT BRULE, WI--CONTINUED

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SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1943 - 1997	
ANNUAL TOTAL	72854		66808		172	
ANNUAL MEAN	199		183		223	1972
HIGHEST ANNUAL MEAN					133	1948
LOWEST ANNUAL MEAN					1270	Jun 5 1944
HIGHEST DAILY MEAN	775	Apr 22	536	Apr 6	74	Mar 23 1943
LOWEST DAILY MEAN	(a) 120	Feb 3	130	(b) Aug 12, 13	89	Mar 23 1943
ANNUAL SEVEN-DAY MINIMUM	(a) 130	Feb 26	131	Sep 21	(c) 1520	Jun 5 1944
INSTANTANEOUS PEAK FLOW			590	Apr 6	(d) 5.20	Jun 5 1944
INSTANTANEOUS PEAK STAGE			3.52	Apr 6	67	Mar 13 1943
INSTANTANEOUS LOW FLOW			128	Aug 13, 14	1.46	
ANNUAL RUNOFF (CFSM)	1.69		1.55		19.79	
ANNUAL RUNOFF (INCHES)	22.97		21.06		257	
10 PERCENT EXCEEDS	294		249		148	
50 PERCENT EXCEEDS	168		160		120	
90 PERCENT EXCEEDS	140		137			

(a) Ice affected

(b) Also occurred Sept. 25, 26

(c) From rating curve extended above 750 ft³/s

(d) From graph based on gage readings

STREAMS TRIBUTARY TO LAKE SUPERIOR
040263491 NORTH FISH CREEK NEAR MOQUAH, WI

LOCATION.--Lat 46°32'56", long 91°03'43", in SW 1/4 SE 1/4 sec.13, T.47 N., R.6 W., Bayfield County, Hydrologic Unit 04010301, on left bank just downstream from bridge on old U.S. Highway 2, and 1.3 mi southeast of Moquah.

DRAINAGE AREA.--65.4 mi².

PERIOD OF RECORD.--October 1989 to September 1991, October 1994 to September 1997 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 660 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 25-28, Jan. 17-19, 26-31, Feb. 13, and Mar. 15, 16. Records good (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	90	77	63	63	66	188	72	60	58	55	54
2	61	79	71	63	62	66	454	70	60	63	55	54
3	61	75	68	62	62	66	805	68	59	65	56	54
4	62	74	66	68	62	67	709	67	60	86	55	54
5	62	76	66	65	62	66	653	67	76	68	54	54
6	62	75	66	63	62	65	740	65	64	62	54	54
7	62	72	65	62	62	65	227	65	61	60	54	54
8	63	70	64	66	63	64	147	66	59	78	54	54
9	63	69	64	65	62	65	120	73	58	75	55	54
10	63	67	64	65	63	66	112	69	57	63	54	54
11	63	66	63	64	63	65	109	70	57	59	54	54
12	63	64	63	63	62	65	120	74	57	57	54	54
13	63	63	63	63	62	67	131	73	57	60	54	54
14	63	62	63	63	62	66	156	72	56	66	57	54
15	63	66	65	64	62	62	176	73	60	60	65	54
16	64	282	64	62	61	62	146	71	59	58	97	57
17	93	667	63	62	62	63	116	69	58	57	68	56
18	77	164	64	62	64	62	127	83	58	56	60	56
19	70	110	63	62	66	64	128	111	58	55	58	57
20	67	85	63	62	69	67	116	83	57	55	63	55
21	67	77	64	63	73	70	105	73	57	55	60	55
22	67	73	63	69	70	68	96	68	56	55	58	55
23	205	72	64	68	68	69	90	68	56	55	57	55
24	151	69	60	68	66	71	87	70	134	55	57	54
25	89	67	60	65	66	71	82	69	131	80	56	55
26	76	65	60	64	66	77	79	66	74	67	55	54
27	77	64	60	62	65	103	82	64	62	59	54	55
28	70	65	62	62	64	120	85	63	59	57	54	56
29	345	65	62	62	---	138	79	64	57	56	54	55
30	307	74	63	62	---	136	75	64	57	55	55	55
31	123	---	62	62	---	130	---	62	---	55	54	---
TOTAL	2884	3067	1985	1976	1794	2352	6340	2192	1934	1910	1790	1640
MEAN	93.0	102	64.0	63.7	64.1	75.9	211	70.7	64.5	61.6	57.7	54.7
MAX	345	667	77	69	73	138	805	111	134	86	97	57
MIN	61	62	60	62	61	62	75	62	56	55	54	54
CFSM	1.42	1.56	.98	.97	.98	1.16	3.23	1.08	.99	.94	.88	.84
IN.	1.64	1.74	1.13	1.12	1.02	1.34	3.61	1.25	1.10	1.09	1.02	.93

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

	MEAN	76.5	66.6	55.4	55.8	56.9	106	150	79.8	74.8	90.8	59.3	84.9
MAX	110	102	64.0	63.7	64.1	141	248	98.6	97.6	155	74.4	135	135
(WY)	1991	1997	1997	1997	1997	1990	1996	1995	1991	1996	1990	1990	1990
MIN	50.7	53.1	50.8	53.5	51.9	63.8	87.8	59.6	56.8	51.2	52.1	53.9	53.9
(WY)	1995	1995	1995	1991	1995	1996	1990	1990	1990	1995	1991	1995	1995

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1990 - 1997

ANNUAL TOTAL	34414	29864	
ANNUAL MEAN	94.0	81.8	79.7
HIGHEST ANNUAL MEAN			87.9
LOWEST ANNUAL MEAN			67.5
HIGHEST DAILY MEAN	1460	805	1460
LOWEST DAILY MEAN	51	54	(a) 45
ANNUAL SEVEN-DAY MINIMUM	53	54	Aug 31
INSTANTANEOUS PEAK FLOW		1460	2310
INSTANTANEOUS PEAK STAGE		11.80	14.21
INSTANTANEOUS LOW FLOW		(c) 50	(c) 35
ANNUAL RUNOFF (CFSM)	1.44	1.25	1.22
ANNUAL RUNOFF (INCHES)	19.57	16.99	16.56
10 PERCENT EXCEEDS	127	107	106
50 PERCENT EXCEEDS	63	64	59
90 PERCENT EXCEEDS	54	55	52

(a) Also occurred Aug. 6-8,10-13,27-29,31, Sept. 1-15, and Sept. 24,26

(b) Estimated

(c) Result of freezeup

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.

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

GAGE.--Water-stage recorder. Datum of gage is 668.30 ft above sea level. 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: Ice-affected periods, Nov. 12-16 and Nov. 18 to Apr. 3. Records are good except those for ice-affected periods, which are poor (see page 11).

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

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	372	1630	540	410	370	410	1800	1020	514	246	205	207
2	317	1230	520	430	380	420	3500	871	452	277	190	279
3	287	990	520	450	380	420	5000	759	402	431	178	360
4	266	896	500	450	380	420	6840	669	375	874	172	312
5	251	871	480	440	390	420	7880	604	524	856	161	266
6	237	919	470	430	400	420	10300	785	804	645	152	240
7	232	979	460	400	400	410	9140	784	1080	512	146	219
8	230	890	470	390	390	410	5600	718	1030	545	139	206
9	233	794	460	390	390	420	3710	888	757	790	133	205
10	369	726	450	410	390	440	2780	1100	573	658	131	211
11	450	665	440	410	400	450	2180	978	461	499	132	203
12	394	640	430	400	400	450	1900	1420	393	395	131	192
13	354	600	430	390	400	450	1700	1640	343	333	129	183
14	318	580	420	390	400	440	1730	1890	304	327	130	176
15	286	580	420	390	400	440	2080	1900	273	314	221	174
16	274	1000	400	380	400	430	2560	1590	318	284	1010	175
17	441	3000	400	380	400	430	2260	1330	375	291	1020	225
18	1100	2800	390	380	420	440	2010	1150	358	303	779	268
19	957	2000	380	380	430	460	2010	1400	355	273	591	294
20	754	1500	370	380	440	480	2050	1460	332	240	545	376
21	629	1200	370	390	450	500	2130	1170	306	225	695	391
22	584	900	370	400	440	540	2090	946	282	208	602	338
23	1260	820	380	390	420	560	1950	844	260	197	496	296
24	2930	700	370	370	410	580	1800	811	260	186	447	258
25	2270	600	360	360	400	580	1640	742	388	218	422	235
26	1640	520	350	350	390	580	1480	662	350	557	368	215
27	1240	500	350	350	400	580	1330	590	294	564	317	200
28	988	500	370	360	400	800	1350	525	256	424	277	190
29	1050	520	380	360	---	1400	1330	481	233	322	248	190
30	3620	540	380	360	---	1600	1170	552	234	262	231	202
31	2350	---	390	370	---	1500	---	587	---	227	222	---
TOTAL	26683	30090	13020	12140	11270	17880	93300	30866	12886	12483	10620	7286
MEAN	861	1003	420	392	403	577	3110	996	430	403	343	243
MAX	3620	3000	540	450	450	1600	10300	1900	1080	874	1020	391
MIN	230	500	350	350	370	410	1170	481	233	186	129	174
CFSM	1.44	1.68	.70	.66	.67	.97	5.21	1.67	.72	.67	.57	.41
IN.	1.66	1.87	.81	.76	.70	1.11	5.81	1.92	.80	.78	.66	.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

MEAN	480	535	293	190	191	655	2212	1079	657	484	299	362
MAX	1861	2151	638	410	713	2494	4187	2752	2054	2311	1565	1775
(WY)	1986	1992	1992	1992	1984	1973	1960	1950	1951	1949	1972	1977
MIN	67.1	95.2	107	95.0	69.3	113	513	261	121	77.9	68.2	74.3
(WY)	1949	1949	1977	1917	1964	1917	1987	1980	1948	1964	1948	1976

STREAMS TRIBUTARY TO LAKE SUPERIOR
04027000 BAD RIVER NEAR ODANAH, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	348806		278524		622	
ANNUAL MEAN	953		763		942	1983
HIGHEST ANNUAL MEAN					346	1990
LOWEST ANNUAL MEAN					22000	Apr 24 1960
HIGHEST DAILY MEAN	12000	Apr 20	10300	Apr 6	52	(b) Oct 1 1948
LOWEST DAILY MEAN	(a) 160	Feb 3	129	Aug 13	54	Feb 19 1964
ANNUAL SEVEN-DAY MINIMUM	(a) 170	Jan 5	132	Aug 8	(c) 27700	Apr 24 1960
INSTANTANEOUS PEAK FLOW			11200	Apr 6	(d) 21.70	Apr 24 1960
INSTANTANEOUS PEAK STAGE			13.73	Apr 6	(e) 34	Nov 8 1976
INSTANTANEOUS LOW FLOW			125	Aug 14	1.04	
ANNUAL RUNOFF (CFSM)	1.60		1.28		14.16	
ANNUAL RUNOFF (INCHES)	21.73		17.36		1450	
10 PERCENT EXCEEDS	2290		1630		275	
50 PERCENT EXCEEDS	450		420		119	
90 PERCENT EXCEEDS	190		224			

(a) Ice affected

(b) Also occurred Aug. 6, 7, 1964

(c) 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

(d) From floodmarks

(e) Result of freezeup

STREAMS TRIBUTARY TO LAKE SUPERIOR
04027500 WHITE RIVER NEAR ASHLAND, WI

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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. WDR WI-92-1: 1952-53(M), 1960(M), 1967(M), 1972(M), and 1978(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 660.15 ft above sea level (Lake Superior District Power Co. bench mark). Prior to May 20, 1976, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 16-19 and Dec. 21 to Mar. 25. Records good except those for ice-affected periods, which are fair (see page 11). Diurnal fluctuation caused by hydroelectric plant at gage. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235	627	306	220	220	220	541	245	230	181	182	172
2	221	554	305	220	230	240	1290	235	218	220	178	199
3	208	429	304	220	230	230	1920	219	226	208	177	186
4	204	372	268	220	230	230	2000	226	227	248	177	192
5	201	308	258	220	220	230	2180	214	243	260	176	191
6	202	296	251	170	220	230	2670	217	262	246	175	188
7	202	267	254	160	230	200	1880	208	248	231	174	185
8	200	263	244	170	220	210	1620	206	241	220	176	184
9	198	258	239	180	220	220	1320	217	244	247	177	184
10	198	242	242	200	210	230	1010	208	222	250	168	184
11	198	233	238	230	220	240	707	213	213	217	174	184
12	199	207	241	250	230	240	585	214	204	209	169	183
13	199	176	237	250	220	230	535	218	206	197	166	180
14	198	195	233	230	220	180	478	223	201	239	168	175
15	197	202	215	230	220	180	613	220	197	245	211	175
16	170	399	170	240	220	220	554	224	199	235	202	188
17	230	1390	160	230	220	230	553	214	205	229	235	161
18	279	550	160	220	220	210	575	225	218	207	233	182
19	289	606	170	220	230	230	513	240	188	192	240	182
20	301	561	152	200	240	200	489	252	187	202	244	175
21	266	549	150	190	250	250	467	247	166	202	207	177
22	244	465	170	240	260	260	412	220	178	199	208	173
23	577	400	210	230	250	270	385	206	178	198	196	172
24	649	315	210	230	230	290	352	225	210	198	199	169
25	494	227	210	240	200	280	322	223	303	258	197	169
26	490	189	200	230	220	293	303	202	285	230	195	169
27	435	181	170	230	230	334	299	208	289	246	194	170
28	340	202	180	200	220	398	289	200	224	221	191	170
29	749	223	180	180	---	428	280	201	192	202	187	145
30	1010	276	200	190	---	447	256	221	184	187	187	134
31	591	---	210	210	---	412	---	216	---	185	189	---
TOTAL	10174	11162	6737	6650	6330	8062	25398	6807	6588	6809	5952	5298
MEAN	328	372	217	215	226	260	847	220	220	220	192	177
MAX	1010	1390	306	250	260	447	2670	252	303	260	244	199
MIN	170	176	150	160	200	180	256	200	166	181	166	134
CFSM	1.09	1.24	.72	.71	.75	.86	2.81	.73	.73	.73	.64	.59
IN.	1.26	1.38	.83	.82	.78	1.00	3.14	.84	.81	.84	.74	.65

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1997, BY WATER YEAR (WY)

MEAN	240	253	204	188	193	307	584	368	289	267	227	241
MAX	445	509	285	248	318	666	1062	867	707	697	744	635
(WY)	1983	1992	1961	1952	1984	1973	1996	1950	1952	1953	1972	1960
MIN	152	160	150	146	136	178	238	197	140	142	147	146
(WY)	1949	1977	1964	1991	1968	1965	1987	1980	1948	1988	1948	1948

SUMMARY STATISTICS FOR 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1948 - 1997

ANNUAL TOTAL	131506	105967	
ANNUAL MEAN	359	290	281
HIGHEST ANNUAL MEAN			426
LOWEST ANNUAL MEAN			217
HIGHEST DAILY MEAN	3460	Apr 19	4100
LOWEST DAILY MEAN	118	Sep 19	61
ANNUAL SEVEN-DAY MINIMUM	134	Sep 17	68
INSTANTANEOUS PEAK FLOW			3360
INSTANTANEOUS PEAK STAGE			5.07
ANNUAL RUNOFF (CFSM)	1.19	.96	7.90
ANNUAL RUNOFF (INCHES)	16.25	13.10	.93
10 PERCENT EXCEEDS	623	454	472
50 PERCENT EXCEEDS	244	220	210
90 PERCENT EXCEEDS	160	176	160

(a) From rating curve extended above 3,000 ft³/s

STREAMS TRIBUTARY TO LAKE SUPERIOR
04029990 MONTREAL RIVER AT SAXON FALLS NEAR SAXON, WI

LOCATION.--Lat 46°32'13", long 90°22'47", in SW 1/4 NW 1/4 sec.21, T.47 N., R.1 E., Iron County, Hydrologic Unit 04010302, at Saxon Falls powerhouse, 3.4 mi northeast of Saxon, and 3.8 mi upstream from mouth.

DRAINAGE AREA.--262 mi².

PERIOD OF RECORD.--September 1938 to September 1970, October 1986 to current year. Published as "Montreal River near Saxon" (04030000), September 1938 to September 1970.

REVISED RECORDS.--WSP 894: 1938-39. WSP 924: 1939-40. WSP 1307: 1948(M). WSP 1627: 1958.

GAGE.--Headwater and tailwater gages read by Northern States Power Company. September 1938 to September 1970, water-stage recorder at site 1.8 mi downstream at elevation of 760 ft above sea level (from Power Company data).

REMARKS.--No estimated daily discharges. Diurnal fluctuation caused by Saxon Falls powerplant. Flow regulated by Gile Reservoir on West Branch Montreal River (capacity 1,290,000,000 ft³/s) since April 1941.

COOPERATION.--Records were provided by Northern States Power Company and reviewed by the Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	535	295	230	220	450	710	1040	310	290	285	115
2	205	386	355	230	220	450	960	870	240	300	300	126
3	200	386	315	230	230	450	1320	640	200	300	300	126
4	195	340	260	220	230	450	1840	640	180	300	260	115
5	195	350	250	220	230	450	2670	500	180	385	240	105
6	195	400	240	195	225	400	5300	250	335	385	260	90
7	152	460	220	230	225	400	3040	590	470	285	260	90
8	170	425	220	230	215	440	2910	450	470	250	230	105
9	176	385	195	230	215	440	1300	565	385	360	260	105
10	265	385	190	230	220	450	1130	1140	285	320	260	81
11	195	265	190	230	230	445	865	1140	165	235	260	81
12	176	265	200	230	245	450	865	1520	135	285	260	81
13	176	265	210	230	250	400	865	1670	200	285	250	81
14	105	265	170	230	255	400	750	1700	200	240	250	81
15	125	250	220	230	235	400	1080	1840	200	240	235	81
16	100	335	210	230	235	400	1520	1730	200	240	330	81
17	110	335	215	230	245	450	1220	1420	190	260	330	90
18	335	1220	215	245	270	450	1040	1420	190	250	190	86
19	335	960	195	245	340	450	1080	1270	190	280	182	146
20	335	725	190	230	380	450	1080	1560	190	280	160	132
21	225	500	215	230	400	470	1220	1080	200	230	201	240
22	205	385	215	230	400	470	1220	865	200	230	190	176
23	245	315	230	230	400	470	1220	635	165	230	170	145
24	1050	315	230	230	400	440	1270	600	200	250	170	122
25	1000	230	230	230	400	440	1420	600	260	240	145	122
26	750	230	195	220	450	440	1320	600	240	330	140	110
27	750	230	205	230	450	440	1320	445	220	330	128	115
28	405	230	235	225	450	440	1420	285	200	285	128	115
29	315	230	235	225	---	564	1630	260	200	285	122	110
30	665	295	230	220	---	564	1320	310	240	285	115	110
31	740	---	230	215	---	500	---	310	---	260	115	---
TOTAL	10300	11897	7005	7060	8265	13913	44905	27945	7040	8725	6726	3363
MEAN	332	397	226	228	295	449	1497	901	235	281	217	112
MAX	1050	1220	355	245	450	564	5300	1840	470	385	330	240
MIN	100	230	170	195	215	400	710	250	135	230	115	81
CFSM	1.27	1.51	.86	.87	1.13	1.71	5.71	3.44	.90	1.07	.83	.43
IN.	1.46	1.69	.99	1.00	1.17	1.98	6.38	3.97	1.00	1.24	.95	.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1997, BY WATER YEAR (WY)

MEAN	207	259	181	166	159	305	969	533	376	288	196	199
MAX	495	801	391	295	321	888	1795	1180	1172	1068	432	894
(WY)	1942	1992	1952	1969	1969	1945	1939	1954	1939	1992	1953	1941
MIN	38.2	34.2	38.1	27.8	21.0	55.4	213	127	101	74.1	36.1	33.6
(WY)	1949	1949	1949	1949	1949	1940	1987	1941	1987	1987	1987	1939

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1938 - 1997		
ANNUAL TOTAL	173932			157144.0					
ANNUAL MEAN	475			431			320		
HIGHEST ANNUAL MEAN							487		
LOWEST ANNUAL MEAN							162		
HIGHEST DAILY MEAN	5210			5300			9880		
LOWEST DAILY MEAN	100			81			7.2		
ANNUAL SEVEN-DAY MINIMUM	141			81			7.7		
ANNUAL RUNOFF (CFSM)	1.81			1.64			1.22		
ANNUAL RUNOFF (INCHES)	24.70			22.31			16.59		
10 PERCENT EXCEEDS	976			1060			650		
50 PERCENT EXCEEDS	235			250			194		
90 PERCENT EXCEEDS	177			138			87		

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 sea level. Prior to Oct. 1, 1968, nonrecording gage at same site and at datum 4.00 ft higher.

REMARKS.--Estimated daily discharges: Feb. 20-27. Records excellent except for discharges below 3.0 ft³/s, which are poor (see page 11). Flow regulated by Cisco Lake (station 04037400). Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	92	78	25	76	57	81	6.1	39	65	.71	94
2	.80	92	77	58	74	80	81	5.0	39	66	.70	91
3	.80	91	45	82	43	79	104	4.6	38	46	.72	88
4	.73	89	22	83	14	77	121	3.9	38	25	.71	49
5	.70	89	22	86	9.5	76	124	2.5	54	26	.70	25
6	.70	66	23	106	9.5	49	133	2.3	68	25	.74	14
7	.80	44	41	119	9.6	21	136	2.0	67	25	.70	2.9
8	.80	44	58	116	9.9	21	137	1.9	66	49	.70	2.4
9	.81	45	81	80	10	22	137	2.3	42	67	.70	2.3
10	.86	45	96	38	36	23	137	4.7	34	66	.69	2.0
11	16	46	61	39	60	23	135	3.8	30	64	.70	1.8
12	27	46	35	40	59	23	133	16	17	62	.70	1.8
13	26	68	35	40	59	31	131	68	2.1	61	.67	1.4
14	47	87	35	49	58	40	130	119	1.7	35	.68	.98
15	67	87	37	57	57	41	129	139	.97	1.7	.71	16
16	64	95	56	57	57	41	128	140	.85	1.3	1.0	49
17	99	99	78	57	40	66	126	138	.96	1.3	1.1	98
18	116	98	77	57	21	81	126	138	7.7	1.3	29	118
19	113	116	78	56	21	79	126	139	15	1.3	94	121
20	111	137	77	45	21	77	126	101	15	1.2	112	117
21	108	132	76	37	21	76	124	67	15	1.1	111	115
22	104	128	75	38	21	60	123	67	15	1.1	70	62
23	105	124	75	48	21	45	122	68	15	.94	27	23
24	105	121	75	60	21	45	121	67	16	.85	28	13
25	105	77	75	61	21	45	120	67	30	.80	28	2.6
26	103	49	74	61	21	45	119	66	47	.78	27	2.5
27	99	70	55	61	22	45	119	65	47	.89	26	1.8
28	96	80	28	60	24	47	86	52	46	.85	15	1.4
29	97	78	21	69	---	48	60	37	44	.84	4.4	1.1
30	96	79	23	77	---	49	34	39	55	.80	49	1.2
31	94	---	25	76	---	65	---	39	---	.72	96	---
TOTAL	1822.00	2514	1714	1938	916.5	1577	3509	1671.1	906.28	699.77	729.03	1119.18
MEAN	58.8	83.8	55.3	62.5	32.7	50.9	117	53.9	30.2	22.6	23.5	37.3
MAX	116	137	96	119	76	81	137	140	68	67	112	121
MIN	.70	44	21	25	9.5	21	34	1.9	.85	.72	.67	.98
CFSM	1.16	1.65	1.09	1.23	.65	1.00	2.31	1.06	.60	.45	.46	.74
IN.	1.34	1.84	1.26	1.42	.67	1.16	2.57	1.23	.66	.51	.53	.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1997, BY WATER YEAR (WY)

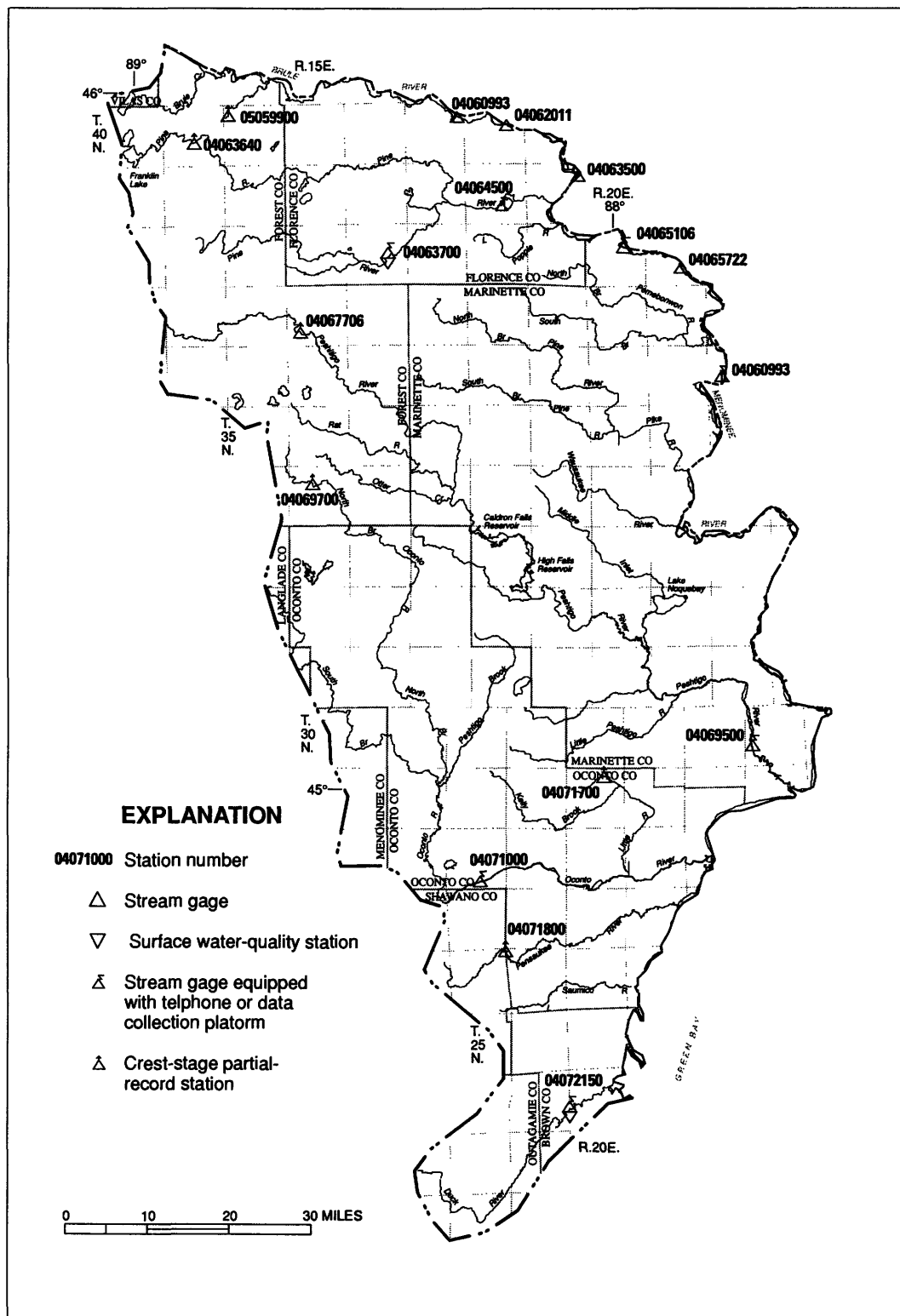
	MEAN	69.5	67.8	48.7	39.4	34.9	43.6	61.6	47.4	45.8	32.4	26.2	38.4
MAX	151	116	84.1	62.6	81.0	92.1	117	160	123	113	99.7	104	
(WY)	1986	1968	1961	1983	1945	1973	1997	1996	1953	1953	1978	1977	
MIN	13.1	14.5	23.5	23.1	20.6	24.1	2.02	.17	.11	.25	.15	.23	
(WY)	1958	1945	1990	1959	1950	1956	1948	1977	1977	1977	1970	1976	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1945 - 1997
ANNUAL TOTAL	23802.33	19115.86	
ANNUAL MEAN	65.0	52.4	46.3
HIGHEST ANNUAL MEAN			65.9
LOWEST ANNUAL MEAN			25.2
HIGHEST DAILY MEAN	194	May 20	288
LOWEST DAILY MEAN	.61	Jun 16	.08
ANNUAL SEVEN-DAY MINIMUM	.76	Oct 2	.09
INSTANTANEOUS PEAK FLOW		145	May 14
INSTANTANEOUS PEAK STAGE		5.43	May 14
ANNUAL RUNOFF (CFSM)	1.28	1.03	(c) 6.10
ANNUAL RUNOFF (INCHES)	17.46	14.03	.91
10 PERCENT EXCEEDS	163	119	103
50 PERCENT EXCEEDS	51	47	37
90 PERCENT EXCEEDS	3.1	.98	1.0

(a) May 1-4, 1951

(b) July 21, Aug. 2, 3, 1988

(c) Present datum



MENOMINEE-OCONTO-PESHTIGO BASIN

STREAMS TRIBUTARY TO LAKE MICHIGAN
04062011 BRULE RIVER NEAR COMMONWEALTH, WI

LOCATION.--Lat 45°56'51" long 88°12'55", in NW 1/4 sec.14, T.40 N., R.18 E., Wisconsin Meridian, Florence County, Hydrologic Unit 04030106, on right bank 900 ft downstream from Brule Island Dam, 1.5 mi upstream from confluence with Michigamme River, and 2.8 mi north of Commonwealth, WI.

DRAINAGE AREA.--1,020 mi².

PERIOD OF RECORD.--October 1989 to current year.

REVISED RECORD.--WDR MI-91-1: 1990(M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,130 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharge: July 19 to Aug. 6. Records fair (see page 11). Flow regulated by powerplant 900 ft upstream and by Lower Paint Dam 8.2 mi upstream. Records not adjusted for diversion to Michigamme River by Paint River Diversion Canal. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235	571	486	383	416	401	592	889	492	472	325	718
2	238	493	423	442	431	413	703	842	486	455	325	561
3	252	480	437	461	419	419	830	756	469	474	325	488
4	280	460	403	470	408	401	1510	651	456	504	325	438
5	237	506	411	448	431	397	2350	661	512	481	325	431
6	226	478	456	401	418	414	3280	555	576	441	330	404
7	233	464	437	430	416	363	4110	576	916	448	339	415
8	250	461	430	434	429	365	4360	554	927	486	319	403
9	338	440	433	401	372	428	4090	548	565	548	360	368
10	384	431	433	442	423	380	3700	523	522	484	392	460
11	398	401	411	458	419	389	3360	867	642	444	335	463
12	389	388	415	410	403	387	2450	1370	616	431	331	425
13	379	366	430	421	406	363	1990	974	573	423	348	386
14	358	371	419	432	389	330	1980	791	508	434	330	382
15	370	354	400	426	402	292	1730	832	544	396	379	397
16	414	598	398	433	402	292	1520	1210	810	395	575	375
17	481	804	392	394	393	344	1540	1490	661	392	728	446
18	440	715	470	397	400	378	1420	1540	634	384	563	420
19	249	534	314	424	427	372	1320	2090	560	380	470	680
20	325	507	260	421	439	391	1310	2650	551	375	513	850
21	461	502	322	397	419	410	1220	2420	501	360	589	700
22	425	465	448	420	421	374	952	2120	482	360	537	480
23	500	452	458	429	388	411	991	1550	467	360	465	488
24	630	403	356	435	407	387	908	1000	421	360	448	414
25	531	423	343	442	385	368	933	1030	483	380	387	433
26	503	381	349	427	413	402	878	801	403	430	408	401
27	448	372	380	421	414	475	880	539	438	390	400	399
28	456	411	400	422	400	549	823	558	391	370	378	389
29	460	446	457	419	---	641	868	513	402	350	369	395
30	720	474	431	408	---	581	814	535	407	330	535	387
31	810	---	418	399	---	516	---	530	---	325	797	---
TOTAL	12420	14151	12620	13147	11490	12633	53412	31965	16415	12862	13250	13996
MEAN	401	472	407	424	410	408	1780	1031	547	415	427	467
MAX	810	804	486	470	439	641	4360	2650	927	548	797	850
MIN	226	354	260	383	372	292	592	513	391	325	319	368

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	429	408	349	330	329	408	1037	935
MAX	712	571	416	424	410	506	2288	2757
(WY)	1991	1993	1992	1997	1997	1991	1996	1996
MIN	276	307	270	259	270	359	322	430
(WY)	1990	1990	1990	1991	1991	1994	1990	1990

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1990 - 1997

ANNUAL TOTAL	292758	218361	
ANNUAL MEAN	800	598	
HIGHEST ANNUAL MEAN			490
LOWEST ANNUAL MEAN			810
HIGHEST DAILY MEAN	7750	Apr 26	325
LOWEST DAILY MEAN	226	Oct 6	182
ANNUAL SEVEN-DAY MINIMUM	243	Oct 1	202
INSTANTANEOUS PEAK FLOW			8480
INSTANTANEOUS PEAK STAGE			13.91
10 PERCENT EXCEEDS	1500		700
50 PERCENT EXCEEDS	428		373
90 PERCENT EXCEEDS	344		273

04063500 MENOMINEE RIVER AT TWIN FALLS NEAR IRON MOUNTAIN, MI

LOCATION.--Lat 45°52'17", long 88°04'12" in NE 1/4 SE 1/4 sec.12, T.40 N., R.31 W., Michigan Meridian, Dickinson County, Hydrologic Unit 04030108, on left bank 150 ft downstream from Wisconsin Electric Power Company powerhouse at Twin Falls Dam, 3.6 mi north of Iron Mountain, and at mile 106.6.

DRAINAGE AREA.--1,800 mi².

PERIOD OF RECORD.--January 1914 to current year. Published as "near Florence, WI" October 1957 to September 1989.

REVISED RECORDS.--WDR MI-91-1: 1990(M). WDR MI-92-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,062 ft above sea level (levels by Wisconsin Electric Power Co.).

Prior to September 1957, headwater and tailwater gages and generation data entered hourly in daily log sheets by company employees.

October 1957 to September 1989, water-stage recorder at site 10.4 mi upstream at different datum. November 1989 to July 1993, water-stage recorder at site 150 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Feb. 27 to Mar. 3. Records good except for estimated daily discharges, which are fair (see page 11). Prior to September 1957, discharge determined from powerplant records computed on basis of load-discharge rating of hydroelectric units and rating for tailwater gage during periods of spill; ratings developed by U.S. Geological Survey. Flow regulated by powerplants, by Michigamme Reservoir, capacity, 119,950 acre-ft, by Peavy Pond, capacity, 33,860 acre-ft, on Michigamme River, and by many smaller reservoirs upstream from station. Seveal measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	895	1780	1890	1890	2110	1930	1980	3100	2140	1660	1300	1870
2	880	1840	1890	1880	2100	1900	2020	3590	2190	1670	942	1660
3	1010	1900	1890	1880	2090	1860	2170	3210	2100	1760	885	1740
4	908	1840	1890	1880	2070	1820	3620	2890	1700	1710	933	1670
5	1030	1720	1900	1870	2040	1860	4250	2430	2060	1750	1020	1550
6	817	1420	1870	1880	1990	1860	5470	2290	2140	1650	819	1340
7	1100	1320	1890	1880	2060	1990	6390	1860	2770	1520	838	1170
8	1080	1510	1880	1880	2080	1980	6620	2250	3240	1680	727	1280
9	1010	1580	1890	1870	2040	1960	6640	2580	2890	1800	921	1180
10	1050	1270	1890	1890	2070	1960	6030	3080	2510	1760	785	1440
11	1100	1630	1860	1890	2070	1960	5860	3350	1950	1850	799	1770
12	1050	1290	1830	1890	2070	1980	4910	3950	2000	1780	858	1530
13	1070	1340	1880	1890	2080	2010	4280	3570	1930	1850	1520	1180
14	1140	1290	1890	1900	2060	1960	4380	3490	1550	1710	1550	1080
15	1120	1060	1890	1890	2090	1980	4190	3460	1400	1690	1490	1280
16	1090	1500	1900	1890	2090	1970	3960	3800	2370	1650	1640	1380
17	1340	1890	1890	1900	2070	1930	4070	4120	2350	1670	1720	1470
18	1880	1850	1890	1930	1910	2020	3860	4160	2220	1360	1560	1420
19	1430	1810	1630	1920	2050	1940	3820	4850	2330	1100	1620	1380
20	895	1830	1890	1890	2020	2010	3930	5860	2010	960	1460	1660
21	1340	1820	1780	1990	2010	1950	3680	5480	1710	1350	1770	1860
22	1370	1860	1700	2080	2010	1700	3350	5040	1710	1430	1610	1760
23	1610	1770	1700	2100	2010	1330	3010	4250	1730	1480	1270	1600
24	1790	1830	1800	2070	2020	1010	2960	3470	1560	1170	1360	1320
25	1450	1610	1690	2030	2000	1050	2710	3670	1690	1130	1290	1370
26	1280	1480	1630	2090	1990	1090	2410	3300	1820	1200	1390	1320
27	1760	1450	1690	2060	2000	1270	2440	2650	1730	1290	1380	1050
28	1580	1350	1840	2080	1960	1620	2660	2600	1390	1190	1350	1050
29	921	1410	1900	2050	---	2030	2910	2420	1100	1520	1320	1270
30	1550	1840	1870	2070	---	2070	2830	2490	1700	1210	1390	1280
31	1720	---	1890	2110	---	2150	---	2530	---	1190	1710	---
TOTAL	38266	48090	56920	60520	57160	56150	117410	105790	59990	46740	39227	42930
MEAN	1234	1603	1836	1952	2041	1811	3914	3413	2000	1508	1265	1431
MAX	1880	1900	1900	2110	2110	2150	6640	5860	3240	1850	1770	1870
MIN	817	1060	1630	1870	1910	1010	1980	1860	1100	960	727	1050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

	MEAN	1485	1618	1469	1407	1378	1600	3204	3084	2158	1610	1312	1416
MAX	3537	3465	2640	2253	2514	3544	8159	6319	5035	4309	2359	3149	
(WY)	1986	1986	1984	1983	1984	1973	1916	1960	1916	1953	1972	1968	
MIN	726	725	765	691	647	692	707	595	799	721	545	718	
(WY)	1949	1964	1925	1924	1926	1914	1990	1987	1988	1925	1925	1925	

SUMMARY STATISTICS

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	870108		729193			
ANNUAL MEAN	2377		1998		1812	
HIGHEST ANNUAL MEAN					3069	
LOWEST ANNUAL MEAN					922	
HIGHEST DAILY MEAN	10900	Apr 27	6640	Apr 9	18100	Apr 26
LOWEST DAILY MEAN	725	Sep 28	727	Aug 8	57	Sep 26
ANNUAL SEVEN-DAY MINIMUM	850	Sep 23	821	Aug 6	277	Oct 18
INSTANTANEOUS PEAK FLOW			7150	Apr 7	19500	Apr 26
INSTANTANEOUS PEAK STAGE			10.44	Apr 7	(a) 12.54	Apr 27
INSTANTANEOUS LOW FLOW			625	Oct 26	(a) 399	Aug 30
10 PERCENT EXCEEDS	4560		3260		3060	
50 PERCENT EXCEEDS	1820		1860		1480	
90 PERCENT EXCEEDS	1270		1100		855	

04063700 POPPLE RIVER NEAR FENCE, WI
(HYDROLOGIC BENCHMARK STATION)
(NATIONAL WATER-QUALITY ASSESSMENT PROGRAM STATION)

LOCATION.--Lat 45°45'49", long 88°27'47", in NW 1/4 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 sea level. Prior to June 18, 1964, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 11, 12, 14, and Nov. 19 to Apr. 10. Records good except those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	221	76	60	58	56	130	350	106	59	47	201
2	72	199	74	64	56	54	150	355	98	67	44	178
3	64	173	72	64	56	54	220	345	90	80	40	166
4	58	151	70	64	56	54	320	340	84	89	40	143
5	56	143	68	62	56	54	420	303	93	90	38	125
6	56	140	68	62	56	52	480	278	110	84	37	112
7	55	135	68	64	56	52	540	250	122	76	36	100
8	51	127	66	64	56	54	600	230	131	85	34	92
9	50	118	66	64	56	54	620	211	128	101	33	102
10	56	107	68	64	56	56	620	192	112	101	32	124
11	58	98	68	62	56	56	595	177	96	89	32	119
12	56	90	68	62	54	54	554	175	88	79	32	100
13	54	83	66	62	54	54	496	179	84	73	32	88
14	55	76	64	62	54	52	458	181	78	72	32	80
15	53	72	62	64	54	52	448	198	82	69	34	72
16	55	93	62	64	56	52	453	205	190	67	38	66
17	78	148	60	62	56	54	449	214	251	81	41	88
18	103	159	58	62	58	56	446	222	257	85	47	100
19	95	150	58	64	58	58	440	234	242	78	45	97
20	89	130	56	66	58	58	440	234	226	69	53	99
21	83	120	56	68	56	58	433	224	196	60	75	95
22	81	100	58	68	54	56	420	207	166	55	74	87
23	107	96	58	66	54	54	407	180	138	52	66	80
24	151	90	56	64	54	52	396	164	115	48	61	74
25	158	84	54	62	54	52	382	161	107	49	59	66
26	144	80	54	60	56	54	368	152	99	71	58	61
27	128	74	54	58	56	56	356	138	88	77	55	56
28	118	74	56	56	56	70	345	125	77	69	49	54
29	118	76	56	56	---	90	335	116	68	61	45	53
30	203	76	54	56	---	120	333	113	61	55	90	53
31	233	---	56	58	---	120	---	111	---	50	182	---
TOTAL	2809	3483	1930	1934	1560	1868	12654	6564	3783	2241	1581	2931
MEAN	90.6	116	62.3	62.4	55.7	60.3	422	212	126	72.3	51.0	97.7
MAX	233	221	76	68	58	120	620	355	257	101	182	201
MIN	50	72	54	56	54	52	130	111	61	48	32	53
CFSM	.65	.84	.45	.45	.40	.43	3.03	1.52	.91	.52	.37	.70
IN.	.75	.93	.52	.52	.42	.50	3.39	1.76	1.01	.60	.42	.78

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1997, BY WATER YEAR (WY)

MEAN	121	117	67.2	49.4	48.0	86.0	313	226	144	78.0	67.1	112
MAX	265	220	116	86.6	107	356	613	617	345	235	147	356
(WY)	1972	1986	1992	1969	1984	1973	1979	1965	1993	1968	1978	1980
MIN	25.0	30.9	23.9	24.6	26.0	30.5	54.6	70.7	21.2	17.5	23.1	16.4
(WY)	1990	1977	1990	1977	1982	1964	1990	1977	1988	1988	1989	1989

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

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SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1964 - 1997	
ANNUAL TOTAL	54613.0		43338.0		119	
ANNUAL MEAN	149		119		175	
HIGHEST ANNUAL MEAN					64.3	
LOWEST ANNUAL MEAN					1610	
HIGHEST DAILY MEAN	1480	Apr 26	(a) 620	Apr 9, 10	1973	
LOWEST DAILY MEAN	39	Sep 20	32	Aug 10-14	1988	
ANNUAL SEVEN-DAY MINIMUM	43	Sep 15	32	Aug 8	1979	
INSTANTANEOUS PEAK FLOW			(c)		(b) Jul 3 1988	
INSTANTANEOUS PEAK STAGE			(d) 3.23	Apr 9	Apr 25 1979	
INSTANTANEOUS LOW FLOW			32	Aug 10-14	Apr 26 1996	
ANNUAL RUNOFF (CFSM)	1.07		.85		Oct 28 1976	
ANNUAL RUNOFF (INCHES)	14.62		11.60		4.70	
10 PERCENT EXCEEDS	232		245		(e) 5.9	
50 PERCENT EXCEEDS	82		72		.86	
90 PERCENT EXCEEDS	54		53		11.63	

(a) Ice affected

(b) Also occurred Sept. 20, 1989

(c) Unknown, ice affected

(d) Backwater from ice

(e) Result of temporary storage from beaver dam

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1964 to current year. National Water-Quality Assessment Program sampling began in April 1993.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

NATIONAL WATER-QUALITY ASSESSMENT PROGRAM DATA

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	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)
APR 1997 17...	1600	443	72	7.1	5.5	11.0	728	34	7.4	3.8	1.0

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
APR 1997 17...	0.76	30	24	3.5	1.1	<0.10	6.9	74	0.080	<0.010

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR 1997 17...	<0.015	0.50	0.40	0.010	0.010	<0.010	220	12	4	57

PESTICIDE ANALYSES

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)
APR 1997 17...	1600	443	<0.002	<0.002	<0.002	<0.002	<0.002	<0.003	<0.003	<0.004

DATE	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DIAZ- INON D10 SRG WAT FLT 0.7 U GF, REC PERCENT (91063)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)
APR 1997 17...	<0.004	<0.002	<0.002	<0.002	101	<0.001	<0.017	<0.002	<0.004	<0.003

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

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	FONOFOS WATER DISS REC (UG/L) (04095)	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC (UG/L) (91065)	LINDANE DIS- SOLVED (UG/L) (39341)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA- THION, DIS- SOLVED (UG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)
APR 1997 17...	<0.003	97.2	<0.004	<0.002	<0.005	<0.001	<0.006	<0.002	<0.004	<0.004
DATE	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA- THION, DIS- SOLVED (UG/L) (39542)	PEB- ULATE WATER FLTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)
APR 1997 17...	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.003	<0.018	<0.004	<0.013
DATE	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC (UG/L) (91064)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)
APR 1997 17...	<0.007	<0.005	<0.007	<0.010	<0.013	102	<0.002	<0.001	<0.002	<0.003

STREAMS TRIBUTARY TO LAKE MICHIGAN

04064500 PINE RIVER BELOW PINE RIVER POWERPLANT NEAR FLORENCE, WI

LOCATION.--Lat 45°50'16", long 88°13'31", in SW 1/4 sec.22, T.39 N., R.18 E., Florence County, Hydrologic Unit 04030108, on left bank 60 ft upstream from bridge on County Trunk Highway N, 1.9 mi downstream from powerplant of Wisconsin-Michigan Power Co., 6.0 mi south of Florence, and 7.0 mi downstream from Popple River.

DRAINAGE AREA.--533 mi², revised.

PERIOD OF RECORD.--October 1923 to December 1975, October 1996 to September 1997.

GAGE.--Water-stage recorder. Datum of gage is 1,098.84 ft above mean sea level. Prior to October 1968, record obtained from Pine River Powerplant 1.9 mi upstream with a drainage area of 528 mi².

REMARKS.--Estimated daily discharges: Ice-affected period, Nov. 22 to Apr. 2. Records good except those for ice-affected period, which is fair (see page 11). Flow regulated by Pine River Powerplant 1.9 mi upstream; since storage capacity is small, monthly flows are not affected appreciably. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	309	792	360	270	270	250	600	1130	447	387	232	809
2	289	711	340	260	250	250	760	1150	401	403	231	741
3	279	631	310	280	260	240	1040	1070	383	443	206	660
4	267	559	270	280	270	250	1330	989	361	445	194	572
5	252	532	290	260	270	250	1730	888	392	451	201	477
6	244	519	290	250	260	240	2390	824	461	398	184	439
7	243	528	300	280	250	240	2340	751	594	385	183	405
8	251	502	290	290	260	250	2030	700	575	404	178	366
9	239	460	290	290	250	250	1880	703	507	516	180	401
10	256	432	280	280	260	240	1750	639	453	474	170	482
11	271	357	290	280	250	230	1610	597	397	419	167	443
12	268	352	280	280	240	240	1440	600	385	345	160	384
13	278	303	270	270	260	230	1310	630	405	326	169	358
14	245	325	280	270	250	240	1280	632	381	348	174	335
15	249	312	250	270	250	230	1310	729	378	322	178	307
16	246	428	260	270	240	230	1450	733	867	318	247	276
17	329	620	280	270	250	230	1380	767	961	308	294	372
18	425	632	290	250	250	240	1350	817	970	335	359	389
19	395	576	230	270	250	240	1290	949	893	309	340	481
20	388	627	240	260	260	240	1310	921	825	285	382	499
21	354	543	240	240	250	230	1290	829	709	279	486	461
22	346	450	260	250	270	250	1260	732	599	260	459	406
23	440	400	270	260	260	240	1220	674	500	246	398	358
24	589	330	250	280	250	230	1220	606	463	243	355	322
25	616	340	230	260	250	260	1180	608	446	244	318	317
26	546	280	240	270	240	260	1140	585	389	361	299	276
27	499	300	240	280	250	290	1120	529	364	398	275	269
28	450	300	240	260	240	380	1090	494	323	349	257	273
29	432	300	260	270	---	440	1070	464	298	296	256	250
30	794	330	260	260	---	470	1040	475	297	258	355	258
31	864	---	270	260	---	470	---	462	---	236	767	---
TOTAL	11653	13771	8450	8320	7110	8330	41210	22677	15424	10791	8654	12386
MEAN	376	459	273	268	254	269	1374	732	514	348	279	413
MAX	864	792	360	290	270	470	2390	1150	970	516	767	809
MIN	239	280	230	240	240	230	600	462	297	236	160	250
CFSM	.71	.86	.51	.50	.48	.50	2.58	1.37	.96	.65	.52	.77
IN.	.81	.96	.59	.58	.50	.58	2.88	1.58	1.08	.75	.60	.86

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1997, BY WATER YEAR (WY)

	MEAN	380	396	260	219	196	309	954	824	556	380	306	375
MAX	1017	694	431	473	351	1188	1882	2127	1424	969	760	1115	
(WY)	1929	1946	1971	1939	1969	1973	1967	1965	1939	1942	1938	1928	
MIN	100	185	139	120	80.7	74.5	325	276	190	117	80.3	119	
(WY)	1949	1964	1964	1964	1964	1964	1931	1931	1948	1934	1933	1930	

SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1924 - 1997

ANNUAL TOTAL	168776		
ANNUAL MEAN	462		430
HIGHEST ANNUAL MEAN			658
LOWEST ANNUAL MEAN			210
HIGHEST DAILY MEAN	2390	Apr 6	4380
LOWEST DAILY MEAN	160	Aug 12	.00 (a)
ANNUAL SEVEN-DAY MINIMUM	171	Aug 8	41
INSTANTANEOUS PEAK FLOW	2730	Apr 6	190
INSTANTANEOUS PEAK STAGE	7.06	Apr 6	117
ANNUAL RUNOFF (CFSM)	.87		.81
ANNUAL RUNOFF (INCHES)	11.78		10.97
10 PERCENT EXCEEDS	904		898
50 PERCENT EXCEEDS	322		308
90 PERCENT EXCEEDS	240		149

(a) No flow at times during 1924, 1926-27, 1930-31, 1933, 1940

STREAMS TRIBUTARY TO LAKE MICHIGAN
04065106 MENOMINEE RIVER AT NIAGARA, WI

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LOCATION.--Lat 45°46'04", long 87°58'50", in NE 1/4 NE 1/4 sec.15, T.38 N., R.20 E., Marinette County, Hydrologic Unit 04030108, on right bank 0.7 mi downstream from Little Quinnesec Falls Dam, at Niagara.

DRAINAGE AREA.--2,470 mi².

PERIOD OF RECORD.--October 1992 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 880 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected period, Dec. 16 to Mar. 22. Records good except those for ice-affected period, which is fair (see page 11). Flow regulated by powerplants, by Michigamme Reservoir, capacity, 119,950 acre-ft, by Peavy Pond, capacity, 33,860 acre-ft, on Michigamme River, and by smaller reservoirs upstream of gage. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1190	2680	2230	2200	2400	2100	2690	4210	2670	2030	1440	2740
2	1220	2670	2280	2100	2300	2100	2720	5010	2670	2070	1160	2470
3	1250	2550	2240	2200	2300	2100	3230	4710	2560	2080	1170	2360
4	1250	2490	2210	2200	2300	2100	5040	4020	2070	2150	1150	2390
5	1280	2260	2110	2200	2300	2000	6520	3620	2370	2240	1080	2150
6	1200	2070	2240	2100	2200	2100	8370	3270	2550	2050	1100	1870
7	1310	1990	2170	2100	2200	2100	9500	2540	3370	2050	1030	1620
8	1330	2010	2280	2200	2200	2200	8900	3220	4180	2030	998	1720
9	1280	2050	2250	2200	2200	2200	8960	3310	3540	2240	1010	1750
10	1290	1690	2130	2200	2300	2200	8110	3820	3150	2370	1000	1920
11	1310	2170	2190	2200	2300	2300	7880	4080	2490	2270	981	2180
12	1410	1650	2240	2200	2300	2200	6960	4970	2440	2240	950	2030
13	1400	1630	2160	2200	2300	2200	5840	4220	2340	2120	1680	1600
14	1410	1590	2040	2100	2300	2100	5990	4270	2000	2100	1650	1450
15	1350	1370	2260	2100	2300	2000	5940	4300	1790	1940	1680	1640
16	1400	1990	2100	2100	2300	2100	5700	4670	3180	2000	1840	1630
17	1610	2340	2100	2000	2300	2200	5800	5150	3450	1960	1940	1890
18	2270	2550	2200	2100	2300	2200	5510	5300	3230	1850	2030	1850
19	2030	2310	1900	2100	2200	2100	5350	5790	3470	1190	2040	1900
20	1240	2470	2000	2200	2300	2100	5580	7150	2990	1150	1890	2140
21	1790	2380	2100	2200	2300	2100	5380	6650	2520	1720	2270	2380
22	1810	2370	1800	2200	2400	2100	4860	6110	2390	1680	2040	2330
23	1930	2280	1900	2200	2300	1670	4540	5240	2270	1660	1730	2070
24	2430	2190	2000	2200	2300	1360	4240	4260	2150	1420	1780	1650
25	2180	1990	2000	2300	2300	1330	4190	4340	2040	1350	1610	1770
26	1850	1730	1900	2300	2300	1460	3670	4220	2250	1620	1580	1570
27	2310	1760	2000	2300	2300	1550	3680	3420	2130	1620	1650	1370
28	2100	1670	2000	2300	2200	1970	3940	3070	1780	1670	1810	1360
29	1370	1890	2200	2300	---	2800	4070	3010	1460	1680	1550	1590
30	2290	2120	2300	2300	---	2720	4130	3080	1910	1440	1820	1550
31	2590	---	2300	2300	---	2690	---	3080	---	1520	2440	---
TOTAL	50680	62910	65830	67900	64000	64450	167290	134110	77410	57510	48099	56940
MEAN	1635	2097	2124	2190	2286	2079	5576	4326	2580	1855	1552	1898
MAX	2590	2680	2300	2300	2400	2800	9500	7150	4180	2370	2440	2740
MIN	1190	1370	1800	2000	2200	1330	2690	2540	1460	1150	950	1360

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1997, BY WATER YEAR (WY)

	1896	2006	1977	1901	1957	1975	3816	4366	2912	2178	1732	1850
MEAN	1896	2006	1977	1901	1957	1975	3816	4366	2912	2178	1732	1850
MAX	2810	2531	2458	2258	2286	2176	6167	7555	4184	2831	2290	2225
(WY)	1996	1993	1993	1993	1997	1995	1996	1996	1993	1996	1996	1994
MIN	1632	1283	1542	1369	1391	1764	1953	2074	1899	1718	1368	1527
(WY)	1993	1995	1995	1995	1995	1994	1994	1994	1994	1995	1993	1996

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1993 - 1997
ANNUAL TOTAL	1104380	917129	
ANNUAL MEAN	3017	2513	2381
HIGHEST ANNUAL MEAN			3135
LOWEST ANNUAL MEAN			1894
HIGHEST DAILY MEAN	16000	Apr 27	16000
LOWEST DAILY MEAN	1170	Sep 30	950
ANNUAL SEVEN-DAY MINIMUM	1210	Sep 28	1010
INSTANTANEOUS PEAK FLOW			10300
INSTANTANEOUS PEAK STAGE			12.37
10 PERCENT EXCEEDS	5860		3720
50 PERCENT EXCEEDS	2170		2020
90 PERCENT EXCEEDS	1610		1360

STREAMS TRIBUTARY TO LAKE MICHIGAN
04065722 MENOMINEE RIVER NEAR VULCAN, MI

LOCATION.--Lat 45°44'12", long 87°51'48", sec.34, T.39 N., R.29 W., Michigan Meridian, Dickinson County, Hydrologic Unit 04030108, on left bank 0.35 mi downstream from Sturgeon Falls Dam, 3.0 mi south of Vulcan, and at mile 78.7.

DRAINAGE AREA.--2,900 mi².

PERIOD OF RECORD.--December 1987 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 820 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Apr. 27 to June 18 and July 26 to Aug. 7. Records fair (see page 11). Flow regulated by power-plants, by Michigamme Reservoir, capacity, 119,950 acre-ft, by Peavy Pond, capacity, 33,860 acre-ft, on Michigamme River, and by smaller reservoirs upstream from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1390	3280	2310	2270	2650	2450	3200	5600	3270	2310	1500	3230
2	1410	3320	2380	2240	2580	2350	3290	6200	3250	2370	1400	3020
3	1460	3250	2410	2260	2510	2390	3940	6000	3230	2370	1350	2840
4	1570	2980	2390	2280	2630	2570	5910	5200	2540	2410	1300	2700
5	1470	2750	2220	2370	2600	2340	8030	4500	2800	2580	1250	2590
6	1370	2480	2370	2240	2430	2530	10000	3800	3000	2440	1200	2160
7	1480	2470	2300	2190	2440	2340	12300	3500	3400	2370	1200	1950
8	1500	2410	2330	2320	2480	2650	11900	3700	4400	2350	1180	2000
9	1460	2460	2370	2310	2480	2520	11600	4340	4000	2520	1150	2020
10	1450	1990	2260	2230	2540	2530	10700	4980	3500	2810	1160	2080
11	1480	2570	2220	2300	2690	2580	10100	5090	3100	2590	1160	2450
12	1610	1980	2300	2270	2540	2490	9140	6030	2900	2600	1090	2450
13	1590	1820	2200	2260	2570	2640	7770	5220	2700	2410	1560	1930
14	1560	1800	2110	2280	2510	2470	7670	5140	2500	2390	1790	1710
15	1560	1620	2280	2230	2510	2630	7670	5320	2300	2190	1810	1890
16	1510	2100	2220	2420	2540	2500	7290	5450	3500	2210	1830	1920
17	1790	2490	2200	2810	2550	2500	7480	6040	4500	2250	2160	2040
18	2550	2920	2330	2720	2540	2520	7300	6400	4200	2240	2300	2260
19	2370	2550	2040	2680	2400	2510	6910	6690	4310	1540	2430	2140
20	1620	2660	2120	2530	2610	2460	7220	8310	3630	1350	2120	2490
21	2120	2700	2260	2430	2540	2510	7060	7950	3150	1900	2670	2730
22	2160	2610	1910	2410	2680	2450	6400	7210	2910	1900	2500	2780
23	2290	2490	1970	2310	2540	1760	6170	6260	2700	1910	2010	2550
24	2750	2400	2080	2590	2560	1630	5740	5230	2560	1710	2120	1960
25	2840	2220	2090	2560	2580	1550	5800	5130	2400	1640	1950	2040
26	2210	1820	1930	2610	2550	1680	5210	5160	2600	1800	1870	1890
27	2770	1850	2110	2560	2560	1680	4800	4300	2480	2000	1890	1620
28	2740	1850	2080	2610	2530	2130	4900	3890	2200	1900	1970	1600
29	1670	1880	2310	2730	---	3010	5000	3720	1600	1800	1860	1920
30	2620	2380	2360	2670	---	3100	5200	3700	2200	1700	1950	1760
31	3270	---	2420	2540	---	3160	---	3800	---	1600	2650	---
TOTAL	59640	72100	68880	75230	71340	74630	215700	163860	91830	66160	54380	66720
MEAN	1924	2403	2222	2427	2548	2407	7190	5286	3061	2134	1754	2224
MAX	3270	3320	2420	2810	2690	3160	12300	8310	4500	2810	2670	3230
MIN	1370	1620	1910	2190	2400	1550	3200	3500	1600	1350	1090	1600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1997, BY WATER YEAR (WY)

	2033	2453	2294	2080	2011	2413	4400	4069	3004	2159	1698	1955
MEAN	2033	2453	2294	2080	2011	2413	4400	4069	3004	2159	1698	1955
MAX	3401	4412	3008	2533	2548	2849	8159	8850	4832	3359	2598	2456
(WY)	1996	1989	1989	1993	1997	1991	1996	1996	1993	1996	1996	1994
MIN	1081	1382	1555	1489	1443	2028	1356	1720	1062	1100	1256	1223
(WY)	1990	1990	1990	1995	1995	1994	1990	1988	1988	1988	1989	1989

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1988 - 1997

ANNUAL TOTAL	1315630	1080470	
ANNUAL MEAN	3595	2960	
HIGHEST ANNUAL MEAN			2612
LOWEST ANNUAL MEAN			3781
HIGHEST DAILY MEAN	21500	Apr 27	21500
LOWEST DAILY MEAN	1350	Sep 25	846
ANNUAL SEVEN-DAY MINIMUM	1440	Sep 30	932
INSTANTANEOUS PEAK FLOW			22000
INSTANTANEOUS PEAK STAGE			17.39
INSTANTANEOUS LOW FLOW			603
10 PERCENT EXCEEDS	6850	5220	4200
50 PERCENT EXCEEDS	2490	2450	2150
90 PERCENT EXCEEDS	1830	1620	1350

STREAMS TRIBUTARY TO LAKE MICHIGAN

47

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" (04066000) prior to August 1982. Monthly discharges for some periods published in WSP 1307.

GAGE.--Water-stage recorder. Elevation of gage is 740 ft above sea level, from topographic map. October 1949 to Oct. 27, 1972, water-stage recorder at site 1.0 mi upstream at elevation 745, from river-profile map, and Oct. 28, 1972, to August 1982, water-stage recorder at site 1.5 mi upstream at elevation 770, from river-profile map.

REMARKS.--Estimated daily discharges: Ice-affected period, Dec. 17 to Mar. 26. Records good except those for ice-affected period, which is fair (see page 11). 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. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1550	3550	2510	2700	3000	2700	3450	5470	3390	2260	1720	3230
2	1560	3500	2640	2700	2900	2700	3580	6090	3210	2480	1520	3180
3	1620	3450	2700	2700	2900	2700	4080	6230	3180	2470	1350	2920
4	1680	3100	2690	2800	3000	2700	5970	5390	2580	2450	1420	2720
5	1610	2990	2550	2800	2900	2800	8580	4740	2900	2650	1290	2700
6	1550	2590	2610	2700	2800	2700	10600	4250	3070	2600	1360	2230
7	1600	2670	2620	2600	2800	2600	13700	3780	3410	2360	1280	2140
8	1670	2580	2610	2800	2800	2800	13400	3800	5340	2430	1240	1920
9	1660	2780	2640	2800	2800	2900	12800	3920	4730	2520	1170	2120
10	1610	2060	2580	2800	2900	2900	11900	4630	4140	2880	1180	2030
11	1600	2700	2480	2700	2900	2900	10900	4610	3320	2660	1180	2520
12	1610	2200	2590	2700	2900	2800	9960	5520	3290	2620	1150	2600
13	1720	1990	2530	2700	2800	2800	8100	5180	3010	2450	1470	1910
14	1660	1990	2530	2700	2800	2700	7750	4960	2900	2350	1840	1820
15	1710	1920	2570	2700	2800	2500	7860	5290	2300	2260	1830	1830
16	1660	2120	2690	2600	2800	2700	7330	5190	4000	2190	1860	1890
17	1770	2690	2600	2500	2900	2700	7710	5940	5070	2270	2120	2180
18	2580	3050	2700	2600	2800	2700	7390	6280	4250	2250	2300	2450
19	2730	2810	2500	2700	2800	2700	6800	6380	4780	1630	2480	2270
20	1950	2810	2600	2800	2900	2700	7150	7960	3870	1510	2110	2530
21	1990	2920	2700	2800	2900	2600	7030	8030	3500	1670	2690	2780
22	2300	2740	2300	2800	2900	2600	6340	7200	3130	1970	2670	2830
23	2380	2720	2400	2800	2800	2000	6060	6380	2860	1900	2070	2640
24	3010	2650	2500	2800	2800	1900	5460	5500	2750	1800	2120	1990
25	3110	2450	2500	2800	2900	1800	5620	4740	2530	1720	2030	2000
26	2440	2170	2400	2800	2900	1800	4920	5370	2630	1850	1900	1990
27	2930	2180	2500	2900	2900	1840	4880	4310	2550	2180	1870	1610
28	2880	2250	2500	2900	2800	2210	5020	3810	2450	1780	1930	1720
29	2060	2090	2800	2900	---	3090	5330	3650	1650	2180	2040	1630
30	2820	2680	2900	2900	---	3230	5360	3630	2230	1690	1730	1890
31	3550	---	2900	2900	---	3300	---	3700	---	1730	2820	---
TOTAL	64570	78400	80340	85400	80100	81070	225030	161930	99020	67760	55740	68270
MEAN	2083	2613	2592	2755	2861	2615	7501	5224	3301	2186	1798	2276
MAX	3550	3550	2900	2900	3000	3300	13700	8030	5340	2880	2820	3230
MIN	1550	1920	2300	2500	2800	1800	3450	3630	1650	1510	1150	1610

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1997, BY WATER YEAR (WY)

	MEAN	2510	2662	2330	2143	2099	2605	5641	4893	3430	2544	2107	2345
MAX	5660	5766	3939	3035	3810	7461	10000	12100	6118	6523	3505	5335	
(WY)	1986	1986	1986	1986	1984	1973	1967	1960	1953	1953	1952	1968	
MIN	1028	1043	1167	1080	1201	1461	1432	1341	1152	1201	1003	1009	
(WY)	1977	1977	1977	1977	1964	1964	1990	1987	1988	1988	1977	1976	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1950 - 1997
ANNUAL TOTAL	1408430	1147630	
ANNUAL MEAN	3848	3144	2942
HIGHEST ANNUAL MEAN			4318
LOWEST ANNUAL MEAN			1778
HIGHEST DAILY MEAN	22200	13700	26700
LOWEST DAILY MEAN	1550	1150	840
ANNUAL SEVEN-DAY MINIMUM	1600	1220	914
INSTANTANEOUS PEAK FLOW		(a) 14000	(b) 26900
INSTANTANEOUS PEAK STAGE		(c) 15.55	(c) 18.94
10 PERCENT EXCEEDS	6990	5360	4980
50 PERCENT EXCEEDS	2700	2700	2330
90 PERCENT EXCEEDS	1910	1720	1460

(a) Gage height, 13.36 ft

(b) Gage height, 13.90 ft, site and datum then in use

(c) Ice affected

STREAMS TRIBUTARY TO LAKE MICHIGAN

04069500 PESHTIGO RIVER AT PESHTIGO, WI

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

DRAINAGE AREA.--1,080 mi².

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

REVISED RECORDS.--WDR WI-80-1: Drainage area. WDR WI-84-1: 1983 average discharge.

GAGE.--Water-stage recorder. Datum of gage is 584.64 ft above sea level.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 27, 28, Dec. 1, 3, 5, 6, 8-10, 14-17, and Dec. 24 to Apr. 3. Records good except those for ice-affected periods, which are poor (see page 11). Diurnal fluctuation caused by two powerplants upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	838	1950	880	840	940	820	2300	1610	889	861	469	949
2	880	1860	752	820	840	980	2400	2000	772	806	430	1050
3	767	1580	780	820	720	880	3100	2000	874	676	355	1040
4	672	1460	654	840	820	840	4040	1810	750	578	366	809
5	730	1440	720	800	920	820	4400	1700	639	615	379	880
6	539	1350	780	900	920	860	4700	1600	779	771	375	620
7	620	1280	589	820	940	820	4660	1490	1030	565	358	466
8	662	1170	740	800	940	720	4770	1350	1730	774	241	479
9	629	1140	700	760	900	800	4420	1370	1810	702	294	663
10	636	1020	740	700	940	880	4000	1350	1680	693	320	714
11	622	1080	654	780	920	820	3580	1110	1650	672	312	682
12	664	1000	675	780	900	780	3180	1090	939	677	325	664
13	571	756	673	720	940	820	2830	1020	856	698	371	509
14	420	711	740	880	960	880	2320	938	767	499	401	442
15	709	905	780	820	900	980	2030	1050	679	577	467	503
16	688	897	820	800	860	960	1850	1330	593	635	397	494
17	563	794	840	780	780	920	2080	1370	886	762	386	815
18	897	777	736	820	780	920	2300	1520	1350	638	714	1080
19	947	953	410	940	860	960	2130	1570	1530	398	535	1170
20	754	736	494	900	960	1000	2070	1610	1530	431	806	1160
21	969	842	527	720	900	960	1830	1490	1670	372	881	978
22	988	1060	616	780	920	920	1750	1350	1650	507	1000	873
23	1150	951	746	820	920	920	1900	1250	1530	497	776	718
24	1420	680	780	760	760	960	1920	1210	1320	431	818	729
25	1380	624	820	780	840	960	1830	1140	983	456	673	559
26	1460	572	840	860	820	1000	1770	1350	856	446	743	564
27	1270	700	920	820	840	900	1590	1270	813	430	637	540
28	1160	680	860	780	900	1100	1430	1010	636	704	542	542
29	1310	604	840	880	---	1500	1440	812	362	690	553	525
30	1630	703	820	880	---	2000	1390	784	551	497	557	640
31	2020	---	820	860	---	2200	---	896	---	440	641	---
TOTAL	28565	30275	22746	25260	24640	30880	80010	41450	32104	18498	16122	21857
MEAN	921	1009	734	815	880	996	2667	1337	1070	597	520	729
MAX	2020	1950	920	940	960	2200	4770	2000	1810	861	1000	1170
MIN	420	572	410	700	720	720	1390	784	362	372	241	442
CFSM	.85	.93	.68	.75	.81	.92	2.47	1.24	.99	.55	.48	.67
IN.	.98	1.04	.78	.87	.85	1.06	2.76	1.43	1.11	.64	.56	.75

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1997, BY WATER YEAR (WY)

	MEAN	810	919	645	550	553	1077	2087	1501	1074	657	598	757
MAX	1728	2197	1128	1219	1449	3272	3813	4639	2768	1362	1242	1706	
(WY)	1986	1986	1966	1960	1984	1973	1979	1960	1993	1993	1974	1959	
MIN	310	329	250	268	283	424	485	538	228	300	285	264	
(WY)	1990	1977	1990	1990	1990	1964	1990	1977	1988	1989	1957	1989	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1953 - 1997

ANNUAL TOTAL	453077	372407	
ANNUAL MEAN	1238	1020	936
HIGHEST ANNUAL MEAN			1559
LOWEST ANNUAL MEAN			591
HIGHEST DAILY MEAN	5580	4770	9600
LOWEST DAILY MEAN	322	241	84
ANNUAL SEVEN-DAY MINIMUM	471	317	172
INSTANTANEOUS PEAK FLOW		5010	(a) 9790
INSTANTANEOUS PEAK STAGE		8.81	11.59
ANNUAL RUNOFF (CFSM)	1.15	.94	.87
ANNUAL RUNOFF (INCHES)	15.61	12.83	11.77
10 PERCENT EXCEEDS	2320	1710	1840
50 PERCENT EXCEEDS	873	840	685
90 PERCENT EXCEEDS	600	501	356

(a) From rating curve extended above 5,000 ft³/s on basis of computation of peak flow through dam gates

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 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 sea level (levels by Wisconsin Department of Transportation). See WSP 1727 for history of changes prior to Aug. 25, 1938.

REMARKS.--Estimated daily discharges: Ice-affected period, Nov. 12 to Apr. 1. Records good except those for ice-affected period, which is fair (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	446	817	480	440	380	360	1400	876	611	484	295	481
2	426	866	490	460	380	360	1580	941	570	468	277	488
3	409	840	490	460	380	380	1600	1020	513	489	279	461
4	399	756	490	460	380	390	1790	1020	455	536	281	405
5	395	680	500	440	390	400	2040	1000	457	497	275	372
6	389	632	490	430	380	400	2350	950	487	476	271	350
7	380	622	480	430	380	400	2530	864	698	423	269	346
8	374	618	470	420	370	400	2550	812	850	445	263	338
9	370	604	460	420	380	390	2360	782	906	530	255	347
10	367	586	450	420	380	400	2150	771	885	559	249	368
11	364	563	450	410	380	410	1930	736	712	494	246	381
12	352	500	450	410	380	410	1750	683	587	440	247	360
13	362	450	450	410	380	400	1570	653	531	412	260	327
14	377	470	460	410	380	390	1430	640	494	416	277	316
15	376	450	470	400	370	380	1300	651	480	397	301	314
16	372	460	480	390	370	380	1220	660	466	380	328	324
17	377	490	470	380	380	390	1170	683	441	374	320	489
18	392	500	460	380	390	400	1150	720	429	385	325	696
19	453	470	450	370	400	410	1130	755	412	378	348	786
20	500	430	440	360	390	420	1110	757	414	358	421	804
21	479	450	430	360	380	430	1070	737	453	354	560	712
22	461	460	440	360	370	440	1020	700	498	341	641	623
23	520	470	440	360	370	460	979	656	588	308	568	542
24	579	470	440	370	370	480	951	611	540	306	488	470
25	638	460	430	380	370	520	909	611	477	325	451	412
26	650	450	420	380	380	560	870	648	462	327	407	396
27	618	440	410	380	370	620	827	645	429	336	358	382
28	587	440	410	380	370	700	788	600	387	388	350	380
29	582	450	420	380	---	800	758	575	370	349	341	389
30	672	470	420	370	---	1000	765	587	402	331	344	394
31	742	---	430	370	---	1200	---	609	---	312	389	---
TOTAL	14408	16364	14070	12390	10600	15080	43047	22953	16004	12618	10684	13453
MEAN	465	545	454	400	379	486	1435	740	533	407	345	448
MAX	742	866	500	460	400	1200	2550	1020	906	559	641	804
MIN	352	430	410	360	370	360	758	575	370	306	246	314
CFSM	.66	.77	.64	.57	.54	.69	2.04	1.05	.76	.58	.49	.64
IN.	.76	.86	.74	.65	.56	.80	2.27	1.21	.84	.67	.56	.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1906 - 1997, BY WATER YEAR (WY)

	MEAN	491	571	453	362	350	652	1232	881	678	465	385	455
MAX	1216	1377	900	700	643	1867	3435	2185	1744	1022	742	1347	
(WY)	1942	1986	1907	1907	1984	1973	1922	1960	1916	1922	1960	1928	
MIN	199	259	216	206	204	240	379	357	197	226	158	190	
(WY)	1949	1934	1990	1957	1948	1934	1931	1931	1988	1988	1934	1933	

SUMMARY STATISTICS

	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1906 - 1997
ANNUAL TOTAL	264847	201671	
ANNUAL MEAN	724	553	582
HIGHEST ANNUAL MEAN			930
LOWEST ANNUAL MEAN			315
HIGHEST DAILY MEAN			6790
LOWEST DAILY MEAN			95
ANNUAL SEVEN-DAY MINIMUM			137
INSTANTANEOUS PEAK FLOW			8400
INSTANTANEOUS PEAK STAGE			(b) 11.20
INSTANTANEOUS LOW FLOW			(c) 93
ANNUAL RUNOFF (CFSM)	1.03	.78	.83
ANNUAL RUNOFF (INCHES)	13.97	10.64	11.21
10 PERCENT EXCEEDS	1360	868	1060
50 PERCENT EXCEEDS	500	440	444
90 PERCENT EXCEEDS	369	349	258

(a) Ice affected

(b) From floodmarks, caused by a failure of a dam at Pulcifer 4 mi above station

(c) Flow retarded by anchor ice above station

STREAMS TRIBUTARY TO LAKE MICHIGAN

04072150 DUCK CREEK NEAR HOWARD, WI

LOCATION.--Lat 44°32'01", long 88°07'46", in SW 1/4 sec.19, T.24 N., R.20 E., Brown County, Hydrologic Unit 04030103, at County Highway FF near Howard and about 1 mi upstream from mouth.

DRAINAGE AREA.--108 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1988 to current year.

GAGE.--Continuous water-stage recorder since April 1988. Elevation of gage is 615 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected period, Nov. 10 to Mar. 30. Records good except for ice-affected period and discharges less than 1.0 ft³/s, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	13	5.6	3.1	5.6	35	492	90	34	18	.93	88
2	.13	9.9	5.4	3.2	5.8	35	446	157	26	19	.88	44
3	.12	8.3	5.2	3.6	5.2	50	395	123	20	16	.75	21
4	.11	6.9	5.0	8.0	4.8	74	325	114	16	14	.70	11
5	.11	6.9	5.2	16	4.5	90	272	102	14	12	.62	7.1
6	.12	4.7	5.0	18	4.2	80	231	88	13	9.3	.64	4.7
7	.23	4.8	4.6	16	3.9	70	185	69	54	8.0	1.9	3.3
8	.31	3.9	4.3	14	3.7	60	126	73	86	17	1.5	2.4
9	.45	3.5	4.1	12	3.5	54	100	93	92	30	1.2	21
10	.52	3.1	3.8	11	3.3	50	83	79	60	37	1.0	33
11	.46	2.9	3.9	10	3.1	80	77	61	37	29	.90	37
12	.46	2.7	3.8	9.0	3.0	130	71	49	26	17	.90	21
13	.43	2.6	3.8	8.0	2.8	170	66	41	20	12	1.6	11
14	.41	2.5	3.9	7.4	3.0	140	59	35	15	8.4	1.4	6.1
15	.42	2.4	6.0	7.0	2.8	110	53	30	13	6.7	48	4.0
16	.42	2.5	7.0	7.4	2.6	90	48	29	10	5.2	42	3.1
17	.81	2.7	7.4	6.8	2.6	90	42	29	9.1	4.6	30	12
18	1.5	2.5	7.2	6.6	2.7	76	40	27	9.6	3.6	23	40
19	1.5	2.4	6.2	6.8	4.2	66	39	26	8.9	2.8	13	58
20	1.2	2.3	5.0	7.0	7.0	62	37	25	100	2.4	37	66
21	1.2	2.3	4.5	6.0	17	60	36	22	417	2.4	67	50
22	1.4	2.3	4.4	7.0	40	100	33	19	411	2.3	62	32
23	6.3	2.2	4.3	9.4	45	190	31	18	251	2.0	38	21
24	4.4	2.2	4.0	8.4	50	350	27	17	129	1.9	22	14
25	6.0	2.2	3.4	7.6	45	450	25	17	84	1.5	14	9.9
26	5.2	2.0	2.9	6.6	42	450	24	17	57	1.6	8.7	6.3
27	3.6	1.9	2.6	6.8	38	500	22	16	36	1.8	6.4	4.4
28	3.1	2.0	2.6	6.6	36	880	20	15	24	3.1	4.8	4.3
29	3.9	2.2	2.7	5.8	---	1100	19	16	16	2.0	3.8	2.8
30	9.2	4.0	2.8	5.6	---	900	20	22	16	1.3	13	2.2
31	5.9	---	2.9	5.4	---	672	---	31	---	1.1	75	---
TOTAL	60.09	113.8	139.5	256.1	391.3	7264	3444	1550	2104.6	293.0	522.62	640.6
MEAN	1.94	3.79	4.50	8.26	14.0	234	115	50.0	70.2	9.45	16.9	21.4
MAX	9.2	13	7.4	18	50	1100	492	157	417	37	75	88
MIN	.11	1.9	2.6	3.1	2.6	35	19	15	8.9	1.1	.62	2.2
CFSM	.02	.04	.04	.08	.13	2.17	1.06	.46	.65	.09	.16	.20
IN.	.02	.04	.05	.09	.13	2.50	1.19	.53	.72	.10	.18	.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1997, BY WATER YEAR (WY)

	MEAN	13.7	44.0	23.9	8.46	14.8	166	179	49.5	100	38.0	8.25	10.5
MAX	52.7	207	93.5	36.8	64.6	250	318	109	370	295	28.1	36.8	
(WY)	1996	1993	1993	1996	1996	1991	1994	1990	1990	1993	1994	1990	
MIN	.26	1.81	.59	.11	.51	77.2	9.40	2.79	.000	.000	.000	.000	
(WY)	1989	1990	1990	1990	1989	1994	1990	1988	1988	1988	1988	1989	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1988 - 1997
ANNUAL TOTAL	25979.24	16779.61	
ANNUAL MEAN	71.0	46.0	56.6
HIGHEST ANNUAL MEAN			123
LOWEST ANNUAL MEAN			19.8
HIGHEST DAILY MEAN	1070	(a)1100	3690
LOWEST DAILY MEAN	.04	.11	.00
ANNUAL SEVEN-DAY MINIMUM	.05	.14	.00
INSTANTANEOUS PEAK FLOW		(b)	(c)4520
INSTANTANEOUS PEAK STAGE		(d)17.07	(e)21.00
ANNUAL RUNOFF (CFSM)	.66	.43	.52
ANNUAL RUNOFF (INCHES)	8.95	5.78	7.12
10 PERCENT EXCEEDS	226	90	113
50 PERCENT EXCEEDS	13	9.1	7.8
90 PERCENT EXCEEDS	.38	1.5	.10

(a) Ice affected

(b) Unknown, ice affected

(c) Based on rating curve extended above 1,500 ft³/s on basis of contracted-opening measurement of peak flow

(d) Backwater from ice, estimated

(e) Estimated from floodmarks

STREAMS TRIBUTARY TO LAKE MICHIGAN
04072150 DUCK CREEK NEAR HOWARD, WI--CONTINUED
(NATIONAL WATER-QUALITY ASSESSMENT PROGRAM STATION)

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WATER-QUALITY RECORD

PERIOD OF RECORD.--October 1988 to December 1992, April 1995 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM HG) (00025)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	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)
APR 1997											
17...	0855	25	750	8.0	5.5	11.8	750	340	87	31	19
MAY											
08...	0700	71	705	7.9	11.5	8.6	--	330	83	29	21
JUN											
09...	1440	98	667	8.3	20.5	10.2	749	290	71	27	18
JUL											
09...	0800	13	760	8.0	16.0	8.1	747	310	77	30	23
AUG											
13...	1400	2.2	710	8.5	22.0	--	745	320	70	36	28
SEP											
02...	1755	35	560	8.4	20.0	9.0	753	220	56	19	16

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
APR 1997											
17...	5.8	--	225	184	87	49	0.15	2.5	470	1.45	<0.010
MAY											
08...	5.7	--	--	--	73	52	0.11	1.7	441	0.775	0.020
JUN											
09...	6.7	--	241	197	61	47	0.12	4.7	432	1.46	0.075
JUL											
09...	7.1	--	293	240	60	57	0.22	8.3	553	0.698	0.031
AUG											
13...	5.5	8	241	210	64	62	0.21	9.5	478	0.068	<0.010
SEP											
02...	11	--	193	160	48	39	0.13	7.0	363	0.962	0.014

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR 1997										
17...	<0.015	0.80	0.79	0.042	0.038	0.044	51	32	4	44
MAY										
08...	<0.015	1.1	0.87	0.061	0.039	0.028	61	40	6	92
JUN										
09...	0.029	1.4	1.1	0.196	0.117	0.127	43	10	12	97
JUL										
09...	0.060	1.3	0.99	0.314	0.211	0.191	23	17	23	99
AUG										
13...	<0.015	1.2	0.75	0.177	0.094	0.103	13	29	9	98
SEP										
02...	<0.015	1.1	1.1	0.268	0.219	0.203	33	9.4	19	99

STREAMS TRIBUTARY TO LAKE MICHIGAN
04072150 DUCK CREEK NEAR HOWARD, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PESTICIDE ANALYSES

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	
APR 1997													
17...	0855	25	750	8.0	5.5	11.8	750	<0.002	<0.002	<0.002	0.043	<0.002	
MAY													
08...	0700	71	705	7.9	11.5	8.6	--	0.022	<0.002	<0.002	0.112	<0.002	
22...	1025	9.9	745	8.2	13.5	11.3	753	0.014	0.005	<0.002	0.073	<0.002	
JUN													
09...	1440	98	667	8.3	20.5	10.2	749	0.481	0.109	<0.002	1.68	<0.002	
27...	0900	56	720	7.7	21.5	6.8	744	0.116	0.030	<0.002	6.15	<0.002	
JUL													
09...	0800	13	760	8.0	16.0	8.1	747	<0.002	0.102	<0.002	0.560	<0.002	
22...	1615	2.0	757	8.4	26.5	9.8	747	<0.002	<0.002	<0.002	0.537	<0.002	
AUG													
13...	1400	2.2	710	8.5	22.0	--	745	<0.002	<0.002	<0.002	0.170	<0.002	
27...	1515	6.0	720	8.3	23.5	10.2	744	<0.002	<0.002	<0.002	0.255	<0.002	
SEP													
02...	1755	35	560	8.4	20.0	9.0	753	<0.010	<0.002	<0.002	0.253	<0.002	
DATE		BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DIAZ- INON WAT FLT 0.7 U GF, REC (UG/L) (91063)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)
APR 1997													
17...	<0.002	<0.003	<0.003	<0.004	0.009	<0.002	E0.019	<0.002	100	<0.001	<0.017	<0.002	
MAY													
08...	<0.002	<0.003	<0.003	<0.004	0.024	<0.002	E0.014	<0.002	78.7	<0.001	<0.017	0.004	
22...	<0.002	<0.003	<0.003	<0.004	0.022	<0.002	E0.013	<0.002	96.8	<0.001	<0.017	E0.003	
JUN													
09...	<0.002	<0.003	E0.030	<0.004	0.148	<0.002	E0.034	<0.002	99.2	<0.001	<0.017	E0.003	
27...	<0.002	<0.003	E0.612	<0.004	0.308	<0.002	E0.129	<0.002	98.1	<0.001	<0.017	<0.002	
JUL													
09...	<0.002	<0.003	E0.022	<0.004	0.046	<0.002	E0.043	<0.002	99.0	<0.001	<0.017	<0.002	
22...	<0.002	<0.003	<0.003	<0.004	0.030	<0.002	E0.032	<0.002	90.8	<0.001	<0.017	<0.002	
AUG													
13...	<0.002	<0.003	<0.003	<0.004	0.017	<0.002	E0.023	<0.002	107	<0.001	<0.017	<0.002	
27...	<0.002	<0.003	<0.003	<0.004	<0.004	<0.002	E0.039	<0.002	84.3	<0.001	<0.017	<0.002	
SEP													
02...	<0.002	<0.090	<0.003	<0.004	<0.004	<0.002	E0.084	<0.002	92.6	<0.001	<0.017	<0.002	
DATE		ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC PERCENT (91065)	LINDANE DIS- SOLVED (UG/L) (39341)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA- THION, DIS- SOLVED (UG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	
APR 1997													
17...	<0.004	<0.003	<0.003	96.2	<0.004	<0.002	<0.005	<0.001	<0.006	0.020	<0.004		
MAY													
08...	<0.004	<0.003	<0.003	85.4	<0.004	<0.002	<0.005	<0.001	<0.006	0.145	<0.004		
22...	<0.004	<0.003	<0.003	80.1	<0.004	<0.002	<0.005	<0.001	<0.006	0.114	<0.007		
JUN													
09...	<0.004	<0.003	<0.003	117	<0.004	<0.002	<0.005	<0.001	<0.006	4.48	0.073		
27...	<0.004	<0.003	<0.003	108	<0.004	<0.002	<0.005	<0.001	<0.006	2.75	0.063		
JUL													
09...	<0.004	<0.003	<0.003	111	<0.004	<0.002	<0.005	<0.001	<0.006	0.422	<0.010		
22...	<0.004	<0.003	<0.003	97.3	<0.004	<0.002	<0.005	<0.001	<0.006	0.226	<0.200		
AUG													
13...	<0.004	<0.003	<0.003	106	<0.004	<0.002	<0.005	<0.001	<0.006	0.047	<0.050		
27...	<0.004	<0.003	<0.003	110	<0.004	<0.002	<0.005	<0.001	<0.006	0.147	<0.004		
SEP													
02...	<0.004	<0.003	<0.003	111	<0.004	<0.002	<0.005	<0.001	<0.006	0.266	<0.004		

E Estimated

STREAMS TRIBUTARY TO LAKE MICHIGAN
04072150 DUCK CREEK NEAR HOWARD, WI--CONTINUED

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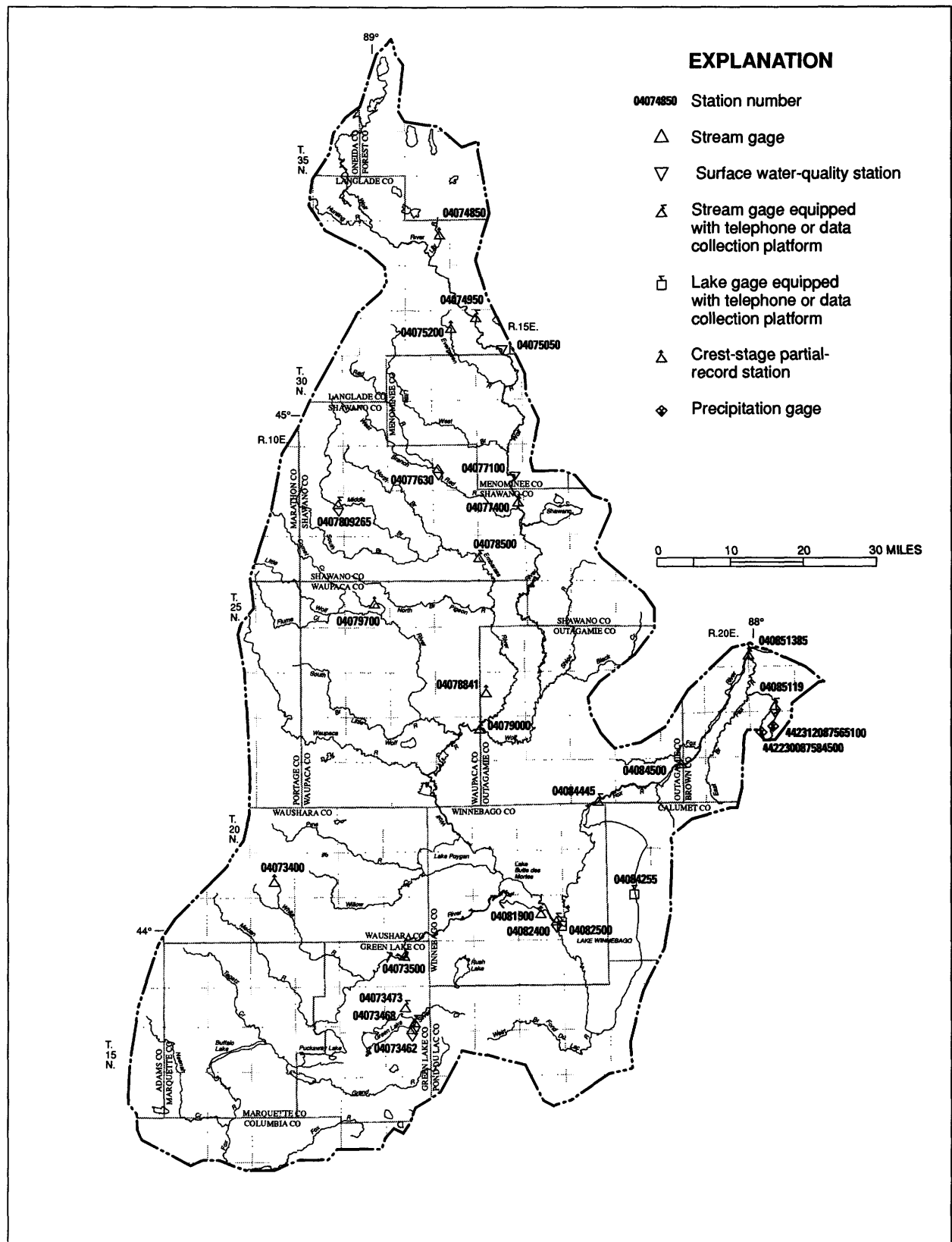
WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PESTICIDE ANALYSES

DATE	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA- THION, DIS- SOLVED (UG/L) (39542)	PEB- ULATE WATER FLTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	P, P' DDE DISSOLV (UG/L) (34653)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)
APR 1997											
17...	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	EO.003	<0.004
MAY											
08...	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	<0.018	<0.004
22...	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	EO.005	<0.004
JUN											
09...	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	<0.018	<0.004
27...	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	EO.007	<0.004
JUL											
09...	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	<0.018	<0.004
22...	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	<0.018	<0.004
AUG											
13...	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	<0.018	<0.004
27...	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	EO.005	<0.004
SEP											
02...	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	<0.018	<0.004

DATE	PRO- FARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC PERCENT (91064)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)
APR 1997											
17...	<0.013	<0.007	0.011	<0.007	<0.010	<0.013	97.1	<0.002	<0.001	<0.002	<0.003
MAY											
08...	<0.013	<0.007	0.493	<0.007	<0.010	<0.013	89.8	<0.002	<0.001	<0.002	<0.003
22...	<0.013	<0.007	0.173	<0.007	<0.010	<0.013	102	<0.002	<0.001	<0.002	<0.003
JUN											
09...	<0.013	<0.007	0.057	<0.007	<0.010	<0.013	115	<0.002	<0.001	<0.002	<0.003
27...	<0.013	<0.007	0.045	<0.007	<0.010	<0.013	108	<0.002	<0.001	<0.002	<0.003
JUL											
09...	<0.013	<0.007	0.052	<0.007	<0.010	<0.013	107	<0.002	<0.001	<0.002	<0.003
22...	<0.013	<0.007	0.018	<0.007	<0.010	<0.013	102	<0.002	<0.001	<0.002	<0.003
AUG											
13...	<0.013	<0.007	0.018	<0.007	<0.010	<0.013	119	<0.002	<0.001	<0.002	<0.003
27...	<0.013	<0.007	0.013	<0.007	<0.010	<0.013	103	<0.002	<0.001	<0.002	<0.003
SEP											
02...	<0.013	<0.007	0.017	<0.007	<0.010	<0.013	103	<0.002	<0.001	<0.002	<0.003

E Estimated



FOX-WOLF RIVER BASIN

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 June 1988, October 1996 to September 1997.

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

REMARKS.--Estimated daily discharges: Oct. 1-18, Mar. 21-24, and ice-affected periods, Dec. 24-26, Jan. 12-20, 28, 29, Feb. 4, 7, 9, and 13-15. Records are fair (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.56	.66	.93	.36	.36	7.9	10	3.4	1.6	2.3	2.0	2.0
2	.54	.60	.63	.36	.26	10	9.9	2.6	1.5	2.1	2.1	2.0
3	.52	.66	.66	.30	.21	8.7	9.5	2.6	1.5	2.0	2.8	1.9
4	.52	.66	.65	3.4	.19	6.1	9.0	2.2	1.4	1.9	3.1	1.9
5	.50	.61	.65	8.4	.18	4.7	8.7	2.5	1.4	1.8	2.3	1.8
6	.60	.56	.64	5.4	.15	3.9	8.0	2.4	1.6	1.7	2.3	1.8
7	.54	.61	.54	3.6	.14	3.4	7.0	2.5	1.7	1.6	2.2	1.7
8	.52	.52	.53	2.8	.14	3.1	6.3	2.7	1.5	2.4	2.0	1.7
9	.50	.52	.53	2.3	.14	19	6.0	2.4	1.4	2.1	2.0	1.5
10	.48	.53	.53	1.9	.14	21	5.8	2.3	1.3	1.9	2.0	1.5
11	.46	.60	.53	1.6	.14	25	5.3	2.3	1.2	1.8	1.8	1.4
12	.45	.50	.53	1.3	.14	14	5.1	2.3	1.2	1.8	2.5	1.3
13	.44	.50	.53	1.0	.14	10	4.8	2.2	1.1	1.8	2.1	1.4
14	.43	.54	.53	.80	.14	8.5	4.6	2.2	.99	1.8	2.0	1.4
15	.42	.61	1.4	.64	.14	6.9	4.3	2.2	1.0	1.8	4.0	1.4
16	.42	.67	1.3	.56	.14	5.7	4.0	2.2	1.4	3.9	2.5	2.5
17	.50	.66	.92	.48	.15	5.3	3.8	2.2	1.3	4.2	2.4	2.5
18	.55	.61	.80	.42	8.4	4.7	3.6	2.2	1.1	3.1	2.3	2.0
19	.44	.50	.79	.40	11	4.3	3.5	2.2	1.1	2.7	2.2	1.9
20	.44	.57	.88	.38	9.1	23	3.4	2.1	1.2	2.5	2.2	1.9
21	.44	.57	.87	.37	11	44	3.2	2.0	3.2	2.4	2.2	1.6
22	.57	.57	.79	8.6	7.2	19	3.1	1.9	1.9	2.3	2.2	1.7
23	.89	.64	.77	4.0	5.4	11	3.1	1.9	1.7	2.2	2.2	1.7
24	.56	.69	.56	3.1	4.2	10	3.0	1.9	1.6	2.0	2.8	1.5
25	.65	.58	.54	2.2	3.5	10	2.7	1.9	1.7	2.6	2.4	1.5
26	.61	.66	.52	1.9	2.9	12	2.4	1.9	1.8	2.9	2.3	1.5
27	.99	.67	.45	1.2	2.5	14	2.4	1.9	1.8	2.4	2.2	1.4
28	1.1	.81	.48	1.1	2.1	14	2.3	1.9	1.7	2.4	2.2	1.4
29	1.9	.86	.44	1.0	---	13	2.2	2.1	1.7	2.3	2.1	1.4
30	.91	1.2	.36	.92	---	12	2.6	2.0	2.4	2.2	2.1	1.3
31	.66	---	.36	.56	---	11	---	1.8	---	2.0	2.0	---
TOTAL	19.11	18.94	20.64	61.35	70.20	365.2	149.6	68.9	45.99	70.9	71.5	50.5
MEAN	.62	.63	.67	1.98	2.51	11.8	4.99	2.22	1.53	2.29	2.31	1.68
MAX	1.9	1.2	1.4	8.6	11	44	10	3.4	3.2	4.2	4.0	2.5
MIN	.42	.50	.36	.30	.14	3.1	2.2	1.8	.99	1.6	1.8	1.3
CFSM	.20	.21	.22	.65	.82	3.86	1.63	.73	.50	.75	.76	.55
IN.	.23	.23	.25	.75	.86	4.45	1.82	.84	.56	.86	.87	.62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1997, BY WATER YEAR (WY)

	4.07	4.73	3.85	2.59	3.89	8.54	7.40	4.53	3.56	3.05	2.52	4.21
MEAN	4.07	4.73	3.85	2.59	3.89	8.54	7.40	4.53	3.56	3.05	2.52	4.21
MAX	12.9	12.7	7.47	5.28	9.29	16.1	12.9	8.31	7.37	5.29	4.39	18.5
(WY)	1987	1986	1986	1983	1984	1986	1986	1983	1984	1984	1986	1986
MIN	.37	.30	.46	.55	1.74	3.20	3.61	2.22	1.29	1.40	.83	.52
(WY)	1988	1988	1988	1988	1987	1987	1984	1997	1988	1987	1987	1987

SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1982 - 1997

ANNUAL TOTAL	1012.83	
ANNUAL MEAN	2.77	4.91
HIGHEST ANNUAL MEAN		7.94
LOWEST ANNUAL MEAN		2.77
HIGHEST DAILY MEAN	(a) 44	89
LOWEST DAILY MEAN	.14 (b) Feb 7-16	.14 (b) Feb 7-16
ANNUAL SEVEN-DAY MINIMUM	.14 (c) Feb 7	.14 (c) Feb 7
INSTANTANEOUS PEAK FLOW	95	781
INSTANTANEOUS PEAK STAGE	5.24	10.14
ANNUAL RUNOFF (CFSM)	.91	1.61
ANNUAL RUNOFF (INCHES)	12.35	21.89
10 PERCENT EXCEEDS	6.5	9.4
50 PERCENT EXCEEDS	1.8	3.0
90 PERCENT EXCEEDS	.46	.66

(a) Estimated daily mean

(b) Ice affected Feb. 7, 9, and 13-15

(c) Ice affected

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 June 1988, October 1996 to September 1997.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1981 to June 1988, October 1996 to September 1997.

TOTAL AMMONIA-NITROGEN DISCHARGE: October 1981 to June 1988.

TOTAL-PHOSPHORUS DISCHARGE: October 1981 to June 1988, October 1996 to September 1997.

INSTRUMENTATION.--Automatic pumping sampler since December 1981.

REMARKS.--Records are good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 51,300 mg/L, Apr. 3, 1982; minimum observed, 1 mg/L, Sept. 26, 1981, Nov. 28, 1984, Sept. 5, 1985, and Jan. 14, 1987.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,420 tons, Apr. 3, 1982; minimum daily, 0 ton, Sept. 11-18, 24-30, 1982, Jan. 11-16, 1987, Oct. 13-16, 18-20, 1987, and Feb. 2-17, 1997.

TOTAL AMMONIA-NITROGEN CONCENTRATIONS: Maximum observed, 8.4 mg/L, Apr. 3, 1982; minimum observed, <0.01 mg/L, many days.

TOTAL AMMONIA-NITROGEN DISCHARGE.--Maximum daily, 490 lb, Apr. 3, 1982; minimum daily, 0.01 lb, Nov. 27, Dec. 2-4, 1987.

TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 7.6 mg/L, May 31, 1987; minimum observed, <0.01 mg/L, many days.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 1,130 lb, Sept. 10, 1986; minimum daily, 0.06 lb, Oct. 28, 31, Nov. 5-6, 12-16, 21, 26-27, 1987.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 4,700 mg/L, Feb. 18; minimum observed, 6 mg/L, Mar. 20.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 80 tons, Mar. 21; minimum daily, 0 ton, Feb. 2-17.

TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 3.37 mg/L, Feb. 18; minimum observed, 0.01 mg/L, May 7 and 21.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 235 lb, Mar. 21; minimum daily, 0.04 lb, Feb. 6-17.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
OCT 1996					
*16...	1510	0.42	--	0.042	12
*22...	1655	--	0.44	0.030	13
*29...	1322	--	2.5	0.119	22
NOV					
*26...	1320	--	0.89	0.046	11
JAN 1997					
*03...	1342	--	0.23	0.054	16
22...	0918	--	16	0.700	187
*22...	0949	--	18	0.647	116
22...	0951	--	18	0.657	140
22...	1155	--	14	0.569	109
22...	1635	--	7.8	0.438	74
22...	2235	--	5.3	0.281	47
23...	1040	--	4.0	0.137	19
*30...	1000	--	1.1	0.050	7
FEB					
18...	1610	--	2.6	0.606	42
18...	1700	--	17	3.37	4700
18...	1715	--	41	1.72	1740
18...	2140	--	15	0.614	180
19...	0305	--	7.9	--	46
*19...	1112	--	4.6	0.310	35
19...	1128	--	4.6	--	31
19...	1345	--	13	0.604	442
19...	1450	--	26	1.02	465
19...	1950	--	13	0.708	133
20...	0150	--	6.6	--	58
20...	1350	--	5.8	0.248	36
20...	1710	--	14	1.16	1280
20...	2310	--	14	0.677	221
21...	0510	--	12	0.582	105
22...	1710	--	6.9	--	25
24...	0510	--	4.4	0.142	15

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
MAR 1997					MAY 1997				
01...	1550	6.9	--	79	01...	0315	4.6	--	27
01...	1735	14	0.778	848	07...	2245	3.3	0.013	33
01...	2335	12	--	87	*21...	1216	2.0	0.010	37
*03...	1255	8.4	0.215	20	JUN				
09...	1140	7.2	0.522	212	*11...	1215	1.2	0.034	17
09...	1440	37	1.05	889	21...	0915	5.5	0.549	614
09...	1620	75	1.03	937	21...	0950	11	0.956	1510
09...	1910	39	0.580	245	21...	1220	5.3	0.923	609
09...	2135	14	--	104	30...	1150	3.0	0.162	69
10...	0935	9.1	0.167	38	*30...	1153	3.1	0.146	63
10...	1535	12	--	95	JUL				
10...	1600	35	0.169	2130	08...	0620	2.9	0.295	143
10...	1725	72	1.63	764	16...	2020	11	2.76	3330
10...	2035	33	1.22	217	16...	2230	11	2.34	1480
11...	0835	12	0.676	54	17...	0245	5.2	0.405	224
11...	1320	25	0.275	844	17...	0845	4.0	0.576	312
11...	1430	63	1.56	1080	17...	1445	4.0	0.314	118
11...	1638	68	1.20	748	17...	2045	3.5	0.240	90
*11...	1639	67	1.07	746	18...	2045	3.0	0.122	40
*20...	1120	5.1	0.064	6	*22...	1643	2.2	0.078	19
20...	1340	17	1.88	2610	*28...	1432	2.4	0.072	31
20...	1545	74	1.51	1160	AUG				
20...	1825	60	0.759	403	12...	1105	4.9	0.432	128
21...	0520	15	0.314	60	15...	0855	4.3	0.409	337
21...	1125	48	0.874	736	15...	0910	11	0.519	1530
21...	1230	91	1.95	1890	15...	0945	18	2.28	1980
21...	1410	93	1.31	990	15...	1135	9.8	0.880	518
21...	1530	87	1.26	952	15...	1320	4.5	0.412	122
25...	1350	10	0.050	32	*26...	1255	2.2	0.109	18
26...	2025	15	0.253	98	SEP				
29...	0020	13	0.072	39	16...	2105	8.3	0.855	1240
APR					16...	2110	12	3.14	3760
*07...	1054	6.7	0.034	13	16...	2240	7.4	1.54	906
*29...	1220	2.1	0.020	14					

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN
04073462 WHITE CREEK AT FOREST GLEN BEACH NEAR GREEN LAKE, WI--CONTINUED

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.02	.03	.02	.01	11	.52	.36	.10	.15	.13	.09
2	.02	.02	.02	.02	.00	5.9	.48	.20	.10	.13	.12	.09
3	.02	.02	.02	.01	.00	.62	.43	.20	.09	.12	1.3	.08
4	.02	.02	.02	.92	.00	.27	.38	.18	.08	.11	.82	.08
5	.02	.02	.02	.67	.00	.18	.35	.21	.08	.10	.18	.08
6	.02	.02	.02	.28	.00	.14	.30	.21	.09	.09	.17	.07
7	.02	.02	.02	.18	.00	.11	.25	.21	.09	.08	.15	.07
8	.02	.02	.02	.13	.00	.09	.23	.24	.08	.47	.13	.07
9	.02	.02	.02	.11	.00	26	.22	.22	.07	.16	.12	.06
10	.02	.02	.02	.08	.00	25	.21	.21	.06	.14	.12	.06
11	.01	.02	.02	.07	.00	32	.19	.21	.06	.13	.10	.05
12	.01	.02	.02	.05	.00	1.6	.18	.21	.05	.12	.30	.05
13	.01	.02	.02	.04	.00	.48	.17	.21	.05	.11	.15	.05
14	.01	.02	.02	.03	.00	.30	.17	.21	.05	.11	.12	.05
15	.01	.02	.05	.02	.00	.22	.15	.21	.06	.10	6.1	.05
16	.01	.02	.05	.02	.00	.16	.14	.21	.10	13	.20	5.7
17	.02	.02	.03	.02	.00	.13	.14	.21	.08	2.6	.15	.43
18	.02	.02	.03	.01	19	.10	.13	.22	.07	.46	.14	.13
19	.01	.02	.03	.01	6.2	.08	.13	.21	.06	.26	.13	.10
20	.02	.02	.03	.01	8.7	40	.12	.21	.07	.20	.13	.09
21	.02	.02	.03	.01	2.7	80	.12	.20	4.4	.16	.12	.08
22	.03	.02	.03	2.8	.64	4.4	.11	.18	.30	.12	.11	.08
23	.05	.02	.03	.25	.28	1.3	.11	.17	.16	.11	.11	.07
24	.02	.02	.02	.09	.16	1.0	.11	.17	.13	.10	.26	.06
25	.03	.02	.02	.06	.13	.89	.10	.16	.13	.85	.14	.06
26	.02	.02	.02	.04	.10	2.4	.09	.16	.12	.65	.11	.06
27	.04	.02	.02	.03	.08	2.7	.09	.15	.11	.23	.11	.05
28	.04	.02	.02	.02	.06	1.9	.09	.15	.11	.20	.10	.05
29	.13	.03	.02	.02	---	1.2	.08	.16	.10	.18	.10	.05
30	.04	.04	.01	.02	---	.82	.58	.15	.27	.16	.10	.05
31	.02	---	.01	.01	---	.59	---	.12	---	.13	.09	---
TOTAL	0.77	0.63	0.74	6.05	38.06	241.58	6.37	6.12	7.32	21.53	12.11	8.06

WTR YR 1997 TOTAL 349.34

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.21	.24	.10	.10	26	3.0	1.5	.16	.94	.62	1.1
2	.12	.19	.16	.10	.07	25	2.7	.48	.16	.83	.61	1.1
3	.11	.21	.17	.09	.06	12	2.4	.40	.17	.73	5.4	1.0
4	.11	.20	.17	7.5	.05	5.5	2.1	.29	.17	.64	4.9	.96
5	.11	.19	.17	7.3	.05	3.6	1.9	.27	.18	.59	1.5	.94
6	.13	.17	.17	2.4	.04	2.7	1.6	.22	.21	.51	1.4	.90
7	.12	.18	.14	1.5	.04	2.2	1.3	.19	.25	.45	1.2	.86
8	.11	.15	.14	1.1	.04	1.8	1.1	.19	.23	2.1	1.1	.82
9	.11	.15	.14	.92	.04	75	1.1	.16	.22	.89	.99	.74
10	.11	.15	.14	.73	.04	99	.99	.16	.22	.76	.94	.71
11	.10	.17	.14	.58	.04	122	.88	.15	.22	.69	.82	.65
12	.10	.14	.14	.47	.04	14	.82	.15	.21	.63	2.5	.62
13	.10	.14	.14	.35	.04	6.0	.76	.14	.19	.59	1.5	.62
14	.10	.15	.14	.27	.04	4.3	.71	.14	.17	.56	1.2	.64
15	.09	.17	.39	.21	.04	3.3	.64	.14	.27	.52	16	.63
16	.09	.18	.35	.18	.04	2.5	.59	.13	.55	29	2.2	13
17	.11	.18	.25	.15	.04	2.2	.55	.13	.37	10	1.8	3.4
18	.11	.17	.22	.13	52	1.8	.51	.13	.30	2.7	1.6	1.4
19	.08	.13	.22	.12	41	1.6	.48	.12	.27	1.7	1.4	1.1
20	.08	.15	.24	.11	31	113	.45	.11	.27	1.4	1.4	.98
21	.08	.15	.24	.10	29	235	.42	.11	10	1.2	1.3	.83
22	.19	.15	.22	26	10	33	.39	.11	2.3	.99	1.2	.83
23	.50	.17	.21	3.3	5.3	6.7	.38	.11	1.1	.89	1.1	.79
24	.17	.18	.16	1.3	3.2	4.0	.36	.12	.83	.77	2.4	.71
25	.19	.14	.15	.80	2.5	2.9	.32	.13	.82	4.2	1.5	.69
26	.16	.16	.15	.64	1.9	12	.28	.14	.76	3.3	1.4	.66
27	.24	.17	.13	.39	1.5	10	.27	.14	.71	1.1	1.3	.58
28	.25	.20	.14	.33	1.2	6.4	.26	.15	.65	.94	1.3	.57
29	1.1	.22	.13	.28	---	4.7	.24	.18	.59	.85	1.2	.55
30	.34	.30	.10	.25	---	4.0	1.5	.19	1.4	.76	1.2	.49
31	.21	---	.10	.15	---	3.4	---	.17	---	.65	1.1	---
TOTAL	5.54	5.22	5.60	57.85	179.41	845.6	29.00	6.75	23.95	71.88	64.08	38.87

WTR YR 1997 TOTAL 1333.75

04073468 GREEN LAKE INLET AT COUNTY TRUNK HIGHWAY A NEAR GREEN LAKE, WI

LOCATION.--Lat 43°49'18", long 88°55'36", in NE 1/4 SE 1/4 SE 1/4 sec.27, T.16 N., R.13 E., Green Lake County, Hydrologic Unit 04030201, on left bank at downstream side of County Trunk Highway A, 2.3 mi southeast of Green Lake.

DRAINAGE AREA.--53.5 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1987 to current year.

GAGE.--Acoustical Velocity Meter (AVM) system. Single-path, mid-depth transducer installation. Cross-path, dual-depth transducers installed on June 6, 1990. Datum of gage is 790.00 ft above sea level (from Wisconsin Department of Natural Resources benchmark).

REMARKS.--Estimated daily discharges: Nov. 15, July 16, Aug. 3-5 and Sept. 18-30. Estimated discharges are based on discharges from downstream station, Puchyan River near Green Lake (04073473) and lake levels at Green Lake at County Trunk Highway A near Green Lake. Flows fluctuate due to seiche from Green Lake. Records are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	33	19	13	16	46	146	90	18	32	18	14
2	14	22	21	13	16	67	130	62	17	13	14	20
3	10	22	12	13	15	64	114	64	15	37	26	14
4	9.9	24	15	32	13	61	88	55	10	21	20	15
5	9.2	20	10	42	19	56	95	53	20	13	7.0	16
6	19	16	14	27	18	45	79	50	25	25	19	16
7	17	17	15	23	16	39	97	40	34	18	14	15
8	15	17	15	16	13	33	71	54	35	40	15	12
9	15	15	13	16	14	59	58	48	25	23	11	13
10	11	15	14	16	15	91	58	35	17	20	16	14
11	12	13	11	17	16	143	57	35	19	29	14	15
12	16	14	8.9	15	16	145	46	34	16	20	31	13
13	13	11	16	16	13	99	53	30	19	11	29	13
14	13	12	13	14	14	79	55	29	5.8	24	22	13
15	9.8	13	28	15	14	72	51	29	17	20	69	13
16	9.9	13	25	14	14	69	46	30	34	7.7	73	15
17	13	15	16	15	15	59	42	27	20	40	65	55
18	24	23	16	13	20	56	43	30	17	20	52	30
19	17	11	13	12	45	54	45	27	15	17	41	22
20	12	12	14	13	55	69	45	25	21	15	42	19
21	12	9.7	13	12	69	175	38	22	108	22	34	18
22	18	17	12	35	59	246	38	26	81	18	28	17
23	19	12	7.8	22	55	200	31	20	63	18	26	16
24	30	8.2	13	19	47	166	36	26	58	14	41	15
25	22	12	13	20	40	146	34	22	63	22	34	14
26	14	12	12	16	32	141	33	15	37	64	26	13
27	21	13	10	18	27	157	32	16	29	42	26	12
28	16	11	11	18	29	176	28	19	24	36	21	12
29	22	12	11	15	---	178	32	23	22	26	20	11
30	45	18	10	16	---	166	25	37	37	22	17	11
31	39	---	9.8	17	---	153	---	24	---	19	17	---
TOTAL	530.8	462.9	431.5	563	735	3310	1746	1097	921.8	748.7	888.0	496
MEAN	17.1	15.4	13.9	18.2	26.3	107	58.2	35.4	30.7	24.2	28.6	16.5
MAX	45	33	28	42	69	246	146	90	108	64	73	55
MIN	9.2	8.2	7.8	12	13	33	25	15	5.8	7.7	7.0	11
CFSM	.32	.29	.26	.34	.49	2.00	1.09	.66	.57	.45	.54	.31
IN.	.37	.32	.30	.39	.51	2.30	1.21	.76	.64	.52	.62	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1997, BY WATER YEAR (WY)

	MEAN	23.0	29.7	22.9	16.9	23.8	74.7	64.4	40.1	46.1	36.5	24.6	20.0
MAX	64.1	71.3	47.5	46.1	60.7	107	185	89.9	156	190	67.5	38.8	
(WY)	1996	1996	1993	1996	1996	1997	1993	1993	1993	1993	1990	1993	
MIN	7.00	13.8	5.73	6.66	6.71	45.5	31.2	16.1	4.57	3.78	5.03	9.01	
(WY)	1989	1990	1990	1989	1989	1995	1990	1988	1988	1988	1988	1988	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1987 - 1997
ANNUAL TOTAL	15105.9	11930.7	
ANNUAL MEAN	41.3	32.7	36.2
HIGHEST ANNUAL MEAN			79.9
LOWEST ANNUAL MEAN			18.7
HIGHEST DAILY MEAN	230	246	705
LOWEST DAILY MEAN	7.8	5.8	-4.1
ANNUAL SEVEN-DAY MINIMUM	11	11	2.1
ANNUAL RUNOFF (CFSM)	.77	.61	.68
ANNUAL RUNOFF (INCHES)	10.50	8.30	9.18
10 PERCENT EXCEEDS	80	64	75
50 PERCENT EXCEEDS	31	20	22
90 PERCENT EXCEEDS	12	12	7.1

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1987 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: February 1987 to current year.

TOTAL-PHOSPHORUS DISCHARGE: February 1987 to current year.

INSTRUMENTATION.--Automatic pumping sampler from March to September 1997; manual samples February 1987 to February 1997.

REMARKS.--Records are fair. Phosphorus analyses by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 701 mg/L, May 30, 1989; minimum observed, 0 mg/L, Mar. 25, 1988.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 456 tons, May 31, 1989; minimum daily, -0.22 ton, June 14, 1994.

TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 1.45 mg/L, May 30, 1989; minimum observed, <0.02 mg/L, Oct. 10, 1991.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 3,230 lb, May 31, 1989; minimum daily, -5.5 lb, June 14, 1994.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 158 mg/L, May 25; minimum observed, 1.0 mg/L, Nov. 26.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 24 tons, May 1; minimum daily, 0.02 ton, Nov. 24.

TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 0.297 mg/L, July 3; minimum observed, 0.042 mg/L, Oct. 22.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 324 lb, Mar. 22; minimum daily, 2.7 lb, Nov. 24.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	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)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
OCT 1996					APR 1997				
*01...	1625	13	0.106	45	03...	2344	114	0.080	6
*07...	1410	17	0.133	20	07...	1414	97	0.218	100
*11...	1230	12	0.067	--	11...	1659	57	0.139	38
*16...	1345	9.9	0.088	18	12...	0529	46	0.112	19
*22...	1715	18	0.042	16	15...	1444	51	0.137	52
*29...	1330	22	--	16	19...	1214	45	0.105	22
NOV					20...	1859	45	0.112	44
07...	1310	17	0.090	11	26...	1214	33	0.132	26
*07...	1312	17	0.077	9	*29...	1100	32	0.163	48
*26...	1515	12	0.058	1	30...	1459	25	0.208	122
JAN 1997					MAY				
*03...	1255	13	0.084	5	03...	1159	64	0.146	64
*22...	1050	35	0.079	16	05...	1644	53	0.160	112
*30...	0935	16	0.081	4	08...	2014	54	0.293	123
FEB					10...	1214	35	0.128	58
*19...	1144	45	0.096	2	12...	1214	34	0.157	65
MAR					16...	1544	30	0.143	110
*03...	1315	64	0.219	16	18...	0359	30	0.118	74
03...	1318	64	0.183	12	18...	1159	30	0.113	46
07...	1344	39	0.109	2	21...	1125	22	0.142	42
08...	1144	33	0.115	3	*21...	1126	22	0.132	44
09...	0944	59	0.082	3	24...	1259	26	0.176	136
10...	1159	91	0.110	5	25...	1159	22	0.188	158
11...	0514	143	0.129	5	JUN				
11...	1530	143	0.158	6	01...	1314	18	0.182	45
*11...	1532	143	0.239	11	08...	1214	35	0.118	28
16...	1414	69	0.211	10	15...	1144	17	0.232	42
*20...	1025	69	0.106	7	15...	2144	17	0.200	45
22...	1229	246	0.280	23	*19...	1614	15	0.206	29
22...	2014	246	0.217	15	21...	0629	108	0.227	49
24...	1844	166	0.208	9	21...	2159	108	0.235	38
25...	1410	146	0.145	7	23...	0529	63	0.273	56
29...	0159	178	0.128	11	25...	0244	63	0.236	57
APR					30...	1125	37	0.249	40
01...	2359	146	0.099	9	*30...	1127	37	0.256	42

* Equal-width increment (EWI) samples

STREAMS TRIBUTARY TO LAKE MICHIGAN

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04073468 GREEN LAKE INLET AT COUNTY TRUNK HIGHWAY A NEAR GREEN LAKE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	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)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
JUL 1997					AUG 1997				
02...	1914	13	0.283	--	15...	0914	69	0.258	34
03...	1314	37	0.297	--	16...	0329	73	--	28
06...	0114	25	0.171	34	16...	1214	73	0.196	24
07...	1214	18	0.210	36	16...	2144	73	--	16
14...	0244	24	0.248	44	19...	1214	41	0.162	18
14...	1159	24	--	44	23...	2029	26	0.130	17
17...	1029	40	0.210	27	26...	1159	26	0.155	30
21...	0414	22	0.156	20	SEP				
*22...	1411	18	0.193	26	02...	1159	20	0.072	28
25...	1029	22	0.223	33	09...	1159	13	0.082	13
26...	1814	64	0.189	18	16...	2144	15	0.094	23
*28...	1115	36	0.213	24	17...	1729	55	0.099	16
28...	1119	36	0.219	22	18...	1644	30	0.100	21
AUG					30...	2129	11	0.113	28
05...	1214	7.0	0.219	20					

* Equal-width increment (EWI) samples

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.8	.05	.15	.14	.67	3.5	24	2.2	3.5	1.0	1.1
2	1.5	1.1	.06	.16	.14	1.7	2.8	13	1.9	1.4	.78	1.5
3	.94	1.0	.04	.17	.12	2.2	2.0	12	1.6	3.7	1.4	.95
4	.81	.99	.05	.60	.10	1.2	2.3	12	.99	2.0	1.1	.92
5	.66	.75	.03	1.1	.15	.69	5.4	15	1.9	1.2	.37	.88
6	1.2	.54	.05	.69	.14	.34	9.8	15	2.2	2.3	.99	.79
7	.92	.47	.05	.55	.12	.20	23	13	2.7	1.7	.72	.66
8	.72	.37	.06	.36	.09	.26	16	18	2.7	4.0	.76	.47
9	.63	.29	.05	.34	.10	.53	10	12	1.8	2.3	.55	.47
10	.41	.25	.06	.32	.10	1.1	7.9	5.9	1.2	2.1	.79	.49
11	.40	.19	.05	.33	.10	2.8	5.9	5.8	1.4	3.1	.70	.53
12	.56	.18	.04	.27	.10	4.3	2.7	6.0	1.1	2.2	1.8	.46
13	.49	.13	.08	.27	.08	2.9	4.1	5.9	1.3	1.3	2.0	.46
14	.53	.12	.07	.23	.08	2.3	5.7	6.5	.42	2.8	1.8	.46
15	.43	.12	.15	.23	.08	2.0	6.7	7.4	1.9	2.0	6.0	.48
16	.47	.10	.14	.20	.08	1.9	5.4	8.5	3.8	.66	4.6	.79
17	.61	.10	.09	.20	.08	1.5	3.9	6.5	2.0	2.9	3.0	2.8
18	1.1	.14	.10	.17	.12	1.3	3.2	4.4	1.5	1.4	2.5	1.6
19	.78	.06	.08	.15	.30	1.1	2.9	3.2	1.2	1.1	2.0	1.3
20	.54	.06	.09	.15	.67	1.5	4.6	2.9	2.2	.87	2.1	1.1
21	.54	.04	.09	.16	1.4	6.4	4.2	2.7	13	1.3	1.6	1.1
22	.79	.06	.09	1.3	1.1	13	3.9	4.6	9.9	1.2	1.3	1.0
23	.84	.04	.06	.77	.90	7.0	2.9	5.1	9.4	1.4	1.2	1.0
24	1.3	.02	.10	.55	.67	4.5	3.0	9.3	8.8	1.1	2.2	.97
25	.97	.03	.11	.48	.49	2.9	2.6	9.0	9.4	1.8	2.2	.93
26	.62	.03	.11	.32	.34	2.9	2.4	5.4	5.2	3.6	2.1	.89
27	.92	.03	.09	.30	.25	3.7	2.8	4.8	3.8	2.3	2.1	.84
28	.70	.03	.11	.24	.26	4.8	3.0	4.8	2.9	2.2	1.7	.86
29	1.0	.03	.11	.17	---	5.1	4.7	4.8	2.5	1.5	1.6	.81
30	2.8	.05	.11	.15	---	4.5	7.1	6.5	4.1	1.3	1.3	.83
31	2.4	---	.11	.16	---	3.9	---	3.5	---	1.1	1.3	---
TOTAL	28.08	9.12	2.48	11.24	8.30	89.19	164.4	257.5	105.01	61.33	53.56	27.44

WTR YR 1997 TOTAL 817.65

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073468 GREEN LAKE INLET AT COUNTY TRUNK HIGHWAY A NEAR GREEN LAKE, WI--CONTINUED

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	17	6.2	5.8	7.0	28	81	91	18	46	21	6.1
2	8.3	11	7.0	5.8	7.0	57	66	55	16	20	17	7.9
3	6.1	11	4.0	5.9	6.5	66	52	52	13	58	31	5.6
4	6.3	12	5.1	14	5.7	53	44	45	8.2	27	24	6.1
5	6.1	10	3.4	19	8.3	43	63	46	15	14	8.3	6.6
6	13	7.9	4.8	12	7.8	30	69	51	18	25	22	6.7
7	12	7.7	5.2	10	7.0	24	108	49	23	20	16	6.4
8	9.2	7.0	5.3	7.1	5.7	19	76	80	22	47	17	5.2
9	7.8	6.1	4.6	7.1	6.1	28	56	56	16	27	12	5.7
10	4.8	6.0	5.0	7.1	6.5	54	50	26	11	24	18	6.2
11	4.5	5.1	4.0	7.5	6.9	134	43	27	12	36	15	6.6
12	6.1	5.4	3.3	6.6	6.9	183	29	28	10	26	36	5.7
13	5.2	4.2	5.9	7.0	5.6	122	35	25	12	15	36	5.7
14	5.5	4.5	4.8	6.1	6.1	95	38	24	4.1	32	29	5.6
15	4.4	4.8	11	6.5	6.1	84	37	23	19	25	92	5.7
16	4.6	4.7	9.5	6.1	6.1	78	32	23	37	9.1	79	7.3
17	5.5	5.4	6.1	6.5	6.6	57	27	19	22	45	65	29
18	9.1	8.1	6.2	5.6	9.5	46	26	19	19	21	49	16
19	5.7	3.8	5.1	5.2	23	37	26	18	17	16	36	12
20	3.6	4.1	5.5	5.6	32	44	27	18	25	13	35	10
21	3.2	3.3	5.2	5.1	44	169	23	16	134	20	27	10
22	4.2	5.7	4.8	15	36	324	24	20	110	18	21	9.5
23	4.7	3.9	3.2	9.4	32	231	20	17	91	20	19	9.1
24	8.3	2.7	5.3	8.2	26	186	24	25	78	16	30	8.6
25	6.8	3.8	5.4	8.6	21	124	24	22	81	26	27	8.1
26	4.8	3.8	5.0	6.9	16	107	24	15	48	68	21	7.6
27	8.1	4.1	4.2	7.8	12	115	25	16	38	45	20	7.1
28	6.9	3.5	4.7	7.8	13	124	23	19	32	42	14	7.2
29	11	3.9	4.8	6.5	---	120	29	23	29	31	12	6.6
30	24	5.8	4.4	7.0	---	105	27	37	51	26	9.2	6.7
31	21	---	4.3	7.4	---	90	---	24	---	22	8.2	---
TOTAL	238.4	186.3	163.3	246.2	376.4	2977	1228	1009	1029.3	880.1	866.7	246.6

WTR YR 1997 TOTAL 9447.3

STREAMS TRIBUTARY TO LAKE MICHIGAN

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04073473 PUCHYAN RIVER DOWNSTREAM NORTH LAWSON DRIVE NEAR GREEN LAKE, WI

LOCATION.--Lat 43°51'27", long 88°56'47", in NE 1/4 SE 1/4 sec.16, T.16 N., R.13 E., Green Lake County, Hydrologic Unit 04030201, on right bank 220 ft downstream from bridge on North Lawson Drive, 1.0 mi northeast of dam at outlet of Green Lake at Green Lake.

DRAINAGE AREA.--105 mi².

PERIOD OF RECORD.--November 1996 to September 1997.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 777.47 ft above sea level.

REMARKS.--No estimated daily discharges. Records are good (see page 11). Flow regulated by dams 1.0 mi and 180 ft upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	12	12	21	45	83	252	73	81	97	68	62
2	---	6.2	11	21	45	85	247	75	82	98	62	58
3	---	6.4	11	22	44	85	238	80	80	83	63	55
4	---	6.7	11	27	47	87	231	82	78	71	71	54
5	---	5.6	12	33	51	88	231	104	76	68	66	53
6	---	7.0	13	33	51	89	237	135	105	63	64	50
7	---	7.5	13	32	50	88	216	152	130	63	61	46
8	---	6.9	13	33	50	87	204	157	125	77	59	45
9	---	6.4	13	35	50	98	197	144	110	76	56	44
10	---	6.0	12	38	49	126	191	143	78	72	53	42
11	---	5.3	11	38	49	168	182	142	64	62	49	41
12	---	4.8	12	37	49	170	174	128	56	62	55	39
13	---	4.5	13	37	48	176	175	127	55	62	58	37
14	---	4.3	12	37	48	209	146	111	49	68	56	36
15	---	5.3	18	37	48	258	69	91	48	71	61	35
16	---	5.5	16	38	48	245	59	88	60	73	65	37
17	---	8.6	15	37	48	239	57	82	60	95	64	47
18	---	5.9	15	36	50	224	53	77	52	89	63	46
19	---	5.2	15	36	55	218	57	73	47	84	62	45
20	---	5.1	15	36	55	211	57	72	56	80	65	41
21	---	5.8	15	35	66	222	57	74	122	79	65	40
22	---	6.5	14	40	72	224	56	69	140	78	62	38
23	---	7.6	15	40	73	225	56	67	137	75	61	36
24	---	8.1	19	41	73	228	57	65	135	74	69	35
25	---	8.4	18	45	74	234	57	62	155	78	71	34
26	---	8.0	19	45	74	234	52	65	143	86	76	31
27	---	7.6	19	46	78	243	52	66	119	82	72	27
28	---	8.6	19	46	77	264	52	69	106	81	68	27
29	---	8.7	19	44	---	267	52	83	84	83	65	26
30	---	12	20	45	---	265	49	89	95	80	64	22
31	---	---	20	45	---	262	---	84	---	72	63	---
TOTAL	---	206.5	460	1136	1567	5702	3813	2929	2728	2382	1957	1229
MEAN	---	6.88	14.8	36.6	56.0	184	127	94.5	90.9	76.8	63.1	41.0
MAX	---	12	20	46	78	267	252	157	155	98	76	62
MIN	---	4.3	11	21	44	83	49	62	47	62	49	22
CFSM	---	.07	.14	.35	.53	1.75	1.21	.90	.87	.73	.60	.39
IN.	---	.07	.16	.40	.56	2.02	1.35	1.04	.97	.84	.69	.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

MEAN	---	6.88	14.8	36.6	56.0	184	127	94.5	90.9	76.8	63.1	41.0
MAX	---	6.88	14.8	36.6	56.0	184	127	94.5	90.9	76.8	63.1	41.0
(WY)	---	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997
MIN	---	6.88	14.8	36.6	56.0	184	127	94.5	90.9	76.8	63.1	41.0
(WY)	---	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS

FOR 1997 WATER YEAR
(NOVEMBER-SEPTEMBER)

HIGHEST DAILY MEAN	267	Mar 29
LOWEST DAILY MEAN	4.3	Nov 14
ANNUAL SEVEN-DAY MINIMUM	5.1	Nov 10
INSTANTANEOUS PEAK FLOW	297	Mar 17
INSTANTANEOUS PEAK STAGE	5.17	Mar 17
10 PERCENT EXCEEDS	169	
50 PERCENT EXCEEDS	58	
90 PERCENT EXCEEDS	12	

STREAMS TRIBUTARY TO LAKE MICHIGAN

04073500 FOX RIVER AT BERLIN, WI

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

DRAINAGE AREA.--1,340 mi².

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

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

GAGE.--Water-stage recorder and crest-stage gage. 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: July 26-28 and ice-affected period, Nov. 13 to Apr. 3. Records good except for estimated daily discharges, which are poor (see page 11). Usually less than about 10 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	635	962	860	680	700	1000	2900	1370	1260	1120	1110	1120
2	638	918	860	680	700	1000	2900	1420	1240	1070	1070	1100
3	567	876	860	680	680	1100	3000	1520	1190	1050	1050	1060
4	589	872	860	680	680	1100	3020	1570	1140	996	1050	1030
5	600	872	860	660	680	1200	3010	1620	1110	915	1030	1010
6	622	859	880	640	680	1200	3020	1660	1090	879	998	988
7	648	872	880	640	660	1100	3000	1680	1130	822	962	949
8	607	873	880	660	640	1200	2930	1730	1190	845	932	915
9	621	842	860	680	640	1300	2850	1750	1200	886	897	902
10	628	845	860	700	660	1400	2770	1750	1190	918	853	893
11	616	828	820	680	680	1400	2700	1730	1150	935	795	864
12	657	749	820	680	680	1400	2630	1720	1110	914	795	850
13	643	740	800	680	660	1400	2570	1670	1060	886	845	846
14	625	720	780	660	680	1400	2510	1620	996	875	861	837
15	603	760	740	640	700	1300	2450	1590	952	858	1020	819
16	607	840	720	640	720	1400	2390	1540	995	867	1170	807
17	642	820	700	640	720	1400	2310	1500	990	983	1230	884
18	702	780	680	620	740	1600	2230	1460	982	1070	1260	889
19	681	760	640	620	780	1700	2160	1420	937	1090	1240	923
20	644	760	640	600	800	1700	2100	1370	975	1090	1220	913
21	636	780	660	620	820	1800	2030	1330	1090	1110	1210	849
22	636	780	680	640	880	1900	1970	1290	1250	1140	1180	831
23	674	800	660	640	880	1900	1900	1260	1310	1180	1140	816
24	747	800	660	660	880	2000	1840	1230	1330	1190	1190	780
25	775	800	640	660	900	2200	1790	1180	1340	1200	1220	783
26	789	800	620	660	920	2300	1710	1110	1290	1250	1230	752
27	799	780	620	640	940	2400	1590	1070	1220	1300	1230	735
28	784	800	640	640	980	2500	1470	1070	1150	1290	1220	732
29	786	860	640	660	---	2600	1390	1090	1080	1260	1190	737
30	886	860	660	660	---	2700	1340	1190	1090	1210	1160	721
31	968	---	680	680	---	2800	---	1250	---	1160	1140	---
TOTAL	21055	24608	23160	20320	21080	51400	70480	44760	34037	32359	33498	26335
MEAN	679	820	747	655	753	1658	2349	1444	1135	1044	1081	878
MAX	968	962	880	700	980	2800	3020	1750	1340	1300	1260	1120
MIN	567	720	620	600	640	1000	1340	1070	937	822	795	721
CFSM	.51	.61	.56	.49	.56	1.24	1.75	1.08	.85	.78	.81	.66
IN.	.58	.68	.64	.56	.59	1.43	1.96	1.24	.94	.90	.93	.73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 1997, BY WATER YEAR (WY)

MEAN	988	1081	899	699	757	1767	2228	1460	1181	911	793	893
MAX	3819	2463	1871	1631	1803	4272	4225	3801	4230	4072	2540	3491
(WY)	1987	1986	1986	1939	1966	1973	1979	1973	1905	1993	1993	1938
MIN	347	380	369	311	318	495	667	600	367	384	346	364
(WY)	1959	1977	1977	1959	1959	1964	1902	1934	1988	1988	1958	1958

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1898 - 1997
ANNUAL TOTAL	469572	403092	
ANNUAL MEAN	1283	1104	1141
HIGHEST ANNUAL MEAN			2203
LOWEST ANNUAL MEAN			559
HIGHEST DAILY MEAN	3190	3020	6900
LOWEST DAILY MEAN	509	567	217
ANNUAL SEVEN-DAY MINIMUM	529	608	266
INSTANTANEOUS PEAK FLOW		3040	6900
INSTANTANEOUS PEAK STAGE		12.68	15.50
INSTANTANEOUS LOW FLOW		558	210
ANNUAL RUNOFF (CFSM)	.96	.82	.85
ANNUAL RUNOFF (INCHES)	13.04	11.19	11.57
10 PERCENT EXCEEDS	2280	1770	2170
50 PERCENT EXCEEDS	1100	915	865
90 PERCENT EXCEEDS	623	640	500

STREAMS TRIBUTARY TO LAKE MICHIGAN

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04074950 WOLF RIVER AT LANGLADE, WI

LOCATION.--Lat 45°11'24", long 88°44'00", in SE 1/4 SW 1/4 sec.3, 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 above sea level, from topographic map. Prior to Oct. 1, 1976, nonrecording gage 50 ft downstream at same elevation.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 11-15, Nov. 17 to Apr. 2, and Apr. 7-9. Records good except those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	344	572	400	420	350	350	640	667	455	321	278	444
2	340	571	400	450	350	340	720	720	407	374	267	436
3	339	561	400	450	350	330	841	728	372	438	262	423
4	326	557	380	440	350	350	972	669	350	482	264	388
5	321	540	390	420	350	340	1230	614	348	514	265	381
6	318	526	390	400	340	330	1630	621	382	436	264	374
7	315	517	380	390	340	330	1600	616	435	347	260	374
8	311	497	370	390	350	350	1500	622	473	346	256	370
9	310	486	370	400	350	350	1500	616	479	379	255	380
10	319	474	370	400	350	340	1550	578	402	414	253	402
11	337	390	370	400	340	340	1450	497	379	408	252	438
12	347	340	350	390	340	330	1360	433	369	334	250	447
13	341	390	340	380	330	330	1270	429	362	322	260	422
14	346	440	320	370	330	330	1200	460	350	322	262	358
15	349	410	310	370	330	310	1170	514	341	322	269	321
16	354	388	320	350	340	310	1170	524	353	391	274	328
17	389	440	350	340	350	310	1100	555	376	437	307	594
18	486	470	340	330	370	320	1050	557	423	415	479	638
19	494	460	330	340	360	330	1000	570	444	385	530	646
20	475	460	340	350	350	330	983	568	498	359	578	628
21	466	470	360	370	350	340	948	551	554	327	622	564
22	460	460	370	380	340	350	906	536	556	320	614	533
23	526	440	370	370	340	360	875	518	467	342	584	512
24	594	450	370	350	330	370	851	525	434	349	555	486
25	554	390	360	340	340	390	820	578	470	322	526	453
26	526	360	340	330	350	420	751	569	455	324	471	431
27	504	380	340	320	340	460	619	540	432	361	399	393
28	463	400	360	320	340	500	571	504	345	384	361	382
29	405	410	390	330	---	560	584	466	298	365	346	374
30	582	400	390	340	---	540	591	476	290	332	365	367
31	599	---	400	340	---	540	---	478	---	311	447	---
TOTAL	12840	13649	11270	11570	9650	11480	31452	17299	12299	11483	11375	13287
MEAN	414	455	364	373	345	370	1048	558	410	370	367	443
MAX	599	572	400	450	370	560	1630	728	556	514	622	646
MIN	310	340	310	320	330	310	571	429	290	311	250	321
CFSM	.89	.98	.79	.81	.74	.80	2.26	1.21	.89	.80	.79	.96
IN.	1.03	1.10	.91	.93	.78	.92	2.53	1.39	.99	.92	.91	1.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1997, BY WATER YEAR (WY)

	MEAN	447	455	379	323	317	472	832	623	494	361	330	416
MAX	813	788	578	548	482	1227	1330	1312	1013	874	632	813	
(WY)	1986	1986	1986	1969	1984	1973	1976	1973	1991	1968	1972	1968	
MIN	196	204	226	193	213	278	263	319	173	183	188	171	
(WY)	1977	1977	1977	1977	1982	1982	1990	1987	1988	1989	1989	1989	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1966 - 1997

ANNUAL TOTAL	191311	167654	
ANNUAL MEAN	523	459	456
HIGHEST ANNUAL MEAN			666
LOWEST ANNUAL MEAN			326
HIGHEST DAILY MEAN	2420	Apr 26	2420
LOWEST DAILY MEAN	297	Sep 3	137
ANNUAL SEVEN-DAY MINIMUM	308	Sep 1	142
INSTANTANEOUS PEAK FLOW			2440
INSTANTANEOUS PEAK STAGE			10.40
INSTANTANEOUS LOW FLOW			119
ANNUAL RUNOFF (CFSM)	1.13	.99	.98
ANNUAL RUNOFF (INCHES)	15.37	13.47	13.37
10 PERCENT EXCEEDS	754	620	766
50 PERCENT EXCEEDS	412	389	379
90 PERCENT EXCEEDS	331	321	242

STREAMS TRIBUTARY TO LAKE MICHIGAN
04075050 WOLF RIVER AT HIGHWAY M NEAR LANGLADE, WI

LOCATION.--Lat 45°07'38", long 88°39'45", in SE 1/4 NE 1/4 sec.31, T.31 N., R.14 E., Langland County, Hydrologic Unit 04030202, at County Highway M bridge near State Highway 55, 5.7 mi southeast of Langlade.

DRAINAGE AREA.--489 mi².

PERIOD OF RECORD.--April 1986 to current year.

REMARKS.--Discharge values are estimated from record at station 04074950 Wolf River at Langlade.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
DEC 1996											
11...	0900	370	--	220	8.6	0.5	13.9	740	99	12	25
MAR 1997											
19...	0915	330	--	230	8.1	0.5	13.6	748	95	19	24
APR											
08...	0915	--	1560	93	7.9	0.5	14.2	745	100	30	11
MAY											
07...	1130	--	609	154	8.0	11.5	10.5	--	--	22	18
JUN											
10...	0830	--	406	191	7.8	19.0	8.9	736	99	11	19
SEP											
09...	1400	--	379	205	8.4	17.5	9.2	730	101	17	23

DATE	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)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	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 (70300)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
DEC 1996											
11...	12	2.5	0.90	3.2	6.9	0.20	11	133	4	0.280	0.020
MAR 1997											
19...	12	2.7	1.0	2.9	6.2	0.10	13	140	8	0.350	0.060
APR											
08...	5.0	1.9	0.88	2.4	4.5	0.14	7.7	81	5	0.190	0.030
MAY											
07...	7.8	2.1	0.86	2.7	4.8	<0.10	6.4	93	9	0.125	<0.015
JUN											
10...	9.3	2.3	0.87	3.1	4.8	0.13	4.9	111	8	0.050	<0.015
SEP											
09...	11	2.3	0.74	2.5	3.7	0.15	6.9	128	3	0.067	<0.015

DATE	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)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)
DEC 1996											
11...	0.20	<0.010	<0.010	60	7.7	<1	<1	10	11	--	20
MAR 1997											
19...	0.40	0.020	<0.010	50	10	<1	<1	10	11	--	20
APR											
08...	0.40	0.040	<0.010	90	34	<1	<1	10	7.2	--	<10
MAY											
07...	0.35	0.010	<0.010	60	16	<1	<1	--	8.2	--	10
JUN											
10...	0.65	0.033	<0.010	50	5.0	<1	1	10	11	<2.0	10
SEP											
09...	0.35	<0.010	<0.010	40	8.7	1	<1	20	11	--	10

STREAMS TRIBUTARY TO LAKE MICHIGAN
04075050 WOLF RIVER AT HIGHWAY M NEAR LANGLADE, WI--CONTINUED

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	CHRO- MIUM, HEXA- VALENT, DIS- (UG/L AS CR) (01032)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
DEC 1996											
11...	18	<1	0.20	1	0.80	<1	<1	<0.50	4	2.5	150
MAR 1997											
19...	18	<1	<0.10	<1	0.50	<1	<1	<0.50	2	<0.50	300
APR											
08...	9.9	<1	<0.10	<1	<0.50	<1	<1	0.53	<1	<0.50	420
MAY											
07...	13	<1	<0.10	<1	<0.50	<1	<1	<0.50	<1	<0.50	300
JUN											
10...	10	<1	<0.10	<1	<0.50	<1	<1	<0.50	<1	<0.50	300
SEP											
09...	12	<1	<0.10	1	<0.50	--	<1	0.51	1	<0.50	200

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (UG/L AS LI) (01132)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)
DEC 1996											
11...	87	1	<0.50	<10	<4	10	6.0	<50	1.0	--	<1
MAR 1997											
19...	140	<1	<0.50	<10	<4	30	8.0	<50	<1.0	--	<1
APR											
08...	170	<1	<0.50	<10	<4	48	10	<50	<1.0	--	<1
MAY											
07...	130	<1	<0.50	<10	<4	38	9.2	<50	<1.0	--	<1
JUN											
10...	94	<1	<0.50	<10	<4	78	11	<50	<1.0	--	<1
SEP											
09...	71	2	<0.50	<10	<4	50	7.2	<50	<1.0	<1	<1

DATE	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	THAL- LIUM, TOTAL (UG/L AS TL) (01059)	THAL- LIUM, DIS- SOLVED (UG/L AS TL) (01057)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CYANIDE TOTAL (MG/L AS CN) (00720)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
DEC 1996											
11...	<1	<0.20	<1	<0.50	10	5.5	1.0	4.8	<0.010	<0.01	3
MAR 1997											
19...	<1	<0.20	<1	<0.50	<10	3.9	<1.0	4.2	<0.010	<0.01	8
APR											
08...	<1	<0.20	<1	<0.50	<10	2.8	<1.0	8.7	<0.010	<0.01	11
MAY											
07...	<1	<0.20	<1	<0.50	<10	1.1	<1.0	7.0	<0.010	<0.01	6
JUN											
10...	<1	<0.20	--	<0.50	<10	<0.50	1.0	7.8	<0.010	<0.01	10
SEP											
09...	<1	<0.20	<1	<0.50	<10	1.2	<1.0	6.3	<0.010	<0.01	3

STREAMS TRIBUTARY TO LAKE MICHIGAN
04075050 WOLF RIVER AT HIGHWAY M NEAR LANGLADE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PESTICIDE ANALYSES

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA- HCH, D6 SUR SCD 1379 WTR, FLTRD, PERCENT (90505)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	BRO- MACIL, WATER, DISS, REC (UG/L) (04029)	BUTA- CHLOR, WATER, DISS, REC (UG/L) (04026)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	
JUN 1997											
10...	0830	406	<0.050	<0.050	97.3	<0.050	80.031	<0.050	<0.05	<0.050	
SEP											
09...	1400	379	<0.050	<0.050	107	<0.050	<0.050	<0.050	<0.05	<0.050	
DATE		CAR- BOXIN, WATER, DISS, REC (UG/L) (04027)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DIAZI- NON D10 SUR SCD 1379 WTR, FLTRD PERCENT (90670)	DIPHEN- AMID, WATER, DISS, REC (UG/L) (04033)	HEXA- ZINONE, WATER, DISS, REC (UG/L) (04025)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO- METON, WATER, DISS, REC (UG/L) (04037)
JUN 1997											
10...		<0.05	<0.200	<0.050	<0.050	103	<0.05	<0.05	<0.050	<0.050	<0.050
SEP											
09...		<0.05	<0.200	<0.050	<0.050	105	<0.05	<0.05	<0.050	<0.070	<0.050
DATE		PRO- METRYN, WATER, DISS, REC (UG/L) (04036)	PROP- AZINE WATER DISS REC (UG/L) (38535)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	SI- CLOATE, WATER, DISS, REC (UG/L) (04031)	SIMA- TRYN, WATER, DISS, REC (UG/L) (04030)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BACIL, WATER, DISS, REC (UG/L) (04032)	TRI- FLUR- ALIN, WATER, DISS, REC (UG/L) (04023)	VERNO- LATE, WATER, DISS, REC (UG/L) (04034)	
JUN 1997											
10...		<0.050	<0.050	<0.050	<0.05	<0.05	<0.050	<0.05	<0.05	<0.05	
SEP											
09...		<0.050	<0.050	<0.050	<0.05	<0.05	<0.050	<0.05	<0.05	<0.05	

STREAMS TRIBUTARY TO LAKE MICHIGAN

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04077100 WOLF RIVER AT KESHENA, WI

LOCATION.--Lat 44°53'00", long 88°38'05", in NE 1/4 NE 1/4 sec.26, T.28 N., R.15 E., Menominee County, Hydrologic Unit 04030202, at bridge on town road, at Keshena.

PERIOD OF RECORD.--May 1995 to current year.

REMARKS.--Discharge is estimated based on drainage area comparison with 04077400, Wolf River near Shawano.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	
DEC 1996												
11...	1300	370	--	250	8.6	0.0	13.6	740	96	14	29	
MAR 1997												
19...	1100	320	--	269	8.1	0.5	13.6	748	96	15	29	
APR												
08...	1030	--	2620	125	7.9	0.5	13.4	745	95	27	14	
MAY												
07...	1300	--	1070	197	8.0	12.5	10.6	--	--	17	23	
JUN												
10...	1035	--	790	238	8.2	21.0	9.5	736	111	18	24	
SEP												
10...	0830	--	761	260	8.2	17.0	9.6	733	103	15	28	
DATE		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)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
DEC 1996												
11...	15	2.6	1.1	3.4	7.7	0.20	11	156	8	0.430	0.040	
MAR 1997												
19...	14	2.7	1.0	3.7	7.4	0.20	12	159	5	0.530	0.040	
APR												
08...	6.6	1.8	0.93	2.4	5.2	0.17	7.8	94	5	0.240	0.020	
MAY												
07...	10	2.2	0.89	2.9	5.9	0.14	6.7	116	7	0.079	<0.015	
JUN												
10...	12	2.3	0.95	3.1	5.6	0.16	5.8	138	2	0.054	<0.015	
SEP												
10...	14	2.5	0.90	3.0	4.7	0.20	7.9	152	3	0.151	0.015	
DATE		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)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)
DEC 1996												
11...	0.30	<0.010	<0.010		20	<5.0	<1	<1	10	10	10	9.5
MAR 1997												
19...	0.30	0.040	<0.010		50	7.7	<1	<1	10	12	20	17
APR												
08...	0.50	0.020	<0.010		80	26	<1	<1	10	7.9	10	11
MAY												
07...	0.32	<0.010	<0.010		50	16	<1	<1	--	10	10	12
JUN												
10...	0.59	0.024	<0.010		50	<5.0	<1	1	10	9.9	20	9.3
SEP												
10...	0.29	<0.010	<0.010		40	13	<1	<1	<5	12	10	19

STREAMS TRIBUTARY TO LAKE MICHIGAN
04077100 WOLF RIVER AT KESHENA, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1996

DATE	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	CHRO- MIUM, HEXA- VALENT, DIS- (UG/L AS CR) (01032)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
DEC 1996											
11...	<1	<0.10	<1	0.50	<1	<1	<0.50	<1	<0.50	250	72
MAR 1997											
19...	<1	<0.10	<1	0.50	<1	<1	<0.50	<1	<0.50	270	82
APR											
08...	<1	<0.10	<1	0.51	<1	<1	<0.50	<1	<0.50	360	140
MAY											
07...	<1	<0.10	<1	0.58	<1	<1	<0.50	<1	<0.50	270	110
JUN											
10...	<1	<0.10	<1	<0.50	<1	<1	<0.50	1	<0.50	240	77
SEP											
10...	<1	<0.10	<1	<0.50	--	<1	<0.50	<1	<0.50	180	69

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM TOTAL RECOV- ERABLE (UG/L AS LI) (01132)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)
DEC 1996											
11...	<1	<0.50	<10	<4	30	5.0	<50	<1.0	--	<1	<1
MAR 1997											
19...	<1	<0.50	<10	<4	30	10	<50	<1.0	--	<1	<1
APR											
08...	<1	<0.50	<10	<4	37	8.9	<50	<1.0	--	<1	<1
MAY											
07...	<1	<0.50	<10	<4	35	13	<50	<1.0	--	<1	<1
JUN											
10...	<1	<0.50	<10	<4	59	12	<50	<1.0	--	<1	<1
SEP											
10...	2	<0.50	<10	<4	45	11	<50	<1.0	<1	<1	<1

DATE	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	THAL- LIUM, TOTAL (UG/L AS TL) (01059)	THAL- LIUM, DIS- SOLVED (UG/L AS TL) (01057)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CYANIDE TOTAL (MG/L AS CN) (00720)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
DEC 1996										
11...	<0.20	<1	<0.50	<10	0.80	<1.0	3.9	<0.010	<0.01	--
MAR 1997										
19...	<0.20	<1	<0.50	<10	2.0	1.0	3.6	<0.010	<0.01	8
APR										
08...	<0.20	<1	<0.50	<10	7.9	<1.0	9.3	<0.010	<0.01	8
MAY										
07...	<0.20	<1	<0.50	<10	1.0	<1.0	7.5	<0.010	<0.01	6
JUN										
10...	<0.20	--	<0.50	<10	0.61	<1.0	8.7	<0.010	<0.01	7
SEP										
10...	<0.20	<1	<0.50	<10	0.80	1.1	5.4	<0.010	<0.01	2

STREAMS TRIBUTARY TO LAKE MICHIGAN
04077100 WOLF RIVER AT KESHENA, WI--CONTINUED

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PESTICIDE ANALYSES

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA- HCH, D6 SUR SCD 1379 WTR, FLTRD, PERCENT (90505)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	BRO- MACIL, WATER, DISS, REC (UG/L) (04029)	BUTA- CHLOR, WATER, DISS, REC (UG/L) (04026)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	
JUN 1997											
10...	1035	790	<0.050	<0.050	89.2	<0.050	00.030	<0.050	<0.05	<0.050	
SEP											
10...	0830	761	<0.050	<0.050	120	<0.050	<0.050	<0.050	<0.05	<0.050	
DATE		CAR- BOXIN, WATER, DISS, REC (UG/L) (04027)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DIAZI- NON D10 SUR SCD 1379 WTR, FLTRD PERCENT (90670)	DIPHEN- AMID, WATER, DISS, REC (UG/L) (04033)	HEXA- ZINONE, WATER, DISS, REC (UG/L) (04025)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN WATER DISSOLV (UG/L) (82630)	PRO- METON, WATER, DISS, REC (UG/L) (04037)
JUN 1997											
10...	<0.05	<0.200	<0.050	<0.050	98.4	<0.05	<0.05	<0.050	<0.050	<0.050	
SEP											
10...	<0.05	<0.200	<0.050	<0.050	103	<0.05	<0.05	<0.050	<0.050	<0.050	
DATE		PRO- METRYN, WATER, DISS, REC (UG/L) (04036)	PROP- AZINE WATER DISS REC (UG/L) (38535)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	SI- CLOATE, WATER, DISS, REC (UG/L) (04031)	SIMA- TRYN, WATER, DISS, REC (UG/L) (04030)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BACIL, WATER, DISS, REC (UG/L) (04032)	TRI- FLUR- ALIN, WATER, DISS, REC (UG/L) (04023)	VERNO- LATE, WATER, DISS, REC (UG/L) (04034)	
JUN 1997											
10...	<0.050	<0.050	<0.050	<0.05	<0.05	<0.050	<0.05	<0.05	<0.05	<0.05	
SEP											
10...	<0.050	<0.050	<0.050	<0.05	<0.05	<0.050	<0.05	<0.05	<0.05	<0.05	

STREAMS TRIBUTARY TO LAKE MICHIGAN

04077400 WOLF RIVER NEAR SHAWANO, WI

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. Prior to October 1985, all records published under station number 04077000.

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 sea level, 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. Gage-height telemeter at station.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 13-18, 21-26, Nov. 29 to Dec. 11, Dec. 13-19, and Dec. 21 to Apr. 5. Records fair except those for ice-affected periods, which are poor (see page 11). Minor regulation by power dam upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	661	1140	720	760	620	620	1100	1360	883	639	564	813
2	627	972	720	780	620	600	1300	1480	795	782	520	737
3	600	927	720	800	620	620	1500	1490	714	823	504	689
4	606	879	680	800	620	620	1900	1400	679	836	510	685
5	594	913	700	760	620	600	2300	1210	671	859	473	648
6	576	891	680	720	600	580	3010	1120	791	837	465	641
7	575	851	680	700	600	600	3220	1090	888	698	494	616
8	563	826	660	700	600	620	2860	1130	1010	707	482	609
9	580	808	640	720	620	620	2550	1170	938	836	445	634
10	578	772	640	720	620	620	2390	1110	860	801	449	696
11	579	722	620	700	620	600	2310	1030	723	768	422	695
12	602	575	587	680	620	600	2120	879	664	684	458	727
13	611	600	600	660	600	600	2000	794	675	602	497	719
14	596	640	580	660	600	580	1910	833	637	600	517	677
15	596	660	580	640	580	560	1850	876	606	579	548	608
16	601	740	580	660	600	560	1850	957	596	635	504	549
17	674	760	560	640	620	560	1870	995	617	957	544	1180
18	827	720	600	620	640	580	1810	1060	642	897	602	1480
19	899	595	580	600	640	580	1690	1060	706	775	791	1290
20	875	739	498	620	640	600	1660	1060	773	685	973	1210
21	800	800	620	640	640	600	1680	994	863	648	1170	1050
22	778	800	640	640	620	620	1580	967	948	644	1130	921
23	956	820	660	640	600	640	1500	903	915	613	976	824
24	1090	700	660	600	580	680	1460	866	811	625	876	796
25	1060	620	620	600	580	720	1390	970	780	642	851	753
26	931	660	580	600	620	740	1360	1010	817	655	790	716
27	870	582	600	600	600	800	1250	934	735	637	739	667
28	804	670	660	600	600	900	1060	847	680	731	644	629
29	784	700	700	600	---	980	1020	874	600	662	607	650
30	1130	720	700	600	---	980	1090	945	590	599	606	593
31	1260	---	720	600	---	1000	---	977	---	573	811	---
TOTAL	23283	22802	19785	20660	17140	20580	54590	32391	22607	22029	19962	23502
MEAN	751	760	638	666	612	664	1820	1045	754	711	644	783
MAX	1260	1140	720	800	640	1000	3220	1490	1010	957	1170	1480
MIN	563	575	498	600	580	560	1020	794	590	573	422	549
CFSM	.92	.93	.78	.82	.75	.81	2.23	1.28	.92	.87	.79	.96
IN.	1.06	1.04	.90	.94	.78	.94	2.49	1.48	1.03	1.00	.91	1.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1907 - 1997, BY WATER YEAR (WY)

	MEAN	720	750	608	524	501	729	1346	1108	904	683	616	705
MAX	1573	1517	1115	937	888	1972	2526	2265	1990	1186	1277	1699	
(WY)	1942	1912	1986	1986	1984	1973	1922	1960	1993	1968	1912	1941	
MIN	376	383	335	323	315	385	574	510	328	366	294	330	
(WY)	1949	1977	1928	1926	1936	1956	1990	1931	1988	1933	1934	1933	

STREAMS TRIBUTARY TO LAKE MICHIGAN
04077400 WOLF RIVER NEAR SHAWANO, WI--CONTINUED

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SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1907 - 1997	
ANNUAL TOTAL	341679		299331		767	
ANNUAL MEAN	934		820		1119	1973
HIGHEST ANNUAL MEAN					510	1934
LOWEST ANNUAL MEAN					(a) 5200	Mar 15 1973
HIGHEST DAILY MEAN	3530	Apr 21	3220	Apr 7	194	Feb 7 1936
LOWEST DAILY MEAN	498	Dec 20	422	Aug 11	260	Feb 3 1936
ANNUAL SEVEN-DAY MINIMUM	(a) 568	Dec 14	459	Aug 6		
INSTANTANEOUS PEAK FLOW			3580	Apr 6	(b) 15.59	Dec 2 1983
INSTANTANEOUS PEAK STAGE			11.60	Apr 6	77	Nov 19 1989
INSTANTANEOUS LOW FLOW			(c) 296	Jun 16	.94	
ANNUAL RUNOFF (CFSM)	1.14		1.01		12.81	
ANNUAL RUNOFF (INCHES)	15.58		13.65		1300	
10 PERCENT EXCEEDS	1510		1170		640	
50 PERCENT EXCEEDS	740		684		415	
90 PERCENT EXCEEDS	620		580			

(a) Ice affected

(b) From high-water mark in well, at site and datum then in use, backwater from ice

(c) Regulation

STREAMS TRIBUTARY TO LAKE MICHIGAN
04077630 RED RIVER, AT MORGAN ROAD, NEAR MORGAN, WI

LOCATION.--Lat 44°53'53", long 88°50'39", in NW 1/4 NE 1/4 sec.19, T.28 N., R.14 E., Shawano County, Hydrologic Unit 04030202, on left bank 1.7 mi northwest of Morgan, 1.1 mi downstream of the confluence with the West Branch of the Red River, and 2.2 mi upstream of Smith Creek.

DRAINAGE AREA.--114 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1992 to current year.

REVISED RECORDS.--WDR WI-95-1: 1993(M).

GAGE.--Water-stage recorder. Elevation of gage is 990 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Aug. 8-14 and ice-affected periods, Nov. 11-15, 18-20, and Nov. 22 to Mar. 31. Records good except those for estimated daily discharges, which are fair (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	236	120	130	100	110	209	268	142	113	95	112
2	128	186	120	130	100	110	253	262	130	143	95	108
3	122	167	120	130	110	110	313	248	124	141	94	99
4	119	158	120	130	110	110	396	222	118	134	94	96
5	119	156	120	130	110	110	512	193	132	128	93	96
6	119	156	120	130	110	110	700	187	157	115	93	103
7	117	157	120	120	100	100	681	180	162	106	93	103
8	118	157	110	110	100	110	506	196	157	144	92	97
9	115	149	110	120	100	110	411	200	139	177	90	105
10	117	142	110	120	110	110	366	186	126	145	90	109
11	117	120	110	120	110	110	296	173	119	123	88	104
12	122	120	110	110	100	110	253	164	115	112	90	98
13	119	130	110	110	100	110	237	160	112	111	94	96
14	118	140	100	110	100	110	229	153	108	131	100	96
15	121	140	98	110	110	110	237	159	106	131	106	96
16	119	143	100	100	110	100	253	158	107	121	106	106
17	140	150	110	98	120	110	249	160	107	182	101	276
18	173	140	100	100	120	110	230	157	106	171	98	287
19	167	130	100	100	120	110	232	166	105	129	98	228
20	149	150	100	100	110	120	238	164	114	112	145	174
21	139	148	110	100	110	120	242	151	119	108	207	148
22	138	140	110	100	110	120	252	141	118	105	174	131
23	190	130	120	100	110	110	218	138	130	121	131	122
24	223	130	120	100	100	110	209	138	142	122	119	116
25	203	120	110	100	110	120	204	160	136	120	114	112
26	177	110	110	98	110	130	192	155	123	122	110	109
27	160	110	100	96	110	150	185	137	109	115	108	107
28	152	120	110	98	110	170	182	129	102	116	101	112
29	161	120	110	96	---	190	180	132	99	107	98	114
30	261	120	120	98	---	190	197	163	108	104	109	111
31	272	---	130	100	---	180	---	162	---	102	123	---
TOTAL	4626	4275	3458	3394	3020	3780	8862	5362	3672	3911	3349	3771
MEAN	149	143	112	109	108	122	295	173	122	126	108	126
MAX	272	236	130	130	120	190	700	268	162	182	207	287
MIN	115	110	98	96	100	100	180	129	99	102	88	96
CFSM	1.31	1.25	.98	.96	.95	1.07	2.59	1.52	1.07	1.11	.95	1.10
IN.	1.51	1.39	1.13	1.11	.99	1.23	2.89	1.75	1.20	1.28	1.09	1.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1997, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997
MEAN	147	153	120	109	102
MAX	175	221	164	126	124
(WY)	1996	1993	1993	1996	1994
MIN	117	112	99.3	87.7	79.3
(WY)	1995	1995	1995	1995	1997

SUMMARY STATISTICS

	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1993 - 1997
ANNUAL TOTAL	65902	51480	
ANNUAL MEAN	180	141	150
HIGHEST ANNUAL MEAN			184
LOWEST ANNUAL MEAN			116
HIGHEST DAILY MEAN	952	700	952
LOWEST DAILY MEAN	(a) 98	(b) 88	64
ANNUAL SEVEN-DAY MINIMUM	(a) 101	(b) 91	68
INSTANTANEOUS PEAK FLOW		739	1060
INSTANTANEOUS PEAK STAGE		(c) 8.19	8.88
INSTANTANEOUS LOW FLOW		(d) 80	(d) 61
ANNUAL RUNOFF (CFSM)	1.58	1.24	1.31
ANNUAL RUNOFF (INCHES)	21.50	16.80	17.85
10 PERCENT EXCEEDS	286	205	233
50 PERCENT EXCEEDS	141	120	130
90 PERCENT EXCEEDS	110	100	92

(a) Ice affected

(b) Estimated

(c) May have been higher during period of missing record, Dec. 26 to Jan. 2

(d) Result of freezeup

STREAMS TRIBUTARY TO LAKE MICHIGAN
04077630 RED RIVER, AT MORGAN ROAD, NEAR MORGAN, WI--CONTINUED

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1992 to current year.

REMARKS.--Samples are point samples unless otherwise indicated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	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)
APR 1997												
03...	1201	310	--	--	--	--	0.700	<0.015	0.80	0.050	--	24
03...	2350	343	--	--	--	--	0.580	0.050	0.60	0.030	--	23
04...	1150	393	--	--	--	--	0.550	0.040	0.60	0.020	--	55
04...	2351	441	--	--	--	--	0.510	0.050	0.90	0.050	--	19
05...	1151	506	--	--	--	--	0.460	0.040	0.70	0.020	--	15
05...	2352	615	--	--	--	--	0.400	0.030	0.70	0.030	--	17
06...	1152	712	--	--	--	--	0.370	0.020	1.3	0.030	--	--
06...	2353	739	--	--	--	--	0.360	<0.015	0.70	0.030	--	15
07...	1153	675	--	--	--	--	0.380	<0.015	0.70	0.030	--	9
07...	2354	623	--	--	--	--	0.370	0.020	0.50	0.010	<0.010	5
08...	1154	486	136	7.7	2.0	13.1	0.380	<0.015	0.60	<0.010	<0.010	12
09...	1718	422	--	--	--	--	0.390	<0.015	0.40	<0.010	--	10
10...	1717	338	--	--	--	--	0.520	<0.015	0.50	<0.010	--	8
11...	1716	283	--	--	--	--	0.660	<0.015	0.50	<0.010	--	13
12...	1715	252	--	--	--	--	0.740	<0.015	0.40	<0.010	--	25
13...	1721	239	--	--	--	--	0.760	<0.015	0.40	<0.010	--	10
14...	1720	233	--	--	--	--	0.770	<0.015	0.40	<0.010	--	8
15...	1719	245	--	--	--	--	0.740	<0.015	0.40	<0.010	<0.010	11
16...	1201	258	250	7.7	6.0	12.1	0.680	0.020	0.40	0.020	<0.010	--
18...	1211	228	--	--	--	--	0.748	<0.015	0.25	<0.010	--	16
20...	1210	241	--	--	--	--	0.826	<0.015	0.30	<0.010	--	11
22...	1209	250	--	--	--	--	0.640	<0.015	0.36	<0.010	--	11
24...	1208	207	--	--	--	--	0.853	<0.015	0.34	<0.010	--	18
26...	1207	192	--	--	--	--	0.836	<0.015	0.30	<0.010	--	16
28...	1206	181	--	--	--	--	0.850	<0.015	0.32	<0.010	--	17
30...	1205	192	--	--	--	--	0.728	<0.015	0.33	0.024	<0.010	15
MAY												
01...	1240	278	247	7.8	8.5	11.2	0.676	<0.015	0.46	0.014	<0.010	16
04...	1257	224	--	--	--	--	0.635	<0.015	0.44	0.020	--	14
07...	1256	181	--	--	--	--	0.783	<0.015	0.35	0.024	--	13
10...	1255	188	--	--	--	--	0.675	<0.015	0.33	0.041	--	15
12...	1204	165	309	8.0	9.5	11.5	0.741	<0.015	0.25	0.022	<0.010	11
JUN												
05...	1221	128	--	--	--	--	0.697	0.015	<0.20	<0.010	--	17
06...	1222	158	--	--	--	--	0.638	<0.015	0.25	<0.010	--	11
07...	1223	167	--	--	--	--	0.642	<0.015	0.26	<0.010	--	--
08...	1224	158	--	--	--	--	0.591	<0.015	0.40	<0.010	<0.010	8
09...	1300	140	--	--	--	--	0.591	<0.015	0.22	<0.010	<0.010	4
JUL												
02...	1300	155	--	--	--	--	0.547	<0.015	0.71	0.043	--	22
03...	1100	140	--	--	--	--	0.510	0.016	0.47	0.033	--	15
04...	0131	134	--	--	--	--	0.524	<0.015	0.69	0.046	--	20
05...	0132	132	--	--	--	--	0.504	<0.015	0.65	0.042	--	21
06...	0133	120	--	--	--	--	0.530	0.016	0.53	0.027	0.012	16
07...	0134	107	--	--	--	--	0.531	0.019	0.53	0.061	0.016	16
07...	1300	106	343	8.1	17.5	11.0	--	--	--	--	--	--
AUG												
15...	0300	102	--	--	--	--	0.734	<0.015	0.37	0.014	--	10
15...	1500	108	--	--	--	--	0.716	<0.015	0.23	<0.010	--	6
16...	1449	106	--	--	--	--	0.765	<0.015	0.56	<0.010	--	4
18...	0249	98	--	--	--	--	0.787	0.023	0.32	0.029	0.018	6
20...	1235	147	--	--	--	--	0.767	<0.015	0.43	0.035	--	10
21...	0035	205	--	--	--	--	0.742	<0.015	0.83	0.071	--	40
21...	1236	209	--	--	--	--	0.661	<0.015	0.68	0.060	--	29
22...	0036	197	--	--	--	--	0.593	<0.015	0.91	0.059	--	19
22...	1245	174	282	8.1	15.5	10.3	--	--	--	--	--	--
23...	1240	129	--	--	--	--	0.589	<0.015	0.49	0.030	--	7
25...	1100	115	--	--	--	--	0.841	0.016	0.38	0.026	0.014	7
SEP												
19...	1455	220	--	--	--	--	0.159	<0.015	0.84	0.019	--	14
20...	1454	169	--	--	--	--	0.313	<0.015	0.58	0.011	--	6
21...	1453	147	--	--	--	--	0.391	0.019	0.48	<0.010	--	4

STREAMS TRIBUTARY TO LAKE MICHIGAN

0407809265 · MIDDLE BRANCH EMBARRASS RIVER NEAR WITTENBERG, WI

LOCATION.--Lat 44°49'31", long 89°07'05", in NW 1/4 NW 1/4 sec.13, T.27 N., R.11 E., Shawano County, Hydrologic Unit 04030202, on right bank 60 ft upstream from Cardinal Lane, 2.5 mi east of Wittenberg, and 2.5 mi upstream from Wilson Creek.

DRAINAGE AREA.--76.3 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,118.24 ft above sea level (levels by Wisconsin Department of Transportation).

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 11-14, 18-20, 22, 24-29, Dec. 1-27, and Dec. 29 to Mar. 30. Records good except those for ice-affected periods, which are poor (see page 11). Flow affected by pumping for irrigation many times during summer months. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	166	35	47	36	35	136	149	72	40	30	41
2	40	106	36	46	36	35	187	162	62	50	30	35
3	38	77	37	46	36	35	260	153	57	84	30	24
4	36	50	38	45	37	34	338	137	53	71	30	23
5	36	32	39	44	37	33	504	111	53	60	30	22
6	37	61	39	43	37	33	646	98	55	51	29	24
7	36	64	39	42	37	32	608	95	63	46	29	26
8	36	63	38	41	37	33	438	103	67	55	29	31
9	36	59	38	40	38	34	308	115	63	102	29	35
10	37	55	37	39	38	34	252	99	57	83	29	37
11	37	50	38	38	38	34	163	86	53	59	28	36
12	37	45	37	37	38	34	157	76	43	50	29	34
13	37	42	37	37	37	33	139	72	31	45	29	32
14	37	41	36	36	36	33	130	71	37	43	30	32
15	37	40	36	36	35	32	134	74	36	41	33	31
16	37	40	35	36	36	30	142	75	40	44	34	40
17	69	43	35	35	37	31	149	75	42	62	34	104
18	83	49	35	35	37	31	136	79	40	108	33	141
19	90	46	37	34	38	32	133	84	38	73	33	156
20	78	47	37	33	38	33	143	82	38	52	42	103
21	62	47	39	33	38	35	141	73	44	46	85	65
22	57	44	40	33	37	36	130	67	44	44	84	53
23	77	42	40	34	37	37	119	63	50	43	60	46
24	108	41	39	34	36	39	117	60	63	42	58	42
25	106	39	39	34	36	41	117	70	64	41	59	39
26	83	38	39	34	35	44	106	75	61	41	53	36
27	69	38	36	34	35	48	99	65	50	41	48	34
28	61	38	29	35	35	54	95	59	44	41	46	34
29	62	38	36	35	---	76	92	58	41	34	44	35
30	122	37	41	36	---	96	91	73	40	29	43	35
31	195	---	45	36	---	120	---	87	---	29	42	---
TOTAL	1919	1578	1162	1168	1028	1287	6210	2746	1501	1650	1242	1426
MEAN	61.9	52.6	37.5	37.7	36.7	41.5	207	88.6	50.0	53.2	40.1	47.5
MAX	195	166	45	47	38	120	646	162	72	108	85	156
MIN	36	32	29	33	35	30	91	58	31	29	28	22
CFSM	.81	.69	.49	.49	.48	.54	2.71	1.16	.66	.70	.53	.62
IN.	.94	.77	.57	.57	.50	.63	3.03	1.34	.73	.80	.61	.70

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1997, BY WATER YEAR (WY)

	MEAN	57.5	64.3	42.3	32.4	32.2	71.5	153	103	94.7	52.6	53.7	57.9
MAX	94.7	128	73.3	45.7	42.4	116	241	167	222	96.3	100	97.9	
(WY)	1996	1993	1993	1996	1996	1990	1996	1993	1993	1996	1995	1992	
MIN	23.2	27.2	13.5	18.5	18.5	41.5	40.4	59.8	31.6	21.9	32.8	37.8	
(WY)	1990	1990	1990	1995	1995	1997	1990	1995	1995	1995	1992	1996	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1990 - 1997
ANNUAL TOTAL	31478	22917	
ANNUAL MEAN	86.0	62.8	67.9
HIGHEST ANNUAL MEAN			100
LOWEST ANNUAL MEAN			46.4
HIGHEST DAILY MEAN	697	646	697
LOWEST DAILY MEAN	(a) 18	(a) 22	(b) 11
ANNUAL SEVEN-DAY MINIMUM	(a) 33	(a) 26	12
INSTANTANEOUS PEAK FLOW		684	905
INSTANTANEOUS PEAK STAGE		4.35	(c) 5.09
ANNUAL RUNOFF (CFSM)	1.13	.82	.89
ANNUAL RUNOFF (INCHES)	15.35	11.17	12.09
10 PERCENT EXCEEDS	170	113	135
50 PERCENT EXCEEDS	54	41	45
90 PERCENT EXCEEDS	37	33	26

(a) Result of pumping

(b) Result of freezeup

(c) Recorded gage height, 5.09 ft, result of drawdown, outside crest-gage peak, 5.29 ft

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: December 1989 to current year.

INSTRUMENTATION.--Continuous water temperature recorder since December 1989. Sensor located at midstream.

REMARKS.--Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum, 30.5°C, June 18, 1994 and July 14, 1995; minimum, 0.0°C, on many days during winter.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 28.5°C, July 1; minimum, 0.0°C, Dec. 14-26 and Dec. 29 to Jan. 25.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.5	11.0	13.0	1.5	.5	1.0	.5	.5	.5	.5	.0	.5
2	14.0	11.0	13.0	1.5	.5	1.0	.5	.5	.5	.5	.0	.5
3	13.5	9.5	11.0	3.0	.5	1.5	.5	.5	.5	.5	.0	.5
4	11.5	9.0	10.0	3.5	2.0	3.0	.5	.5	.5	.5	.0	.5
5	12.5	9.0	10.5	5.0	2.5	3.5	.5	.5	.5	.5	.0	.5
6	13.0	9.0	11.0	5.5	4.0	4.5	.5	.5	.5	.0	.0	.0
7	12.0	9.5	11.0	5.5	4.0	4.5	.5	.5	.5	.0	.0	.0
8	12.0	8.5	10.0	5.0	3.0	4.0	.5	.5	.5	.0	.0	.0
9	10.5	9.0	9.5	3.5	2.0	3.0	.5	.5	.5	.0	.0	.0
10	10.5	8.0	9.0	2.0	.5	1.5	.5	.5	.5	.0	.0	.0
11	10.5	6.5	8.5	1.0	.5	.5	.5	.5	.5	.0	.0	.0
12	12.0	7.5	9.5	.5	.5	.5	.5	.5	.5	.0	.0	.0
13	13.0	8.5	10.5	1.0	.5	.5	1.0	.5	.5	.0	.0	.0
14	12.0	8.5	10.0	1.5	.5	1.0	.5	.0	.5	.0	.0	.0
15	13.0	9.5	10.5	1.5	1.0	1.5	.5	.0	.0	.5	.0	.0
16	13.0	8.5	10.5	3.5	1.5	2.5	.5	.0	.0	.0	.0	.0
17	13.0	11.0	11.5	3.0	.5	2.0	.5	.0	.0	.0	.0	.0
18	11.0	9.0	10.5	1.5	.5	.5	.5	.0	.0	.0	.0	.0
19	10.5	7.5	9.0	1.5	.5	.5	.5	.0	.0	.0	.0	.0
20	9.5	7.0	8.0	1.5	.5	1.0	.5	.0	.5	.0	.0	.0
21	9.0	8.0	8.0	1.5	.5	1.0	.5	.0	.5	.0	.0	.0
22	9.0	8.5	8.5	1.5	.5	1.0	.5	.0	.5	.0	.0	.0
23	9.5	9.0	9.0	2.0	.5	1.0	.5	.0	.5	.5	.0	.0
24	9.0	8.0	8.5	1.5	.5	.5	.5	.0	.5	.0	.0	.0
25	9.0	8.0	8.0	.5	.5	.5	.5	.0	.5	.5	.0	.5
26	9.5	8.0	9.0	.5	.5	.5	.5	.0	.5	.5	.5	.5
27	10.0	8.5	9.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
28	10.0	7.5	8.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
29	7.5	7.0	7.5	.5	.5	.5	.5	.0	.5	.5	.5	.5
30	7.0	4.0	6.0	.5	.5	.5	.5	.0	.5	.5	.5	.5
31	4.0	1.5	3.0	---	---	---	.5	.0	.5	.5	.5	.5
MONTH	15.5	1.5	9.4	5.5	.5	1.5	1.0	.0	.4	.5	.0	.2

STREAMS TRIBUTARY TO LAKE MICHIGAN
0407809265 MIDDLE BRANCH EMBARRASS RIVER NEAR WITTENBERG, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	.5	.5	.5	.5	.5	.5	6.0	2.5	4.0	11.0	8.5	9.5
2	.5	.5	.5	.5	.5	.5	6.0	3.5	4.5	9.5	8.5	8.5
3	.5	.5	.5	.5	.5	.5	5.5	4.0	4.5	11.0	8.0	9.0
4	.5	.5	.5	.5	.5	.5	5.0	3.5	4.5	12.5	8.5	10.5
5	.5	.5	.5	.5	.5	.5	5.0	4.5	5.0	14.0	10.0	11.5
6	.5	.5	.5	.5	.5	.5	5.0	3.0	4.5	14.5	10.0	12.0
7	.5	.5	.5	.5	.5	.5	3.0	1.5	2.0	13.5	10.5	12.0
8	.5	.5	.5	.5	.5	.5	2.5	1.0	2.0	14.5	11.0	12.5
9	.5	.5	.5	.5	.5	.5	3.5	1.0	2.5	12.5	10.5	11.5
10	.5	.5	.5	.5	.5	.5	4.0	2.5	3.0	15.0	9.5	12.0
11	.5	.5	.5	.5	.5	.5	6.5	3.5	4.5	15.5	11.0	12.5
12	.5	.5	.5	.5	.5	.5	5.0	4.0	4.5	12.0	9.5	11.0
13	.5	.5	.5	.5	.5	.5	7.0	3.0	4.5	11.5	9.0	10.0
14	.5	.5	.5	.5	.5	.5	8.0	4.0	5.5	10.0	8.0	9.0
15	.5	.5	.5	.5	.5	.5	9.5	5.5	7.0	11.0	7.5	8.5
16	.5	.5	.5	.5	.5	.5	7.5	5.5	6.5	9.5	7.0	8.0
17	.5	.5	.5	.5	.5	.5	8.0	4.5	6.0	13.0	7.5	9.5
18	.5	.5	.5	.5	.5	.5	6.5	6.0	6.0	12.5	9.0	10.5
19	.5	.5	.5	.5	.5	.5	6.0	5.5	5.5	13.0	11.0	11.5
20	.5	.5	.5	.5	.5	.5	8.0	5.5	6.0	13.0	10.0	11.5
21	.5	.5	.5	1.0	.5	.5	10.0	6.0	8.0	16.0	9.5	12.5
22	.5	.5	.5	.5	.5	.5	10.0	7.0	8.5	16.5	10.5	13.0
23	.5	.5	.5	1.0	.5	.5	9.0	7.5	8.0	17.5	12.0	14.5
24	.5	.5	.5	1.0	.5	1.0	9.5	7.0	8.0	14.5	13.5	14.0
25	.5	.5	.5	1.0	1.0	1.0	11.5	7.0	9.0	16.5	12.5	14.5
26	.5	.5	.5	3.0	1.0	1.5	11.5	8.0	9.5	17.0	12.5	14.0
27	.5	.5	.5	6.0	1.0	2.5	11.5	9.5	10.0	18.5	12.5	15.0
28	.5	.5	.5	3.5	1.5	2.5	14.0	9.5	11.5	18.0	13.5	15.5
29	---	---	---	3.5	2.0	2.5	16.0	10.0	13.0	15.0	13.5	14.5
30	---	---	---	4.0	2.5	3.0	13.5	9.5	12.0	17.5	13.5	15.0
31	---	---	---	5.5	2.0	3.5	---	---	---	19.5	13.5	16.0
MONTH	.5	.5	.5	6.0	.5	.9	16.0	1.0	6.3	19.5	7.0	11.9
	JUNE			JULY			AUGUST			SEPTEMBER		
1	22.5	15.5	18.5	28.5	22.0	24.5	23.5	19.5	21.0	22.0	17.5	19.5
2	24.0	17.5	20.0	24.5	22.0	23.0	26.5	19.5	22.5	22.0	17.5	19.5
3	24.5	19.0	21.0	22.0	19.0	21.0	26.5	21.0	23.0	20.5	15.0	17.5
4	25.5	19.0	21.5	21.5	18.5	19.5	25.0	20.5	22.5	20.0	13.5	16.5
5	20.5	18.5	19.5	22.0	17.5	19.5	24.5	18.5	21.0	16.0	13.5	14.5
6	22.0	18.0	19.5	23.0	18.0	20.0	24.0	19.0	21.0	20.0	14.0	17.0
7	19.0	17.5	18.5	22.5	16.5	19.0	25.5	18.5	21.5	18.5	15.5	17.0
8	22.0	16.5	19.0	18.5	16.5	17.5	25.0	18.5	21.5	18.5	16.0	17.0
9	23.5	17.5	20.0	19.5	16.0	17.0	24.5	18.5	21.5	19.0	16.5	17.0
10	25.0	18.5	21.0	21.0	16.0	18.0	23.0	20.0	21.5	19.0	15.0	17.0
11	26.0	19.5	22.0	23.0	17.0	19.5	24.0	18.0	20.5	19.0	14.5	16.5
12	27.5	20.0	23.0	23.0	18.5	20.5	19.5	18.0	18.5	19.5	13.5	16.0
13	27.0	20.0	23.0	25.0	20.0	22.0	22.5	17.0	19.5	18.0	13.5	15.5
14	26.0	18.5	22.0	26.5	21.0	23.5	18.5	15.5	17.0	19.5	15.5	17.0
15	23.0	18.5	20.5	28.0	21.5	24.0	21.5	17.0	18.5	19.0	16.0	17.5
16	22.5	19.0	20.5	28.0	22.0	24.0	22.0	18.0	19.5	18.0	16.5	17.5
17	24.5	17.0	20.0	27.5	22.5	24.5	19.0	16.5	17.5	19.0	17.0	17.5
18	23.5	18.0	20.0	25.5	22.0	23.5	20.5	15.0	17.0	17.5	16.0	16.5
19	20.0	18.5	19.0	22.5	20.5	21.5	18.5	15.0	16.5	17.5	16.5	17.0
20	22.0	18.0	19.5	23.0	20.0	21.5	17.0	16.0	16.5	17.0	14.5	16.0
21	24.0	18.5	20.5	22.0	19.5	21.0	18.0	15.5	16.5	16.5	13.0	14.5
22	25.0	19.0	21.5	23.0	19.0	20.5	18.0	15.0	16.0	15.0	12.5	13.5
23	27.0	21.0	23.5	21.5	19.0	20.0	17.5	14.5	15.5	15.5	12.0	13.5
24	26.5	23.0	24.5	22.5	18.5	20.5	16.5	15.0	15.5	15.5	11.0	13.0
25	26.5	23.0	24.5	21.0	19.5	20.0	17.5	14.5	15.5	17.0	12.5	14.5
26	26.5	21.5	24.0	25.5	20.0	22.0	17.5	15.5	16.0	17.0	12.0	14.0
27	27.0	21.0	23.5	25.0	20.5	22.5	21.0	15.5	18.0	16.0	13.0	14.0
28	27.5	21.0	23.5	25.5	20.5	22.5	19.5	16.0	17.5	17.0	14.0	15.0
29	27.5	21.5	24.5	24.5	19.0	21.5	20.0	16.0	18.0	14.5	13.0	14.0
30	25.0	22.5	23.5	24.5	17.5	20.5	17.5	17.0	17.0	14.0	12.0	13.0
31	---	---	---	25.0	17.5	21.0	21.5	16.0	18.5	---	---	---
MONTH	27.5	15.5	21.4	28.5	16.0	21.1	26.5	14.5	18.8	22.0	11.0	15.9

STREAMS TRIBUTARY TO LAKE MICHIGAN
04078500 EMBARRASS RIVER NEAR EMBARRASS, WI

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LOCATION.--Lat 44°43'29", long 88°44'10", in SW 1/4 sec.18, T.26 N., R.15 E., Shawano County, Hydrologic Unit 04030202, on right bank 40 ft downstream from bridge on county road, 1.3 mi downstream from Mill Creek, and 4.0 mi northwest of Embarrass.

DRAINAGE AREA.--384 mi².

PERIOD OF RECORD.--June 1919 to September 1985, December 1993 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 803.95 ft above sea level. Prior to Aug. 23, 1938, nonrecording gage at same site and datum. Aug. 23, 1938 to May 8, 1984, at site 40 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 17-24, Nov. 27 to Mar. 13, Mar. 15-20, and Mar. 22 to Apr. 1. Records good except those for ice-affected periods, which are poor (see page 11). Slight diurnal fluctuation caused by powerplants above station. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	211	746	240	270	230	220	881	632	432	236	145	201
2	199	601	230	280	230	230	1080	801	346	374	142	189
3	183	423	230	280	230	230	1410	823	300	631	139	171
4	166	365	220	280	230	220	1760	663	254	528	142	155
5	173	347	220	270	230	220	2140	591	252	389	139	144
6	186	295	210	260	230	230	2560	509	310	293	128	152
7	164	314	210	250	230	220	2580	408	372	234	129	157
8	173	319	210	250	230	210	1960	463	353	291	135	153
9	174	307	210	250	230	200	1360	529	330	401	130	163
10	178	290	210	240	230	210	1060	502	297	422	129	213
11	183	246	200	240	230	200	868	441	260	330	126	218
12	179	219	200	230	230	200	674	381	241	271	128	191
13	182	219	200	230	230	190	594	329	208	235	138	174
14	179	224	200	220	230	190	579	326	197	213	145	159
15	181	212	210	210	230	200	574	357	189	194	192	177
16	180	209	210	210	230	220	575	342	195	196	182	156
17	190	220	220	200	230	220	586	349	194	349	183	442
18	325	220	220	200	220	230	571	348	195	447	180	825
19	384	210	220	190	220	240	563	395	189	399	174	690
20	310	220	220	190	220	230	565	415	190	275	223	568
21	309	230	220	190	220	230	562	385	226	233	340	422
22	258	220	230	190	240	250	542	332	199	216	352	319
23	358	210	230	190	230	270	509	279	290	200	290	256
24	551	190	230	190	230	280	472	292	379	192	293	237
25	569	190	230	200	220	260	456	316	290	181	273	228
26	471	200	230	200	220	280	444	326	271	195	275	207
27	402	230	230	210	220	300	429	326	245	199	247	201
28	331	250	230	210	220	350	389	288	199	193	217	204
29	338	260	240	220	---	430	391	295	186	182	182	216
30	558	250	250	220	---	560	390	400	194	170	180	204
31	803	---	260	230	---	700	---	477	---	153	190	---
TOTAL	9048	8436	6870	7000	6370	8220	27524	13320	7783	8822	5868	7792
MEAN	292	281	222	226	228	265	917	430	259	285	189	260
MAX	803	746	260	280	240	700	2580	823	432	631	352	825
MIN	164	190	200	190	220	190	389	279	186	153	126	144

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1997, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	268	291	198	152	157	393	766	445	354	218	189	242
MAX	1324	932	908	377	517	1386	1892	1324	1105	826	579	886
(WY)	1987	1986	1987	1939	1986	1973	1922	1973	1943	1978	1928	1938
MIN	86.8	89.5	67.3	52.8	57.8	98.5	151	148	111	75.5	44.5	59.5
(WY)	1949	1934	1934	1959	1959	1931	1931	1931	1977	1932	1931	1933

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1919 - 1997
ANNUAL TOTAL	163183	117032	
ANNUAL MEAN	446	321	301
HIGHEST ANNUAL MEAN			515
LOWEST ANNUAL MEAN			126
HIGHEST DAILY MEAN	4650	2580	6280
LOWEST DAILY MEAN	164	126	24
ANNUAL SEVEN-DAY MINIMUM	170	129	27
INSTANTANEOUS PEAK FLOW		2730	7080
INSTANTANEOUS PEAK STAGE		7.81	(a) 12.13
10 PERCENT EXCEEDS	805	559	661
50 PERCENT EXCEEDS	320	230	194
90 PERCENT EXCEEDS	200	180	94

(a) Affected by failure of dam near Pella, 9.2 mi above station

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 sea level (levels by U.S. Army Corps of Engineers). Prior to Oct. 4, 1951, nonrecording gage.

REMARKS.--Estimated daily discharges: Ice-affected period, Nov. 17 to Apr. 6. Records good except those for ice-affected period, which is poor (see page 11). Gage-height telemeter and data-collection platform at station.

COOPERATION.--Values prior to October 1913 taken from House Document 276, 72nd Congress, First Session (computed by Corps of Engineers).

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1230	2150	1200	1000	1200	1300	3600	2960	2090	1440	1080	1170
2	1210	2190	1200	1100	1200	1300	4500	3000	2110	1410	1030	1150
3	1170	2220	1200	1100	1200	1300	5600	3060	2100	1410	970	1170
4	1150	2220	1200	1100	1100	1300	6400	3100	2020	1470	934	1170
5	1130	2230	1200	1100	1100	1300	6600	3130	1750	1570	889	1140
6	1110	2230	1200	1100	1100	1300	7000	3130	1660	1610	869	1090
7	1080	2180	1200	1100	1100	1400	7140	3120	1680	1560	852	1040
8	1070	2100	1300	1100	1100	1400	7210	3140	1840	1530	832	1010
9	1060	2020	1200	1100	1100	1400	7330	3140	1930	1560	817	1030
10	1070	1950	1200	1100	1100	1400	7420	3110	1950	1590	811	1070
11	1070	1870	1200	1100	1100	1400	7370	3090	1920	1610	781	1110
12	1080	1750	1200	1100	1100	1400	7130	3020	1830	1600	777	1120
13	1090	1570	1200	1000	1000	1400	6720	2940	1720	1540	789	1100
14	1090	1380	1100	1000	1000	1400	6270	2860	1590	1460	789	1080
15	1090	1290	1100	1000	1100	1300	5840	2750	1460	1370	916	1050
16	1100	1300	1000	1000	1100	1300	5420	2630	1400	1280	1000	1050
17	1110	1300	1000	980	1100	1300	5050	2510	1350	1310	1100	1160
18	1140	1300	1000	980	1100	1400	4740	2420	1300	1440	1130	1320
19	1170	1300	1000	1000	1100	1400	4440	2310	1250	1610	1080	1610
20	1240	1200	1000	1000	1100	1400	4140	2220	1740	1670	1070	1800
21	1320	1200	1100	1000	1100	1500	3940	2170	2380	1660	1160	1940
22	1360	1200	1100	1100	1100	1500	3770	2130	2580	1550	1320	2010
23	1460	1300	1100	1100	1100	1500	3610	2080	2630	1410	1470	2030
24	1550	1200	1000	1000	1100	1600	3490	2030	2530	1280	1560	1950
25	1680	1200	960	1000	1200	1600	3390	1990	2400	1200	1580	1800
26	1790	1200	940	1000	1200	1700	3300	1970	2250	1170	1580	1650
27	1860	1100	940	1000	1200	1800	3210	1960	2020	1150	1530	1500
28	1900	1100	960	1000	1200	1900	3120	1940	1790	1140	1460	1390
29	1900	1200	980	1100	---	2200	3040	1940	1620	1120	1370	1310
30	2000	1200	1000	1100	---	2500	2960	1980	1500	1100	1270	1250
31	2060	---	1000	1100	---	3000	---	2030	---	1090	1200	---
TOTAL	41340	47650	33980	32560	31300	47900	153750	79860	56390	43910	34016	40270
MEAN	1334	1588	1096	1050	1118	1545	5125	2576	1880	1416	1097	1342
MAX	2060	2230	1300	1100	1200	3000	7420	3140	2630	1670	1580	2030
MIN	1060	1100	940	980	1000	1300	2960	1940	1250	1090	777	1010
CF5M	.59	.70	.49	.46	.49	.68	2.27	1.14	.83	.63	.49	.59
IN.	.68	.78	.56	.54	.52	.79	2.53	1.31	.93	.72	.56	.66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1896 - 1997, BY WATER YEAR (WY)

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
MEAN	1494	1632	1233	961	925	2133	3974	2801	2156	1478	1146	1342
MAX	4761	4738	3258	2149	2003	7566	9169	7452	5764	5005	4485	4544
(WY)	1987	1986	1912	1960	1984	1973	1922	1960	1993	1993	1912	1938
MIN	533	617	429	301	388	486	1157	901	595	427	443	429
(WY)	1949	1934	1899	1911	1900	1896	1931	1931	1988	1910	1933	1933

STREAMS TRIBUTARY TO LAKE MICHIGAN
04079000 WOLF RIVER AT NEW LONDON, WI--CONTINUED

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SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1896 - 1997	
ANNUAL TOTAL	889330		642926		1779	
ANNUAL MEAN	2430		1761		3200	1973
HIGHEST ANNUAL MEAN					866	1931
LOWEST ANNUAL MEAN					15500	Apr 13 1922
HIGHEST DAILY MEAN	10000	Jun 24	7420	Apr 10	216	Aug 27 1931
LOWEST DAILY MEAN	940	Dec 26	777	Aug 12	337	Sep 3 1933
ANNUAL SEVEN-DAY MINIMUM	969	Dec 24	799	Aug 8		
INSTANTANEOUS PEAK FLOW			7450	Apr 10		
INSTANTANEOUS PEAK STAGE			9.10	Apr 10	(a) 11.83	Apr 3 1979
INSTANTANEOUS LOW FLOW			771	Aug 11, 12		
ANNUAL RUNOFF (CFSM)	1.08		.78		.80	
ANNUAL RUNOFF (INCHES)	14.64		10.58		10.91	
10 PERCENT EXCEEDS	5320		3070		3550	
50 PERCENT EXCEEDS	1430		1300		1280	
90 PERCENT EXCEEDS	1070		1000		710	

(a) Backwater from ice

STREAMS TRIBUTARY TO LAKE MICHIGAN

04082400 FOX RIVER AT OSHKOSH, WI

LOCATION.--Lat 44°00'49", long 88°32'27" in SW 1/4 SW 1/4 sec.24, T.18 N., R.16 E., Winnebago County, Hydrologic Unit 04030201, on right bank about 400 ft downstream from U.S. Highway 45 and State Highway 26 bridge, at Oshkosh.

DRAINAGE AREA.--5,310 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1991 to current year.

GAGE.--Acoustical Velocity Meter (AVM) system. Single-path transducer installation.

REMARKS.--Estimated daily discharges: Jan. 17, 18, and July 13 to Aug. 11. Records fair, except those for estimated daily discharges and days with negative mean daily flow, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2410	3880	3520	2590	2850	3880	10900	10500	3620	2920	2800	3430
2	4990	2380	2820	2710	2980	4290	11800	2440	3440	7510	2500	2570
3	-666	1330	3280	2740	2850	3520	12600	9600	3690	7200	2200	3080
4	947	4090	2700	2580	3100	4190	12300	5990	5460	197	2700	3190
5	2610	4350	3160	4100	3070	4580	12000	7940	3100	3310	4000	2830
6	4570	4350	3330	2370	3020	4640	16200	5460	3980	3640	3700	2240
7	582	5210	3580	2660	3040	3710	18400	376	4780	395	3500	662
8	2890	5810	4090	2720	3030	4030	12200	11100	4810	4360	2680	2500
9	3190	5690	2100	3200	3030	4490	10200	10600	5400	3990	2970	3020
10	1300	5380	3260	3150	3090	4450	11800	2470	4940	2490	3500	2940
11	1640	3410	2830	3000	3100	4670	11700	9060	3530	4170	2500	2120
12	2860	823	3510	2760	3030	4540	12200	7560	5550	3460	2230	1060
13	1960	3060	2900	2770	2940	3660	12700	1080	1110	3600	3350	2550
14	-628	2500	2300	2650	2950	4550	11700	8600	4990	4000	-1930	2860
15	4420	1820	4580	2830	2810	4360	11900	7950	4200	4500	5310	897
16	1900	2550	2560	3290	2810	4300	12400	3680	4880	3900	1780	551
17	2290	6280	4020	3000	2650	4480	9940	3640	838	4700	2000	5400
18	6010	5250	2280	2860	2810	4600	9010	6040	2460	2700	4540	548
19	-2470	1930	2630	2770	2980	4540	9290	7670	2600	3100	1850	2630
20	1200	2890	2300	2840	2690	4810	9020	5070	5660	4000	3710	3910
21	4070	3380	2420	2610	3080	5730	8370	2790	4100	2500	2890	3520
22	-802	3200	2740	3120	2890	6260	8180	1710	5900	3200	2910	4300
23	6620	2770	3140	2840	3180	6560	7710	5320	6170	3900	1200	1160
24	4760	3920	3170	2890	2920	5920	7090	3010	5780	4000	4060	4950
25	-156	3390	2010	3140	2980	8390	6460	1880	8930	2800	3060	2110
26	2500	2600	2380	2720	3200	7680	5810	3240	5640	3500	4450	1420
27	8050	2070	2380	3000	3370	8060	5500	4210	4980	1800	4370	2540
28	1780	2360	2560	2780	3170	9440	4570	3150	5140	2300	2200	5440
29	-1880	2570	2520	2840	---	10600	7540	5220	4660	3000	2320	8210
30	14800	3020	2580	2800	---	10900	1190	5790	5470	3500	4270	-1380
31	3720	---	2520	2970	---	10800	---	3840	---	3000	2920	---
TOTAL	85467	102263	90170	89300	83620	176630	300680	166986	135808	107642	90540	81258
MEAN	2757	3409	2909	2881	2986	5698	10020	5387	4527	3472	2921	2709
MAX	14800	6280	4580	4100	3370	10900	18400	11100	8930	7510	5310	8210
MIN	-2470	823	2010	2370	2650	3520	1190	376	838	197	-1930	-1380
CFSM	.52	.64	.55	.54	.56	1.07	1.89	1.01	.85	.65	.55	.51
IN.	.60	.72	.63	.63	.59	1.24	2.11	1.17	.95	.75	.63	.57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1997, BY WATER YEAR (WY)

	MEAN	3877	4759	4057	2927	2853	5437	8812	7216	5778	5487	3866	3339
MAX	6411	6201	6811	3673	3739	6348	12870	11050	11980	13440	5915	4240	
(WY)	1996	1996	1993	1992	1996	1992	1993	1993	1993	1993	1993	1992	
MIN	2655	2905	2806	1968	1870	4267	5517	5310	2645	1939	2294	2148	
(WY)	1992	1995	1995	1995	1995	1995	1995	1995	1994	1995	1992	1996	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1992 - 1997

ANNUAL TOTAL	1888362	1510364	
ANNUAL MEAN	5159	4138	4873
HIGHEST ANNUAL MEAN			7221
LOWEST ANNUAL MEAN			3585
HIGHEST DAILY MEAN	15800	Apr 30	18600
LOWEST DAILY MEAN	-2470	Oct 19	-6270
ANNUAL SEVEN-DAY MINIMUM	1310	Sep 13	1270
ANNUAL RUNOFF (CFSM)	.97	.78	.92
ANNUAL RUNOFF (INCHES)	13.23	10.58	12.47
10 PERCENT EXCEEDS	10900	8110	9670
50 PERCENT EXCEEDS	3950	3200	4000
90 PERCENT EXCEEDS	2000	1870	1860

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: April 1992 to current year.

INSTRUMENTATION.--Continuous water temperature recorder since April 1992.

REMARKS.--Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum observed, 30.0°C, June 22, 23, 1995; minimum observed, 0.0°C, for many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 27.5°C, June 24 and July 16, 18; minimum observed, 0.0°C, for many days November through March.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	15.0	14.5	14.5	5.5	2.5	3.5	1.0	.5	1.0	.5	.5	.5
2	15.5	14.5	15.0	5.0	1.5	3.0	1.0	.5	.5	.5	.5	.5
3	14.5	14.0	14.0	2.5	2.0	2.0	1.0	.5	1.0	.5	.5	.5
4	14.0	13.0	13.5	2.5	2.0	2.0	1.0	1.0	1.0	.5	.5	.5
5	13.5	12.0	12.5	3.0	2.0	2.5	1.0	1.0	1.0	.5	.0	.5
6	13.5	12.5	12.5	5.0	3.0	3.5	1.0	1.0	1.0	.5	.0	.0
7	13.5	13.0	13.5	5.0	4.0	4.5	1.0	.5	1.0	.5	.0	.5
8	13.0	12.0	12.5	5.0	4.0	4.5	1.0	.5	1.0	.5	.5	.5
9	12.0	11.5	12.0	4.5	3.0	3.5	.5	.5	.5	.5	.5	.5
10	12.0	11.0	11.5	3.0	1.5	2.5	1.0	.5	.5	.5	.5	.5
11	11.5	10.5	11.0	1.5	.5	1.0	1.0	.5	1.0	.5	.5	.5
12	11.0	10.5	10.5	.5	.0	.5	1.0	.5	1.0	.5	.0	.0
13	12.0	11.0	11.5	.5	.5	.5	1.0	.5	1.0	.5	.0	.0
14	12.0	11.5	11.5	1.0	.5	.5	1.0	.5	1.0	.5	.0	.5
15	12.5	11.5	12.0	1.0	.5	1.0	1.0	.5	1.0	.5	.0	.5
16	13.0	12.0	12.5	1.5	.5	1.0	.5	.5	.5	.5	.0	.0
17	13.5	12.5	13.0	2.5	1.0	1.5	1.0	.5	.5	.5	.0	.0
18	13.5	12.0	13.0	1.0	.5	1.0	.5	.5	.5	.5	.0	.0
19	12.0	11.0	11.5	.5	.0	.0	.5	.5	.5	.5	.0	.0
20	11.5	11.0	11.5	.5	.0	.5	.5	.5	.5	.5	.0	.0
21	11.5	11.0	11.5	.5	.5	.5	.5	.5	.5	.5	.0	.0
22	11.5	11.5	11.5	.5	.5	.5	.5	.5	.5	.5	.0	.0
23	12.0	11.0	11.5	.5	.5	.5	.5	.5	.5	.5	.0	.0
24	11.0	10.0	10.5	1.0	.5	.5	.5	.0	.5	.5	.0	.5
25	10.5	10.0	10.5	1.0	.5	.5	.5	.0	.5	.5	.0	.0
26	10.5	10.0	10.5	.5	.0	.5	.5	.5	.5	.5	.0	.0
27	11.5	10.5	11.0	.5	.5	.5	.5	.5	.5	.5	.0	.0
28	11.0	10.5	10.5	.5	.5	.5	.5	.5	.5	.0	.0	.0
29	10.5	10.0	10.0	.5	.5	.5	.5	.5	.5	.0	.0	.0
30	10.0	7.0	9.0	1.0	.5	1.0	.5	.5	.5	.0	.0	.0
31	7.0	4.5	5.5	---	---	---	.5	.5	.5	.0	.0	.0
MONTH	15.5	4.5	11.7	5.5	.0	1.5	1.0	.0	.7	.5	.0	.2

STREAMS TRIBUTARY TO LAKE MICHIGAN
04082400 FOX RIVER AT OSHKOSH, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	.5	.0	.0	.5	.0	.5	5.0	2.5	4.0	13.0	10.0	11.0
2	.5	.0	.0	.5	.0	.5	7.0	3.5	5.0	12.0	11.0	11.5
3	.5	.0	.0	.5	.0	.5	8.0	5.5	6.5	11.5	10.0	11.0
4	.0	.0	.0	.5	.5	.5	8.5	7.0	8.0	12.0	10.5	11.5
5	.0	.0	.0	.5	.5	.5	8.5	7.5	8.0	13.0	12.0	12.5
6	.0	.0	.0	.5	.0	.0	8.5	5.5	7.0	13.5	12.0	13.0
7	.0	.0	.0	.5	.0	.5	5.5	3.0	3.5	13.5	12.0	13.0
8	.0	.0	.0	1.0	.5	.5	3.0	1.0	2.0	13.5	12.5	13.0
9	.0	.0	.0	.5	.0	.5	3.0	.5	2.0	13.5	12.0	12.5
10	.0	.0	.0	1.0	.0	.5	4.5	2.0	3.5	13.0	11.5	12.0
11	.0	.0	.0	1.0	.5	.5	5.0	4.0	4.5	14.0	13.0	13.0
12	.0	.0	.0	.5	.5	.5	5.0	3.5	4.0	13.0	12.0	12.5
13	.0	.0	.0	.5	.0	.0	5.5	3.0	4.5	12.5	11.5	12.0
14	.0	.0	.0	.0	.0	.0	6.5	4.0	5.5	12.5	11.0	11.5
15	.0	.0	.0	.5	.0	.0	8.0	5.5	7.0	11.0	10.0	10.5
16	.0	.0	.0	.5	.0	.0	8.0	7.0	7.5	10.5	10.0	10.0
17	.0	.0	.0	.5	.0	.5	8.0	6.0	7.0	11.0	9.5	10.0
18	.5	.0	.0	.5	.0	.5	7.5	7.0	7.0	11.0	10.5	11.0
19	.5	.0	.5	.5	.0	.5	8.0	7.0	7.5	12.0	11.0	11.5
20	.5	.0	.5	.5	.0	.5	8.0	7.5	8.0	12.5	11.5	12.0
21	.5	.0	.0	1.0	.0	.5	9.5	8.0	8.5	12.5	11.5	12.0
22	.5	.0	.5	1.0	.5	.5	10.5	8.5	9.5	14.0	12.5	13.0
23	.5	.0	.5	1.0	.0	.5	10.5	9.5	10.0	14.5	13.5	14.0
24	.5	.0	.5	.5	.0	.5	11.0	10.0	10.5	15.0	14.5	14.5
25	.5	.0	.5	1.0	.5	.5	11.5	10.0	11.0	15.0	14.0	14.5
26	.5	.0	.5	2.0	.5	1.0	12.5	11.5	12.0	14.5	13.5	14.0
27	.5	.0	.5	2.5	.5	1.5	12.5	12.0	12.5	14.5	13.5	14.0
28	.5	.0	.0	2.0	1.5	1.5	13.5	12.0	13.0	15.0	14.0	14.5
29	---	---	---	2.0	1.5	1.5	14.5	13.0	13.5	15.0	14.5	15.0
30	---	---	---	3.0	1.5	2.0	14.5	12.0	13.5	15.0	14.5	15.0
31	---	---	---	3.5	1.5	2.5	---	---	---	17.0	15.0	16.0
MONTH	.5	.0	.1	3.5	.0	.6	14.5	.5	7.5	17.0	9.5	12.6
	JUNE			JULY			AUGUST			SEPTEMBER		
1	18.5	16.5	17.5	27.0	25.5	26.0	25.5	24.5	25.0	23.0	21.5	22.0
2	20.0	18.0	19.0	26.5	24.5	25.5	25.0	24.0	24.5	23.0	22.0	22.5
3	20.5	19.0	19.5	24.5	22.0	23.0	26.0	24.5	25.5	22.0	21.0	21.5
4	21.0	20.0	20.5	22.0	21.5	21.5	26.0	25.0	25.0	21.5	20.5	21.0
5	21.0	20.0	20.5	21.5	20.5	21.0	25.0	23.5	24.0	21.0	19.5	20.5
6	20.0	19.5	20.0	21.5	21.0	21.0	24.5	24.0	24.0	20.0	19.0	19.5
7	20.0	19.0	19.5	22.0	21.0	21.5	24.5	23.5	24.0	20.5	19.5	20.0
8	20.5	19.0	19.5	22.0	20.0	20.5	24.5	23.5	24.0	20.0	20.0	20.0
9	21.5	19.5	20.5	21.0	20.0	20.0	24.0	23.0	23.5	20.0	19.5	19.5
10	22.5	20.5	21.5	23.5	20.5	21.5	23.5	23.0	23.0	20.0	19.0	19.5
11	22.5	22.0	22.0	22.0	21.0	21.5	23.0	22.0	22.5	19.5	19.0	19.0
12	24.0	22.0	23.0	23.5	22.0	22.5	22.5	21.0	21.5	20.0	18.5	19.5
13	25.0	23.5	24.0	24.5	23.0	23.5	22.0	20.5	21.0	19.5	19.0	19.5
14	23.5	23.0	23.0	26.0	24.5	25.0	21.5	20.5	21.0	20.0	19.5	19.5
15	23.0	21.0	22.0	27.0	25.5	26.0	21.5	20.5	21.0	21.0	19.5	20.0
16	21.5	21.0	21.0	27.5	26.0	26.5	22.0	21.5	21.5	21.0	20.0	20.5
17	22.5	21.0	21.5	26.5	25.5	26.0	21.5	20.0	21.0	21.0	20.5	21.0
18	22.0	21.0	21.5	27.5	26.5	27.0	20.0	19.5	20.0	21.0	20.5	21.0
19	22.0	21.0	21.5	27.0	25.0	26.0	21.0	20.0	20.5	21.0	20.0	20.5
20	22.5	21.0	21.5	25.0	24.0	24.5	20.5	19.5	20.0	20.0	19.5	20.0
21	23.0	22.0	22.5	25.5	24.5	25.0	19.5	18.5	19.0	19.5	18.5	19.0
22	25.0	23.0	24.0	24.5	23.5	24.0	19.5	18.5	19.0	18.5	17.5	18.0
23	26.0	24.5	25.0	24.0	23.5	23.5	20.0	19.0	19.5	18.5	17.0	17.5
24	27.5	25.5	26.5	24.5	23.0	23.5	20.0	19.5	20.0	17.5	16.5	17.0
25	27.0	25.5	26.0	24.5	23.5	24.0	20.0	19.5	19.5	17.0	16.0	16.5
26	26.0	25.0	25.5	25.0	23.5	24.0	20.5	19.5	20.0	18.0	16.5	17.0
27	26.5	25.5	26.0	26.5	25.0	25.5	22.0	20.5	21.5	17.5	16.5	17.0
28	26.5	25.5	26.0	27.0	25.5	26.0	22.5	22.0	22.0	17.5	17.0	17.5
29	26.5	26.0	26.0	26.0	25.0	25.5	22.5	21.5	22.0	17.5	16.0	17.0
30	26.5	25.5	26.0	25.5	24.5	25.0	21.5	21.0	21.0	16.0	15.0	15.5
31	---	---	---	26.0	25.5	25.5	22.0	21.0	21.0	---	---	---
MONTH	27.5	16.5	22.4	27.5	20.0	23.9	26.0	18.5	21.8	23.0	15.0	19.3

STREAMS TRIBUTARY TO LAKE MICHIGAN

85

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.--Estimated daily gage heights: May 20, 21. Records good except for estimated daily gage heights, which are fair (see page 11). 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. Data-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 recorded gage height, 3.88 ft, June 24; minimum recorded, 1.25 ft, Mar. 9.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.81	2.79	2.26	2.14	1.92	1.46	1.76	2.77	3.12	3.04	2.78	2.85
2	2.80	2.77	2.26	2.14	1.91	1.44	1.80	2.92	3.12	2.88	2.77	2.88
3	2.82	2.73	2.25	2.13	1.89	1.42	1.85	2.93	3.08	2.89	2.77	2.85
4	2.79	2.71	2.25	2.16	1.88	1.40	1.92	3.01	3.06	2.91	2.77	2.80
5	2.78	2.70	2.25	2.20	1.87	1.38	1.99	2.99	3.06	2.86	2.71	2.76
6	2.78	2.67	2.25	2.21	1.84	1.37	1.88	3.09	3.07	2.84	2.67	2.79
7	2.84	2.66	2.26	2.20	1.80	1.34	1.91	3.11	3.12	2.83	2.65	2.81
8	2.81	2.64	2.25	2.19	1.76	1.32	2.15	2.98	3.15	2.86	2.62	2.80
9	2.81	2.62	2.25	2.19	1.72	1.32	2.23	3.05	3.13	2.89	2.58	2.81
10	2.84	2.61	2.24	2.20	1.69	1.33	2.22	3.10	3.11	2.89	2.56	2.83
11	2.78	2.60	2.24	2.20	1.65	1.33	2.25	2.99	3.08	2.89	2.57	2.82
12	2.80	2.56	2.24	2.20	1.62	1.34	2.32	3.01	3.04	2.91	2.58	2.82
13	2.82	2.53	2.24	2.19	1.58	1.37	2.29	3.02	3.05	2.92	2.59	2.80
14	2.83	2.53	2.24	2.19	1.55	1.41	2.33	2.90	2.99	2.93	2.57	2.81
15	2.80	2.52	2.21	2.18	1.53	1.40	2.30	2.89	2.92	2.96	2.57	2.83
16	2.82	2.47	2.26	2.17	1.51	1.39	2.31	2.90	3.00	2.94	2.67	2.84
17	2.80	2.35	2.23	2.15	1.48	1.38	2.36	2.90	3.00	2.97	2.74	2.87
18	2.79	2.40	2.23	2.13	1.46	1.36	2.36	2.89	2.99	2.99	2.70	2.88
19	2.83	2.40	2.21	2.11	1.47	1.35	2.36	2.88	2.99	2.97	2.72	2.92
20	2.80	2.39	2.20	2.08	1.49	1.34	2.36	2.93	3.07	2.92	2.75	2.96
21	2.78	2.36	2.18	2.06	1.54	1.35	2.36	2.92	3.24	2.96	2.78	2.96
22	2.81	2.33	2.17	2.05	1.56	1.38	2.37	2.92	3.34	2.94	2.79	2.94
23	2.77	2.37	2.17	2.04	1.56	1.40	2.41	2.91	3.35	2.93	2.79	2.98
24	2.79	2.34	2.20	2.03	1.55	1.43	2.47	2.97	3.32	2.93	2.82	2.93
25	2.82	2.30	2.20	2.03	1.53	1.46	2.52	3.05	3.27	2.91	2.83	2.94
26	2.79	2.28	2.19	2.02	1.51	1.51	2.56	3.03	3.24	2.92	2.82	2.97
27	2.73	2.27	2.18	2.01	1.50	1.55	2.60	3.02	3.18	2.92	2.84	2.96
28	2.78	2.25	2.17	2.00	1.48	1.58	2.63	3.02	3.10	2.92	2.86	2.95
29	2.81	2.24	2.16	1.98	---	1.63	2.63	3.03	3.04	2.88	2.85	2.89
30	2.63	2.26	2.15	1.96	---	1.68	2.82	3.09	3.05	2.85	2.83	3.00
31	2.78	---	2.15	1.94	---	1.73	---	3.12	---	2.82	2.87	---
MEAN	2.79	2.49	2.22	2.11	1.64	1.42	2.28	2.98	3.11	2.91	2.72	2.88
MAX	2.84	2.79	2.26	2.21	1.92	1.73	2.82	3.12	3.35	3.04	2.87	3.00
MIN	2.63	2.24	2.15	1.94	1.46	1.32	1.76	2.77	2.92	2.82	2.56	2.76

STREAMS TRIBUTARY TO LAKE MICHIGAN
04084255 LAKE WINNEBAGO NEAR STOCKBRIDGE, WI

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

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

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

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

REMARKS.--Records good (see page 11). 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, 4.13 ft, July 9, 1993; minimum observed, 0.30 ft, Mar. 1, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 3.74 ft, June 24; minimum recorded, 1.26 ft, Mar. 9, 21.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.77	2.91	2.23	2.10	1.89	1.42	1.73	2.76	3.07	2.99	2.82	2.82
2	2.77	2.80	2.22	2.09	1.88	1.42	1.77	2.84	3.04	3.03	2.77	2.78
3	2.78	2.76	2.21	2.09	1.86	1.39	1.83	2.89	3.02	3.03	2.74	2.75
4	2.75	2.70	2.21	2.12	1.85	1.37	1.89	2.99	3.03	2.89	2.68	2.78
5	2.75	2.66	2.21	2.18	1.85	1.36	1.95	3.07	3.03	2.88	2.66	2.81
6	2.78	2.66	2.22	2.18	1.82	1.34	2.16	3.11	3.01	2.84	2.69	2.78
7	2.72	2.68	2.22	2.16	1.77	1.30	2.24	3.04	3.06	2.79	2.65	2.74
8	2.75	2.65	2.23	2.15	1.73	1.29	2.20	3.08	3.07	2.78	2.62	2.75
9	2.77	2.67	2.21	2.15	1.69	1.28	2.18	3.12	3.08	2.83	2.57	2.76
10	2.75	2.66	2.20	2.17	1.65	1.29	2.21	3.07	3.07	2.85	2.55	2.75
11	2.83	2.63	2.20	2.17	1.62	1.30	2.21	3.08	3.03	2.86	2.48	2.77
12	2.79	2.58	2.20	2.16	1.59	1.31	2.18	3.09	3.01	2.88	2.50	2.77
13	2.77	2.51	2.20	2.15	1.55	1.33	2.29	2.97	2.97	2.90	2.55	2.77
14	2.74	2.46	2.19	2.14	1.52	1.38	2.31	2.89	2.93	2.96	2.54	2.79
15	2.77	2.46	2.22	2.14	1.49	1.37	2.34	2.88	2.98	2.97	2.57	2.79
16	2.78	2.42	2.22	2.16	1.48	1.35	2.32	2.88	3.00	2.95	2.64	2.79
17	2.84	2.47	2.22	2.13	1.44	1.34	2.31	2.84	2.95	2.98	2.58	2.92
18	2.91	2.45	2.20	2.10	1.42	1.32	2.32	2.84	2.92	2.94	2.65	2.92
19	2.79	2.38	2.17	2.07	1.44	1.30	2.33	2.90	2.93	2.88	2.68	2.88
20	2.74	2.33	2.15	2.05	1.45	1.29	2.32	2.90	3.03	2.90	2.70	2.89
21	2.73	2.32	2.12	2.03	1.50	1.30	2.31	2.89	3.21	2.86	2.74	2.93
22	2.71	2.32	2.12	2.02	1.52	1.34	2.32	2.87	3.32	2.85	2.75	2.98
23	2.82	2.26	2.14	2.01	1.53	1.37	2.35	2.87	3.34	2.87	2.76	2.92
24	2.87	2.25	2.18	1.99	1.51	1.39	2.42	2.89	3.36	2.89	2.76	2.97
25	2.76	2.27	2.16	2.02	1.49	1.44	2.48	2.85	3.33	2.88	2.79	2.96
26	2.75	2.25	2.15	1.98	1.47	1.47	2.52	2.86	3.24	2.88	2.79	2.92
27	2.81	2.22	2.14	1.98	1.47	1.50	2.56	2.91	3.16	2.89	2.82	2.92
28	2.80	2.20	2.13	1.96	1.44	1.54	2.59	2.93	3.09	2.86	2.80	2.99
29	2.74	2.20	2.12	1.94	---	1.61	2.64	2.99	3.04	2.82	2.79	3.10
30	3.02	2.22	2.11	1.92	---	1.65	2.51	3.09	3.00	2.81	2.80	3.01
31	3.05	---	2.11	1.91	---	1.70	---	3.08	---	2.81	2.83	---
MEAN	2.79	2.48	2.18	2.08	1.60	1.39	2.26	2.95	3.08	2.89	2.69	2.86
MAX	3.05	2.91	2.23	2.18	1.89	1.70	2.64	3.12	3.36	3.03	2.83	3.10
MIN	2.71	2.20	2.11	1.91	1.42	1.28	1.73	2.76	2.92	2.78	2.48	2.74

04084445 FOX RIVER AT APPLETON, WI

LOCATION.--Lat 44°14'53", long 88°25'23" in NW 1/4 SE 1/4 sec.34, T.21 N., R.17 E., Outagamie County, Hydrologic Unit 04030204, on left bank at south end of Lutz Park, approximately 2,600 ft upstream of Memorial Drive bridge at Appleton.

DRAINAGE AREA.--5,950 mi².

PERIOD OF RECORD.--July 1986 to current year.

GAGE.--Acoustical Velocity Meter (AVM) system. Two-path transducer installation.

REMARKS.--Estimated daily discharges: Oct. 10-16 and Aug. 30, 31. Records good, except for estimated daily discharges, which are fair (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2090	5330	3430	3310	4070	5970	9200	2440	3800	6740	3530	3260
2	1950	5230	3390	3290	4040	6010	9280	2790	4750	5830	3440	3070
3	1890	5270	3500	3290	4290	6050	9420	2780	5600	4330	3370	2910
4	2020	5310	3640	3350	4760	5990	9570	2970	4710	4090	3100	3040
5	2040	5140	3290	3460	4930	5930	9590	3410	4380	4220	3110	2790
6	2060	5090	3340	3350	5370	5890	10100	4010	4720	4190	3180	1970
7	1820	5050	3410	3310	5730	5630	10200	6120	4930	3510	3190	1680
8	1840	5010	3420	3350	5690	5730	10300	6900	4940	2980	3180	1730
9	1920	4930	3420	3320	5640	5670	10300	6310	5360	2010	3160	1820
10	1700	4890	3390	3400	5580	5430	10500	7250	6240	1930	3050	1680
11	1700	4850	3370	3370	5520	5130	10600	7450	6950	2000	2760	1640
12	1800	4830	3370	3330	5370	5400	10300	7240	6350	1990	2210	1770
13	1800	4800	3440	3370	5360	5640	10700	8640	5080	2010	2050	1850
14	1400	4740	3390	3370	5010	5690	10900	9330	4480	2190	2090	1830
15	1500	5050	3500	3770	4580	5660	11100	7880	4650	2550	1810	1820
16	2200	5020	3450	4340	4550	5630	10600	6330	4540	3420	1550	1850
17	3350	4910	3870	4210	4470	5890	9780	4670	3310	3870	1410	2110
18	2860	4280	4420	4370	4200	5880	9560	4740	3030	3590	1440	2150
19	2790	4550	3840	4410	3120	5890	9540	4710	2280	3350	1590	2170
20	2780	4640	3420	4210	3210	5880	9440	4230	3380	3340	1870	1940
21	2770	4580	3340	4250	3760	5950	8400	3380	5450	3070	1500	1940
22	2920	4530	3300	4380	3780	6110	6530	3580	5770	3250	2100	2070
23	3450	4420	3280	4300	3760	6190	5170	3150	6490	3400	2960	2030
24	3820	4370	3340	4100	4050	6270	2900	2200	8450	3600	3070	2580
25	3880	4410	3320	4150	4780	6280	3080	1860	9860	4030	3060	3090
26	3890	3940	3240	4140	5170	6590	3260	1970	9690	3780	3110	2320
27	3910	3140	3370	4150	5200	7660	3340	2000	9200	3750	3080	2100
28	3820	3290	3410	4130	5490	9180	3580	2330	8660	3690	3080	2280
29	4060	3350	3380	4110	---	9330	3100	2400	8480	3560	3090	2200
30	4420	3450	3330	4110	---	9150	2260	3070	7890	3530	3280	1950
31	4630	---	3330	4090	---	9150	---	3770	---	3530	3270	---
TOTAL	83080	138400	106940	118090	131480	196850	242600	139910	173420	107330	82690	65640
MEAN	2680	4613	3450	3809	4696	6350	8087	4513	5781	3462	2667	2188
MAX	4630	5330	4420	4410	5730	9330	11100	9330	9860	6740	3530	3260
MIN	1400	3140	3240	3290	3120	5130	2260	1860	2280	1930	1410	1640
CFSM	.45	.78	.58	.64	.79	1.07	1.36	.76	.97	.58	.45	.37
IN.	.52	.87	.67	.74	.82	1.23	1.52	.87	1.08	.67	.52	.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

	MEAN	4496	5207	4403	3976	3951	5142	6300	5875	5559	4083	3142	3569
	MAX	13510	7863	7509	5575	5422	7702	11920	11900	13300	15110	6259	8926
	(WY)	1987	1996	1993	1987	1987	1994	1993	1993	1993	1993	1993	1986
	MIN	1845	2924	2541	2535	2313	3024	2689	2682	1243	944	971	1226
	(WY)	1990	1990	1990	1990	1995	1995	1990	1988	1988	1988	1988	1988

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1986 - 1997
ANNUAL TOTAL	1980960	1586430	
ANNUAL MEAN	5412	4346	4591
HIGHEST ANNUAL MEAN			8107
LOWEST ANNUAL MEAN			2995
HIGHEST DAILY MEAN	14200	Jun 20	18000
LOWEST DAILY MEAN	1400	Oct 14	840
ANNUAL SEVEN-DAY MINIMUM	1690	Oct 9	899
ANNUAL RUNOFF (CFSM)	.91	.73	.77
ANNUAL RUNOFF (INCHES)	12.39	9.92	10.48
10 PERCENT EXCEEDS	11400	7530	8910
50 PERCENT EXCEEDS	4540	3770	3820
90 PERCENT EXCEEDS	2040	2000	1700

STREAMS TRIBUTARY TO LAKE MICHIGAN

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

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

DRAINAGE AREA.--6,010 mi².

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

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

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

REMARKS.--Flow regulated by storage in Lake Winnebago (see sta. 04082500 and 04084255). Daily discharges 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 Kaukauna Electric and Water Department. Records reviewed by Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1780	4840	3530	3320	3800	6020	9470	2580	4040	7130	3640	3580
2	1810	5000	3380	3480	3840	6150	9850	2820	4710	6470	3740	3330
3	1490	5010	3670	3440	3930	6300	9980	2750	5440	4930	3450	3130
4	1710	5120	3660	3680	4370	6050	10400	2910	5150	4440	3160	3280
5	1830	5010	3430	3640	4460	5920	10400	3460	4680	4990	3300	3170
6	1820	5090	3600	3130	4800	6150	10700	3590	5120	4730	3240	2240
7	1530	5120	3530	3020	5460	5570	10700	5790	4500	3750	3510	1640
8	1600	5120	3550	3270	5500	5470	11000	6340	5330	3880	3290	1790
9	1670	5030	3640	3280	5380	5500	10900	6400	5550	2130	3460	2000
10	1590	4950	3550	3240	5360	5520	11300	7290	6870	2010	3260	1720
11	1780	5080	3470	3140	5470	5440	11800	7820	6570	2020	2960	1700
12	1850	5410	3840	3040	5770	5430	11400	7930	6900	2090	2410	1820
13	1810	4910	3710	3100	5770	5840	11600	9170	5850	2140	2050	1870
14	1500	4610	3710	3170	5490	5770	11600	10100	4920	2350	2140	2050
15	1610	4760	3780	3830	4660	5820	11900	8250	5250	2480	2010	1950
16	1920	4900	3580	4100	4550	5860	11000	6700	4880	3630	1600	1960
17	3430	4800	3870	3960	4740	6000	10500	5160	3310	4240	1510	2370
18	2830	4430	4030	3720	4380	6050	10000	5360	3180	3960	1330	2310
19	2750	4390	3540	3940	3210	6050	10000	5340	2270	3490	1670	2330
20	2920	4570	3290	3900	3150	6070	10000	5250	3640	3570	2120	2150
21	3060	4530	3380	3990	3940	6160	9010	3040	5880	3060	1550	1940
22	2960	4300	3370	4040	3640	6430	6790	3650	6200	3320	2010	2190
23	3620	4340	3350	3870	3710	6360	5560	3460	6740	3660	3210	2160
24	3860	4250	3260	3890	3860	6500	2830	2530	8450	3690	3440	2690
25	3930	4340	2980	3800	4840	6470	3240	1880	11400	4220	3320	3450
26	3770	3910	3010	3850	5250	6940	3560	2080	10600	4060	3460	2520
27	3660	3130	3210	3810	5270	8270	3830	2070	9950	3950	3410	2250
28	3630	3260	3330	3740	5430	10500	3790	2400	9590	3940	3240	2330
29	3850	3540	3220	3860	---	9820	3240	2450	9350	3720	3420	2500
30	4310	3680	3230	3800	---	9610	2480	2970	9560	3760	3750	2020
31	4410	---	3290	3800	---	8980	---	3340	---	3810	3660	---
TOTAL	80290	137430	107990	111850	130030	203020	258830	144880	185880	115620	88320	70440
MEAN	2590	4581	3484	3608	4644	6549	8628	4674	6196	3730	2849	2348
MAX	4410	5410	4030	4100	5770	10500	11900	10100	11400	7130	3750	3580
MIN	1490	3130	2980	3020	3150	5430	2480	1880	2270	2010	1330	1640

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1896 - 1997, BY WATER YEAR (WY)

	MEAN	3347	4001	4014	4027	4075	4949	7167	6114	5063	3460	2696	2850
MAX	14230	12740	9879	7831	7831	12440	19360	20160	13330	15600	9623	11020	
(WY)	1987	1985	1983	1960	1939	1973	1929	1960	1993	1993	1924	1938	
MIN	728	1242	1562	1432	1768	1596	1590	1260	1098	983	761	709	
(WY)	1933	1931	1959	1977	1977	1964	1954	1931	1931	1931	1936	1933	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1896 - 1997

ANNUAL TOTAL	2027130	1634580	
ANNUAL MEAN	5539	4478	4322
HIGHEST ANNUAL MEAN			8427
LOWEST ANNUAL MEAN			1626
HIGHEST DAILY MEAN	14600	Jun 26	11900
LOWEST DAILY MEAN	1490	Oct 3	1330
ANNUAL SEVEN-DAY MINIMUM	1660	Oct 3	1660
10 PERCENT EXCEEDS	11800		8060
50 PERCENT EXCEEDS	4620		3790
90 PERCENT EXCEEDS	2010		2020
			1690
			1993
			1931
			Apr 18 1952
			Aug 2 1936
			Sep 20 1933

STREAMS TRIBUTARY TO LAKE MICHIGAN

89

442312087565100 BOWER CREEK RAIN GAGE #2 NEAR DE PERE, WI

LOCATION.--Lat 44°23'12", long 87°56'51", in NE 1/4 SW 1/4 sec.17, T.22 N., R.21 E., Brown County, Hydrologic Unit 04030204, on CTH X, 0.3 mi south of junction with Zion Road, near De Pere.

PERIOD OF RECORD.--January 1991 to April 1995 and March 1996 to June 1997 (non-frozen precipitation) discontinued.

REMARKS.--Gage established on Jan. 29, 1991. Rainfall estimated to be 0.00 for Apr. 12-13 because recorded precipitation interpreted as collector snowmelt. Rainfall data missing for the period Nov. 4 to Mar. 27.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 3.32 in., June 17, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.81 in., Apr. 30.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	---	---	---	.00	.28	.00	---	---	---
2	.00	.00	---	---	---	---	.00	.14	.00	---	---	---
3	.00	.00	---	---	---	---	.00	.05	.00	---	---	---
4	.00	---	---	---	---	---	.07	.00	.00	---	---	---
5	.00	---	---	---	---	---	.09	.10	.08	---	---	---
6	.34	---	---	---	---	---	.02	.00	.03	---	---	---
7	.00	---	---	---	---	---	.00	.32	.99	---	---	---
8	.00	---	---	---	---	---	.00	.10	.00	---	---	---
9	.00	---	---	---	---	---	.00	.00	.00	---	---	---
10	.00	---	---	---	---	---	.00	.00	.00	---	---	---
11	.00	---	---	---	---	---	.00	.00	.29	---	---	---
12	.00	---	---	---	---	---	.00	.03	.02	---	---	---
13	.00	---	---	---	---	---	.00	.00	.00	---	---	---
14	.00	---	---	---	---	---	.00	.19	.00	---	---	---
15	.00	---	---	---	---	---	.00	.09	.34	---	---	---
16	.00	---	---	---	---	---	.00	.10	.00	---	---	---
17	.56	---	---	---	---	---	.00	.00	.00	---	---	---
18	.00	---	---	---	---	---	.00	.01	.00	---	---	---
19	.00	---	---	---	---	---	.00	.01	.02	---	---	---
20	.00	---	---	---	---	---	.00	.00	1.28	---	---	---
21	.00	---	---	---	---	---	.00	.00	.72	---	---	---
22	.34	---	---	---	---	---	.00	.00	.00	---	---	---
23	.35	---	---	---	---	---	.00	.00	.18	---	---	---
24	.05	---	---	---	---	---	.00	.30	.08	---	---	---
25	.00	---	---	---	---	---	.00	.00	.00	---	---	---
26	.00	---	---	---	---	---	.00	.00	.00	---	---	---
27	.00	---	---	---	---	---	.00	.00	.00	---	---	---
28	.00	---	---	---	---	.20	.00	.00	.00	---	---	---
29	.44	---	---	---	---	.02	.00	.24	1.07	---	---	---
30	.00	---	---	---	---	.00	1.81	.01	1.48	---	---	---
31	.00	---	---	---	---	.00	---	.00	---	---	---	---
TOTAL	2.08	---	---	---	---	---	1.99	1.97	6.58	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN
442230087584500 BOWER CREEK RAIN GAGE #1 NEAR DE PERE, WI

LOCATION.--Lat 44°22'30", long 87°58'45", in SE 1/4 SE 1/4 sec.9, T.22 N., R.21 E., Brown County, Hydrologic Unit 04030204, on CTH G, just west of the junction with Langers Corner Road, near De Pere.

PERIOD OF RECORD.--January 1991 to April 1995 and April 1996 to June 1997 (non-frozen precipitation) discontinued.

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established on Jan. 29, 1991. Rainfall estimated to be 0.00 for Dec. 6, 12, 13, Jan. 1, 2, 16, Feb. 4, 6, 26, 28, Mar. 5, 14, 17, 21, 25, and Apr. 12 because recorded precipitation interpreted as collector snowmelt.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 3.25 in., June 17, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.55 in., Apr. 30.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.08	.00	.19	.00	---	---	---
2	.00	.00	.00	.00	.00	.00	.00	.15	.00	---	---	---
3	.00	.00	.00	.00	.00	.00	.00	.07	.00	---	---	---
4	.00	.00	.00	.90	.00	.00	.08	.00	.00	---	---	---
5	.00	.00	.00	.00	.00	.00	.17	.11	.09	---	---	---
6	.28	.00	.00	.00	.00	.00	.04	.00	.03	---	---	---
7	.00	.00	.00	.00	.00	.00	.00	.34	1.09	---	---	---
8	.00	.00	.00	.00	.00	.00	.00	.16	.00	---	---	---
9	.01	.00	.00	.00	.00	.24	.00	.00	.00	---	---	---
10	.03	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
11	.00	.00	.00	.00	.00	.09	.00	.00	.68	---	---	---
12	.00	.00	.00	.00	.00	.00	.00	.03	.01	---	---	---
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
14	.00	.00	.00	.00	.00	.00	.00	.19	.00	---	---	---
15	.00	.00	.39	.00	.00	.00	.00	.08	.40	---	---	---
16	.00	.00	.00	.00	.00	.00	.00	.13	.00	---	---	---
17	.68	.09	.00	.00	.00	.00	.00	.00	.00	---	---	---
18	.00	.00	.00	.00	.00	.00	.00	.03	.00	---	---	---
19	.00	.00	.00	.00	.00	.00	.00	.00	.04	---	---	---
20	.00	.00	.00	.00	.34	.00	.00	.00	1.39	---	---	---
21	.00	.00	.00	.04	.07	.00	.00	.00	.80	---	---	---
22	.42	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
23	.40	.00	.00	.00	.00	.00	.01	.00	.18	---	---	---
24	.04	.00	.00	.00	.00	.00	.00	.29	.10	---	---	---
25	.01	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
28	.00	.00	.00	.00	.00	.20	.00	.00	.00	---	---	---
29	1.27	.36	.00	.00	---	.04	.00	.22	1.08	---	---	---
30	.13	.09	.00	.00	---	.00	1.55	.01	1.38	---	---	---
31	.00	---	.00	.00	---	.00	---	.00	---	---	---	---
TOTAL	3.27	0.54	0.39	0.94	0.41	0.65	1.85	2.00	7.27	---	---	---

04085119 BOWER CREEK, AT COUNTY MM, NEAR DE PERE, WI

LOCATION.--Lat 44°25'21", long 87°56'24", in NE 1/4 SW 1/4 sec.34, T.23 N., R.21 E., Brown County, Hydrologic Unit 04030204, on right bank upstream from bridge on Highway MM, 1.1 mi east from intersection of Highways G and MM, and 6.2 mi southeast of post office in De Pere.

DRAINAGE AREA.--14.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1990 to March 1995, April 1996 to June 1997 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 790 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: May 2-3 and ice-affected period, Dec. 23 to Mar. 29. Records are fair (see page 11). Gage-height telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 23, 1990, maximum discharge, 4,020 ft³/s, gage height, 14.11 ft, estimated from floodmarks, based on step-backwater model.

DISCHARGE, CUBIC FEET PER SECOND, OCTOBER 1996 TO JUNE 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	1.5	.63	.00	.80	15	36	53	.45	---	---	---
2	.00	.65	.72	.00	.74	80	40	20	.45	---	---	---
3	.00	.31	.64	.00	.70	60	33	14	.43	---	---	---
4	.00	.15	.35	.20	.66	44	27	8.0	.30	---	---	---
5	.00	.08	.30	3.5	.62	17	22	4.3	.23	---	---	---
6	.00	.07	.28	1.5	.58	9.0	22	3.1	.24	---	---	---
7	.00	.05	.14	.70	.56	4.0	9.0	2.1	1.1	---	---	---
8	.00	.05	.06	.35	.54	3.0	5.1	3.5	2.8	---	---	---
9	.00	.08	.08	.20	.52	2.6	2.9	4.5	1.8	---	---	---
10	.00	.08	.09	.13	.50	2.5	2.0	2.9	1.1	---	---	---
11	.00	.06	.07	.08	.49	16	2.0	2.0	.82	---	---	---
12	.00	.06	.05	.05	.45	28	1.9	1.5	3.7	---	---	---
13	.00	.08	.02	.03	.39	21	1.8	1.4	1.6	---	---	---
14	.00	.07	.00	.02	.35	15	1.9	1.4	.89	---	---	---
15	.00	.02	.86	.00	.32	12	1.9	1.3	.68	---	---	---
16	.00	.00	4.9	.00	.31	11	1.9	1.2	.61	---	---	---
17	.00	.00	2.0	.00	.29	10	1.6	1.3	.62	---	---	---
18	.00	.00	.80	.00	10	9.7	1.4	1.3	.53	---	---	---
19	.00	.00	.65	.00	110	9.5	1.2	1.3	.45	---	---	---
20	.00	.00	.35	.00	60	9.0	1.1	1.3	65	---	---	---
21	.00	.00	.15	.00	42	35	1.1	1.1	81	---	---	---
22	.00	.00	.11	18	35	95	.85	.75	39	---	---	---
23	.00	.00	.09	10	30	92	.83	.67	18	---	---	---
24	.00	.00	.07	7.0	14	58	.83	.62	6.4	---	---	---
25	.00	.00	.04	5.0	6.0	23	.77	.61	3.5	---	---	---
26	.00	.00	.02	3.4	4.8	40	.64	.59	2.2	---	---	---
27	.00	.02	.00	2.3	4.4	210	.63	.59	1.6	---	---	---
28	.00	.02	.00	1.7	7.0	150	.62	.48	1.5	---	---	---
29	.21	.09	.00	1.3	---	60	.63	.46	12	---	---	---
30	.82	.88	.00	1.0	---	53	1.0	.45	297	---	---	---
31	2.3	---	.00	.90	---	35	---	.45	---	---	---	---
TOTAL	3.33	4.32	13.47	57.36	332.02	1229.3	223.60	136.17	546.00	---	---	---
MEAN	.11	.14	.43	1.85	11.9	39.7	7.45	4.39	18.2	---	---	---
MAX	2.3	1.5	4.9	18	110	210	40	53	297	---	---	---
MIN	.00	.00	.00	.00	.29	2.5	.62	.45	.23	---	---	---
CFSM	.01	.01	.03	.13	.80	2.68	.50	.30	1.23	---	---	---
IN.	.01	.01	.03	.14	.83	3.09	.56	.34	1.37	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1997, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997
MEAN	1.13	6.66	5.52	1.75	6.46	24.9	26.7
MAX	3.16	27.4	20.4	4.31	11.9	41.1	54.3
(WY)	1991	1993	1993	1992	1997	1991	1993
MIN	.044	.058	.073	.000	.086	11.4	7.45
(WY)	1995	1995	1995	1994	1995	1994	1997

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR
(APRIL - DECEMBER)FOR 1997 WATER YEAR
(OCTOBER - JUNE)

WATER YEARS 1991 - 1997

ANNUAL MEAN			9.06
HIGHEST ANNUAL MEAN			18.5
LOWEST ANNUAL MEAN			4.56
HIGHEST DAILY MEAN	400	Jun 17	525
LOWEST DAILY MEAN	.00	Many days	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Many days	.00
INSTANTANEOUS PEAK FLOW			1540
INSTANTANEOUS PEAK STAGE			10.79
INSTANTANEOUS LOW FLOW			.00
ANNUAL RUNOFF (CFSM)			.61
ANNUAL RUNOFF (INCHES)			8.32
10 PERCENT EXCEEDS	20		18
50 PERCENT EXCEEDS	.09		.64
90 PERCENT EXCEEDS	.00		.00

STREAMS TRIBUTARY TO LAKE MICHIGAN
04085119 BOWER CREEK, AT HIGHWAY MM, NEAR DE PERE, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1990 to May 1995, April 1996 to June 1997 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1990 to May 1995, April 1996 to June 1997.

DISSOLVED OXYGEN: April to June 1991.

SUSPENDED-SOLIDS DISCHARGE: October 1990 to January 1995, April 1996 to June 1997.

TOTAL-PHOSPHORUS DISCHARGE: October 1990 to January 1995, April 1996 to June 1997.

INSTRUMENTATION.--Stage-activated water-quality sampler since October 1990. Continuous water-temperature recorder since October 1990. Dissolved-oxygen recorder during open-water periods from April to June 1991.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum observed, 30.0°C, June 19, 1991; minimum observed, 0.0°C, many days during winter periods.

SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 3,000 tons, June 18, 1993; minimum daily, 0.0 ton, many days.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 6,400 lb, June 18, 1993; minimum daily, 0.0 lb, many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 27.5°C, June 28; minimum observed, 0.0°C, many days.

SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 286 tons, June 30; minimum daily, 0.0 ton, many days.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 1,510 lb, June 30; minimum daily, 0.0 lb, many days.

WATER-QUALITY DATA, OCTOBER 1996 TO JUNE 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 DEG. C, UM-MF (COLS./ 100 ML) (31625)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT 1996									
*31...	0730	--	2.7	--	--	--	14	0.041	0.582
DEC									
*11...	1542	--	0.09	--	3.2	<10	<5	0.023	0.308
16...	1535	--	5.0	--	--	--	11	0.129	0.340
17...	0035	--	3.1	--	--	--	8	0.150	0.350
17...	0935	--	2.1	--	--	--	5	0.171	0.383
*18...	1024	--	0.80	--	3.1	950	<5	0.219	0.456
JAN 1997									
05...	0335	3.5	--	--	--	--	5	0.235	0.177
05...	0455	3.5	--	--	5.2	--	22	0.388	0.389
05...	1355	3.5	--	--	13	--	21	0.983	0.749
06...	2215	1.5	--	--	7.1	--	7	0.519	0.580
22...	0945	18	--	--	--	--	7	0.490	0.491
22...	1335	18	--	--	9.4	350	17	0.790	0.402
22...	1535	18	--	--	8.2	1600	29	0.591	0.479
22...	2050	18	--	--	8.4	2300	19	0.717	0.566
22...	2350	18	--	--	9.9	3500	18	0.830	0.608
*23...	1432	10	--	--	8.3	1700	17	0.774	0.560
FEB									
*11...	1548	0.49	--	--	--	<10	--	0.125	0.168
18...	1945	10	--	--	--	--	80	0.479	0.402
18...	2005	10	--	--	--	--	75	0.571	0.417
18...	2100	10	--	--	--	--	52	0.646	0.387
18...	2240	10	--	--	--	--	51	0.550	0.387
18...	2355	10	--	--	7.7	--	48	0.625	0.473
19...	0555	110	--	--	--	--	30	0.914	0.637
19...	1755	110	--	--	--	--	24	0.809	0.504
20...	0715	60	--	--	8.0	500	16	0.807	0.479
MAR									
*04...	1004	44	--	7.5	3.2	80	7	0.708	0.367
12...	0340	28	--	--	--	--	14	0.669	0.432
22...	0035	95	--	--	--	--	20	0.512	0.309
22...	0515	95	--	--	--	--	15	0.641	0.358
22...	0800	95	--	--	--	--	17	0.588	0.350
22...	1015	95	--	--	--	--	19	0.561	0.331
22...	1440	95	--	--	--	--	28	0.617	0.356
23...	0240	92	--	--	--	--	15	0.615	0.395
23...	1140	92	--	--	--	--	12	0.601	0.403
24...	1302	58	--	7.6	2.3	90	<5	0.707	0.376
*24...	1303	58	--	7.6	2.2	160	7	0.676	0.361
26...	1035	40	--	7.8	1.6	120	15	0.590	0.338
26...	1445	40	--	7.8	2.1	200	39	0.593	0.369
26...	1725	40	--	7.8	3.1	320	158	0.536	0.530
26...	2110	40	--	7.8	3.7	330	158	0.532	0.636
26...	2215	40	--	7.7	3.7	600	152	0.538	0.656
26...	2315	40	--	7.8	3.8	200	152	0.563	0.622

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

93

04085119 BOWER CREEK, AT HIGHWAY MM, NEAR DE PERE, WI--CONTINUED

WATER-QUALITY DATA, OCTOBER 1996 TO JUNE 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
MAR 1997									
27...	0515	210	--	7.7	3.5	700	60	0.642	0.599
27...	1115	210	--	7.6	3.7	900	95	0.601	0.568
27...	1300	210	--	7.7	3.9	600	154	0.604	0.582
27...	1435	210	--	7.8	3.5	600	218	0.577	0.646
27...	1615	210	--	--	5.1	400	372	0.555	0.806
27...	1745	210	--	--	5.1	300	300	0.558	0.773
27...	1915	210	--	7.6	5.2	300	304	0.579	0.803
27...	2015	210	--	--	5.2	300	274	0.611	0.820
27...	2300	210	--	--	4.7	100	214	0.635	0.755
28...	0010	150	--	--	4.4	1000	176	0.636	0.724
28...	0235	150	--	--	4.0	1200	148	0.635	0.652
28...	0615	150	--	--	3.7	600	120	0.630	0.591
28...	1215	150	--	--	3.9	400	138	0.574	0.593
28...	1525	150	--	--	--	--	228	0.589	0.671
28...	1720	150	--	--	--	--	158	0.569	0.682
28...	2320	150	--	--	--	--	170	0.572	0.600
29...	0900	60	--	--	--	--	102	0.587	0.527
APR									
*09...	1158	3.3	--	--	0.8	<10	<5	0.131	0.248
*24...	1042	--	0.83	--	1.5	<10	6	0.057	0.104
30...	2310	--	3.9	--	2.8	110	46	0.110	0.216

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
MAY 1997									
01...	0015	8.8	--	4.9	20000	146	0.467	0.725	--
01...	0200	23	--	7.5	E53000	192	0.594	1.08	--
01...	0335	42	--	8.3	31000	258	0.602	0.930	--
01...	0505	66	--	7.3	28000	256	0.411	0.749	262
01...	0705	79	--	8.4	17000	306	0.479	0.770	305
01...	1305	71	--	6.8	11000	144	0.705	0.729	150
01...	1802	48	--	5.9	E5300	96	0.712	0.716	--
01...	1803	48	--	6.4	12000	100	0.699	0.694	--
02...	0220	24	--	5.7	E4200	80	0.734	0.659	--
02...	0602	19	--	4.0	E5300	44	0.622	0.578	--
*15...	0918	1.3	--	1.7	70	5	0.017	0.133	--
*29...	1108	0.52	--	2.6	40	<5	0.018	0.147	--
JUN									
07...	1400	1.6	--	--	--	13	0.082	0.266	--
07...	2300	2.7	--	--	--	10	0.071	0.259	--
08...	0800	2.9	--	2.1	--	9	0.057	0.259	--
09...	0200	1.9	--	--	--	9	0.067	0.217	--
12...	0455	2.7	--	2.3	380	8	0.145	0.216	--
12...	0938	5.0	--	2.9	3000	24	0.131	0.328	--
*12...	1335	5.6	8.4	--	--	9	0.109	0.318	--
12...	2255	2.3	--	--	--	18	0.124	0.277	--
20...	0355	2.9	--	--	--	21	0.271	0.187	--
20...	0510	7.7	--	--	--	41	0.310	0.225	--
20...	0545	43	--	--	--	108	0.465	0.914	--
20...	0605	77	--	--	--	504	0.251	0.921	--
20...	0755	91	--	--	--	1590	0.196	1.68	1600
20...	0840	107	--	8.0	--	2130	0.212	1.87	2080
20...	1440	104	--	6.6	--	1290	0.156	1.51	1310
20...	1830	63	--	5.8	--	560	0.226	1.17	--
21...	0240	31	--	5.0	--	188	0.223	0.853	--
21...	0930	31	--	8.2	--	164	0.454	1.12	--
21...	1000	41	--	7.9	--	224	0.440	1.10	--
21...	1200	79	--	5.7	--	288	0.320	0.911	--
21...	1410	128	--	5.5	--	484	0.170	0.999	592
21...	1730	145	--	5.0	--	248	0.131	0.766	293
21...	2155	119	--	5.6	--	212	0.167	0.909	--
22...	0300	73	--	4.3	--	112	0.163	0.702	--
22...	1525	25	--	--	--	38	0.145	0.562	--
23...	0025	15	--	6.5	--	48	0.279	0.380	--
23...	0530	24	--	4.8	--	38	0.250	0.345	--
23...	0555	33	--	3.4	--	26	0.111	0.422	--
23...	1235	21	--	2.9	--	17	0.109	0.425	--

* Equal-width increment (EWI) sample
E Estimated

STREAMS TRIBUTARY TO LAKE MICHIGAN
04085119 BOWER CREEK, AT HIGHWAY MM, NEAR DE PERE, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, OCTOBER 1996 TO JUNE 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	16.0	12.5	14.5	2.5	.5	1.5	2.0	1.5	2.0	.5	.0	.5
2	15.0	12.0	14.0	3.5	1.5	2.5	1.5	1.0	1.5	.5	.5	.5
3	12.5	10.0	11.0	4.0	2.5	3.5	1.0	1.0	1.0	.5	.5	.5
4	10.5	9.5	10.0	4.0	3.0	3.5	1.5	1.0	1.0	.5	.5	.5
5	12.5	9.0	10.5	5.5	3.5	4.5	1.5	1.0	1.0	.5	.0	.5
6	16.0	10.5	13.0	8.0	5.0	6.5	1.5	1.0	1.0	.5	.0	.0
7	15.0	10.5	12.0	8.0	5.5	6.5	1.5	1.0	1.0	.5	.0	.0
8	11.0	9.5	10.0	5.5	5.0	5.0	1.5	1.0	1.0	.5	.0	.0
9	10.5	8.5	9.5	5.0	3.0	4.0	1.5	1.0	1.0	.5	.0	.0
10	9.5	8.0	8.5	3.5	3.0	3.0	1.5	1.0	1.0	.5	.0	.0
11	9.0	6.5	8.0	3.5	2.5	3.0	1.5	1.0	1.0	.5	.0	.0
12	11.5	8.0	10.0	4.5	2.0	3.5	1.5	1.0	1.0	.5	.0	.0
13	16.0	10.5	12.5	5.0	3.5	4.0	1.5	1.0	1.0	.5	.0	.0
14	13.5	11.0	12.0	5.0	3.5	4.0	1.5	1.0	1.5	.5	.0	.0
15	13.5	10.0	11.5	4.5	3.0	3.5	1.5	.5	1.5	.0	.0	.0
16	15.5	11.5	13.5	4.0	2.5	3.5	1.0	.0	.5	.0	.0	.0
17	15.0	13.5	14.5	4.0	2.0	3.5	.5	.0	.5	.0	.0	.0
18	13.5	10.0	11.5	2.0	1.0	1.5	.5	.0	.5	.0	.0	.0
19	12.0	8.5	10.0	3.0	1.5	2.5	.5	.0	.5	.0	.0	.0
20	11.5	7.5	9.5	4.0	2.5	3.5	1.0	.5	.5	.0	.0	.0
21	13.0	9.0	10.5	5.0	3.0	4.0	1.0	.5	.5	.0	.0	.0
22	11.5	10.5	11.0	4.5	3.5	4.0	1.0	.5	.5	.5	.0	.0
23	11.0	9.5	10.5	4.0	3.0	3.5	.5	.5	.5	.5	.0	.0
24	10.5	9.0	9.5	3.0	2.5	3.0	.5	.0	.5	.5	.0	.0
25	11.0	8.0	9.5	4.5	2.5	3.0	.5	.0	.5	.0	.0	.0
26	11.0	10.0	10.5	4.5	3.0	3.5	.5	.0	.5	.0	.0	.0
27	13.0	11.0	12.0	4.0	2.5	3.0	.5	.0	.5	.0	.0	.0
28	11.0	9.0	10.0	2.5	2.0	2.5	.5	.0	.5	.0	.0	.0
29	9.0	8.0	8.0	2.5	2.0	2.0	.5	.0	.5	.0	.0	.0
30	8.5	5.0	7.5	2.5	2.0	2.0	.5	.0	.5	.0	.0	.0
31	5.0	1.0	2.0	---	---	---	.5	.0	.0	.0	.0	.0
MONTH	16.0	1.0	10.5	8.0	.5	3.5	2.0	.0	.8	.5	.0	.1
FEBRUARY			MARCH			APRIL			MAY			
1	.0	.0	.0	.0	.0	.0	7.0	1.5	4.0	10.0	3.5	6.5
2	.0	.0	.0	.0	.0	.0	9.5	4.0	7.0	---	---	---
3	.0	.0	.0	.0	.0	.0	11.0	7.5	9.0	---	---	---
4	.5	.0	.0	.0	.0	.0	13.0	8.0	10.5	14.5	7.5	11.0
5	.5	.0	.0	.0	.0	.0	11.0	9.5	10.5	15.0	9.5	12.0
6	.5	.0	.0	.0	.0	.0	10.0	4.0	8.0	15.0	10.5	12.5
7	.0	.0	.0	.0	.0	.0	6.5	.5	3.0	13.0	10.0	11.5
8	.0	.0	.0	.0	.0	.0	4.0	.0	1.5	15.5	10.5	13.0
9	.0	.0	.0	.0	.0	.0	6.5	.0	3.0	12.5	9.5	10.5
10	.0	.0	.0	.0	.0	.0	6.5	2.5	4.0	15.5	8.0	11.5
11	.0	.0	.0	.0	.0	.0	6.5	4.5	5.5	16.0	11.0	13.5
12	.0	.0	.0	.0	.0	.0	5.0	2.0	3.5	13.5	9.0	10.5
13	.0	.0	.0	.0	.0	.0	7.5	1.5	4.5	11.0	8.0	9.0
14	.0	.0	.0	.0	.0	.0	9.0	4.0	6.5	10.0	8.5	9.0
15	.0	.0	.0	.0	.0	.0	11.0	5.5	8.5	10.0	7.5	8.5
16	.0	.0	.0	.0	.0	.0	10.0	5.5	7.5	9.0	7.0	8.0
17	.0	.0	.0	.0	.0	.0	10.0	4.0	7.0	12.5	6.5	9.5
18	.0	.0	.0	.0	.0	.0	8.0	5.5	7.0	11.5	9.5	10.5
19	.0	.0	.0	.0	.0	.0	10.0	6.5	8.0	12.0	10.0	11.0
20	.5	.0	.0	.0	.0	.0	9.0	7.5	8.0	12.5	10.0	11.0
21	.0	.0	.0	.0	.0	.0	11.5	6.0	9.0	16.5	9.5	13.0
22	.0	.0	.0	.0	.0	.0	12.5	7.5	10.0	17.0	12.0	14.5
23	.0	.0	.0	.0	.0	.0	11.5	9.0	10.5	18.5	13.5	16.0
24	.0	.0	.0	.0	.0	.0	14.0	8.5	11.0	16.0	13.5	15.0
25	.0	.0	.0	.0	.0	.0	14.5	10.0	12.5	15.5	12.0	13.5
26	.0	.0	.0	.0	.0	.0	15.0	10.5	12.5	16.0	12.0	14.0
27	.0	.0	.0	.5	.0	.0	13.0	11.5	12.5	17.5	12.5	15.0
28	.0	.0	.0	.5	.0	.5	15.5	10.5	13.0	17.5	14.5	16.0
29	---	---	---	1.5	.5	1.0	17.0	11.5	14.0	15.5	13.5	14.5
30	---	---	---	3.0	.5	1.5	15.0	7.0	12.0	17.0	13.5	15.0
31	---	---	---	4.0	.5	2.0	---	---	---	21.0	13.5	17.0
MONTH	.5	.0	.0	4.0	.0	.2	17.0	.0	8.1	21.0	3.5	12.2

STREAMS TRIBUTARY TO LAKE MICHIGAN
04085119 BOWER CREEK, AT HIGHWAY MM, NEAR DE PERE, WI--CONTINUED

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WATER TEMPERATURE, DEGREES CELSIUS, OCTOBER 1996 TO JUNE 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	22.0	16.0	19.0	---	---	---	---	---	---	---	---	---
2	21.5	17.5	19.5	---	---	---	---	---	---	---	---	---
3	23.0	18.0	20.0	---	---	---	---	---	---	---	---	---
4	23.5	18.0	20.0	---	---	---	---	---	---	---	---	---
5	19.5	18.0	18.5	---	---	---	---	---	---	---	---	---
6	21.0	17.0	18.5	---	---	---	---	---	---	---	---	---
7	19.5	16.5	18.0	---	---	---	---	---	---	---	---	---
8	21.0	15.5	18.0	---	---	---	---	---	---	---	---	---
9	23.0	17.5	20.0	---	---	---	---	---	---	---	---	---
10	24.5	18.5	21.5	---	---	---	---	---	---	---	---	---
11	23.5	19.5	21.0	---	---	---	---	---	---	---	---	---
12	22.5	18.0	20.0	---	---	---	---	---	---	---	---	---
13	22.0	19.0	20.5	---	---	---	---	---	---	---	---	---
14	22.0	17.5	19.5	---	---	---	---	---	---	---	---	---
15	18.5	16.5	17.5	---	---	---	---	---	---	---	---	---
16	20.5	17.5	19.0	---	---	---	---	---	---	---	---	---
17	21.0	16.5	18.5	---	---	---	---	---	---	---	---	---
18	19.5	17.0	18.0	---	---	---	---	---	---	---	---	---
19	20.0	17.0	18.0	---	---	---	---	---	---	---	---	---
20	18.5	16.0	17.0	---	---	---	---	---	---	---	---	---
21	21.0	18.0	19.0	---	---	---	---	---	---	---	---	---
22	23.0	20.0	21.5	---	---	---	---	---	---	---	---	---
23	24.5	20.0	22.0	---	---	---	---	---	---	---	---	---
24	26.0	22.0	24.0	---	---	---	---	---	---	---	---	---
25	26.5	22.5	24.0	---	---	---	---	---	---	---	---	---
26	25.5	21.0	23.0	---	---	---	---	---	---	---	---	---
27	26.0	20.5	23.0	---	---	---	---	---	---	---	---	---
28	27.5	21.0	23.5	---	---	---	---	---	---	---	---	---
29	27.0	20.5	23.0	---	---	---	---	---	---	---	---	---
30	20.5	19.0	20.0	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	27.5	15.5	20.2	---	---	---	---	---	---	---	---	---

SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED(TONS PER DAY), OCTOBER 1996 TO JUNE 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.05	.01	.00	.01	.31	.94	26	.01	---	---	---
2	.00	.02	.01	.00	.01	3.7	1.1	2.0	.01	---	---	---
3	.00	.01	.01	.00	.01	2.4	.84	.55	.01	---	---	---
4	.00	.00	.00	.00	.01	1.5	.65	.18	.00	---	---	---
5	.00	.00	.00	.16	.01	.37	.50	.06	.00	---	---	---
6	.00	.00	.00	.04	.01	.14	.50	.04	.00	---	---	---
7	.00	.00	.00	.01	.01	.04	.16	.03	.03	---	---	---
8	.00	.00	.00	.01	.01	.03	.07	.05	.07	---	---	---
9	.00	.00	.00	.00	.01	.02	.04	.09	.04	---	---	---
10	.00	.00	.00	.00	.01	.02	.03	.04	.02	---	---	---
11	.00	.00	.00	.00	.01	.34	.03	.03	.01	---	---	---
12	.00	.00	.00	.00	.01	.78	.03	.02	.13	---	---	---
13	.00	.00	.00	.00	.01	.51	.03	.02	.05	---	---	---
14	.00	.00	.00	.00	.00	.31	.03	.02	.01	---	---	---
15	.00	.00	.02	.00	.00	.31	.03	.02	.01	---	---	---
16	.00	.00	.13	.00	.00	.26	.03	.02	.01	---	---	---
17	.00	.00	.03	.00	.00	.21	.02	.02	.01	---	---	---
18	.00	.00	.01	.00	.75	.18	.02	.02	.01	---	---	---
19	.00	.00	.01	.00	8.5	.16	.02	.02	.01	---	---	---
20	.00	.00	.00	.00	2.5	.14	.02	.02	209	---	---	---
21	.00	.00	.00	.00	1.4	.83	.02	.02	59	---	---	---
22	.00	.00	.00	.67	.88	5.4	.01	.01	9.1	---	---	---
23	.00	.00	.00	.46	.59	3.0	.01	.01	1.1	---	---	---
24	.00	.00	.00	.25	.22	1.0	.01	.01	.13	---	---	---
25	.00	.00	.00	.14	.08	.33	.01	.01	.05	---	---	---
26	.00	.00	.00	.07	.06	6.6	.01	.01	.03	---	---	---
27	.00	.00	.00	.04	.06	97	.01	.01	.02	---	---	---
28	.00	.00	.00	.02	.10	63	.01	.01	.02	---	---	---
29	.01	.00	.00	.02	---	17	.01	.01	1.4	---	---	---
30	.03	.01	.00	.01	---	1.5	.06	.01	286	---	---	---
31	.09	---	.00	.01	---	.90	---	.01	---	---	---	---
TOTAL	0.13	0.09	0.23	1.91	15.27	208.29	5.25	29.37	566.29	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN
04085119 BOWER CREEK, AT HIGHWAY MM, NEAR DE PERE, WI--CONTINUED

PHOSPHORUS TOTAL, POUNDS PER DAY, OCTOBER 1996 TO JUNE 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	4.6	1.0	.00	.73	22	61	217	.36	---	---	---
2	.00	2.0	1.2	.00	.67	154	71	47	.36	---	---	---
3	.00	.89	1.1	.00	.64	110	54	19	.34	---	---	---
4	.00	.42	.58	.18	.60	77	41	7.9	.24	---	---	---
5	.00	.23	.50	11	.56	26	31	3.1	.18	---	---	---
6	.00	.18	.47	5.1	.53	12	31	2.2	.19	---	---	---
7	.00	.14	.23	1.9	.51	4.8	9.1	1.5	1.5	---	---	---
8	.00	.13	.10	.69	.49	3.5	4.2	2.6	3.8	---	---	---
9	.00	.19	.13	.29	.47	3.0	3.9	3.9	1.9	---	---	---
10	.00	.20	.14	.14	.45	2.8	2.6	2.1	.99	---	---	---
11	.00	.14	.12	.07	.44	24	2.3	1.4	.65	---	---	---
12	.00	.15	.08	.05	.41	46	2.2	1.1	5.7	---	---	---
13	.00	.18	.03	.03	.35	33	2.0	1.0	1.9	---	---	---
14	.00	.15	.01	.02	.32	22	1.9	1.0	.72	---	---	---
15	.00	.05	1.5	.00	.29	17	1.8	.94	.54	---	---	---
16	.00	.00	9.0	.00	.28	17	1.7	.90	.48	---	---	---
17	.00	.00	4.1	.00	.26	14	1.3	.95	.49	---	---	---
18	.00	.00	1.9	.00	14	12	1.1	.97	.42	---	---	---
19	.00	.00	1.3	.00	326	11	.93	.97	.36	---	---	---
20	.00	.00	.61	.00	148	9.0	.77	.94	504	---	---	---
21	.00	.00	.24	.00	84	38	.72	.84	386	---	---	---
22	.00	.00	.17	41	56	181	.54	.57	137	---	---	---
23	.00	.00	.13	30	38	197	.50	.51	37	---	---	---
24	.00	.00	.10	17	14	109	.47	.48	7.0	---	---	---
25	.00	.00	.05	9.1	5.4	23	.43	.47	2.8	---	---	---
26	.00	.00	.03	4.7	4.4	77	.36	.46	1.7	---	---	---
27	.00	.04	.00	2.4	4.0	755	.35	.46	1.3	---	---	---
28	.00	.04	.00	1.5	9.2	512	.35	.38	1.2	---	---	---
29	.69	.15	.00	1.2	---	173	.35	.37	34	---	---	---
30	2.6	1.5	.00	.91	---	104	.93	.36	1510	---	---	---
31	7.3	---	.00	.82	---	59	---	.36	---	---	---	---
TOTAL	10.59	11.38	24.82	128.10	711.00	2848.1	329.80	321.73	2643.12	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN
04085119 BOWER CREEK, AT HIGHWAY MM, NEAR DE PERE, WI--CONTINUED

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PRECIPITATION QUANTITY

PERIOD OF RECORD.--October 1990 to April 1995 and March 1996 to June 1997 (non-frozen precipitation), discontinued.

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established on Oct. 1, 1990. Rainfall estimated to be 0.00 for Dec. 5-6, 12, 28, Jan. 1, 24, 27, Feb. 4, Mar. 10, 13, 14, 25, and Apr. 12 because recorded precipitation interpreted as collector snowmelt. Rainfall missing for the period May 2-3.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.97 in., June 17, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.26 in., Oct. 29.

RAINFALL ACCUMULATED (INCHES), OCTOBER 1996 TO JUNE 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.06	.00	.12	.00	---	---	---
2	.00	.00	.00	.00	.00	.00	.00	---	.00	---	---	---
3	.00	.00	.00	.00	.00	.00	.00	---	.00	---	---	---
4	.00	.00	.00	.64	.00	.00	.16	.00	.00	---	---	---
5	.00	.00	.00	.07	.00	.00	.09	.05	.04	---	---	---
6	.23	.00	.00	.00	.00	.00	.01	.00	.02	---	---	---
7	.00	.00	.00	.00	.00	.00	.00	.30	1.02	---	---	---
8	.00	.00	.00	.00	.00	.00	.00	.10	.00	---	---	---
9	.01	.00	.00	.00	.00	.13	.00	.00	.00	---	---	---
10	.01	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
11	.00	.00	.00	.00	.00	.00	.00	.00	.22	---	---	---
12	.00	.00	.00	.00	.00	.00	.00	.01	.00	---	---	---
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
14	.00	.00	.00	.00	.00	.00	.00	.09	.00	---	---	---
15	.00	.00	.32	.00	.00	.00	.00	.04	.32	---	---	---
16	.00	.00	.00	.00	.00	.00	.00	.12	.01	---	---	---
17	.78	.07	.00	.00	.00	.00	.00	.00	.00	---	---	---
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
19	.00	.00	.00	.00	.00	.00	.00	.00	.19	---	---	---
20	.00	.00	.00	.00	.30	.00	.00	.00	1.22	---	---	---
21	.00	.00	.00	.02	.05	.00	.00	.00	1.03	---	---	---
22	.37	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
23	.40	.00	.00	.00	.00	.00	.00	.00	.38	---	---	---
24	.02	.00	.00	.00	.00	.14	.00	.22	.09	---	---	---
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
28	.00	.00	.00	.00	.00	.11	.00	.00	.00	---	---	---
29	1.26	.22	.00	.00	---	.00	.00	.22	1.08	---	---	---
30	.11	.06	.00	.00	---	.00	1.09	.01	1.12	---	---	---
31	.05	---	.00	.00	---	.00	---	.00	---	---	---	---
TOTAL	3.24	0.35	0.32	0.73	0.35	0.44	1.35	---	6.74	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN
040851385 FOX RIVER, AT OIL TANK DEPOT, AT GREEN BAY, WI

LOCATION.--Lat 44°31'43", long 88°01'12" in section 25, T.24 N., R.20 E., Brown County, Hydrologic Unit 04030204, about 0.5 mi upstream of Interstate Highway 43 bridge in Green Bay, and 0.8 mi upstream from mouth.

DRAINAGE AREA.--6,330 mi².

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Acoustical Velocity Meter (AVM) system. Two-path transducer installation.

REMARKS.--Estimated daily discharges: July 12 and Aug. 25. Records good (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1710	4350	3680	3890	4560	6270	10400	3230	3730	8980	4380	4190
2	1300	5590	3590	3700	4480	7460	10600	3960	3000	7500	3240	1460
3	2130	5350	3000	2820	4070	6890	11000	3240	6140	6580	3360	3100
4	1160	4800	3670	2960	4820	7390	10300	3260	5230	4660	2060	3780
5	1660	5210	3380	4350	5760	7080	10000	3660	3880	6130	3330	2850
6	1380	5420	3960	4450	5190	7300	11400	2960	4370	5570	3330	1330
7	1050	5330	3690	3360	5920	6410	11000	6000	4490	5430	3420	363
8	1300	5220	3330	3190	5860	5760	10800	7620	5300	4280	4110	1430
9	344	5220	3390	3560	6070	6560	11400	7260	5540	2430	3070	1690
10	1870	5010	2330	3640	5670	6640	11200	7120	6910	3000	2930	504
11	1510	5090	3310	3860	5810	5930	11200	7580	7140	5490	2760	-12
12	1790	4880	4490	3300	6070	6440	11100	8090	6570	5410	2400	1870
13	1140	4940	3530	3430	5210	6250	11600	8040	5020	5050	1070	2530
14	797	4580	3230	3190	5490	6700	11600	10000	5320	5310	1890	2910
15	941	5010	3550	3840	5200	6500	11800	9050	4370	5410	2120	1750
16	1130	5610	3980	4970	4500	6150	11700	6900	5340	5930	896	1630
17	3100	5020	4110	3870	4470	6530	10600	4540	1910	5840	115	2450
18	3950	4610	4270	3940	5040	5850	9970	4400	2690	4800	1360	1720
19	2310	4700	4280	4720	4830	6360	9860	4970	1570	3690	1560	1060
20	2200	4900	3660	4420	3660	6420	9780	4940	4200	3820	2060	2110
21	2110	4810	3350	4000	5230	6640	8880	2390	6540	2160	1940	1940
22	1890	4950	2730	5170	3920	6930	6360	3390	7150	3440	220	2220
23	3900	4170	3210	4760	4670	7520	5790	3410	7050	3400	3270	1660
24	3620	4650	4100	4760	4130	6650	2830	1950	9020	3080	2960	2930
25	3390	4850	3660	4840	5220	8590	2830	50	11000	4650	2960	2200
26	3910	4120	3260	4110	5170	8230	3350	1790	9710	4130	3360	1760
27	4130	3320	3040	4750	5920	10600	3380	259	9750	4090	3460	2220
28	3980	3320	3110	4640	5250	14800	3590	-539	9220	2910	2380	2420
29	3800	3060	3330	3750	---	14200	3400	2230	9030	3520	2650	2010
30	6080	3780	3550	4190	---	11500	1060	3180	10400	3530	3930	933
31	4660	---	3060	4000	---	10200	---	3330	---	4690	3850	---
TOTAL	74242	141870	108830	124430	142190	236750	258780	138260	181590	144910	80441	59008
MEAN	2395	4729	3511	4014	5078	7637	8626	4460	6053	4675	2595	1967
MAX	6080	5610	4490	5170	6070	14800	11800	10000	11000	8980	4380	4190
MIN	344	3060	2330	2820	3660	5760	1060	-539	1570	2160	115	-12
CFSM	.38	.75	.55	.63	.80	1.21	1.36	.70	.96	.74	.41	.31
IN.	.44	.83	.64	.73	.84	1.39	1.52	.81	1.07	.85	.47	.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1997, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	3912	5600	4891	4143	3955	6225	7431	6893	7231
MAX	8504	8668	9446	6092	5814	7827	13660	13220	14780
(WY)	1996	1993	1993	1993	1996	1994	1993	1993	1993
MIN	1699	3069	2977	2768	2070	3320	3010	3667	2484
(WY)	1990	1990	1990	1990	1995	1995	1990	1989	1994

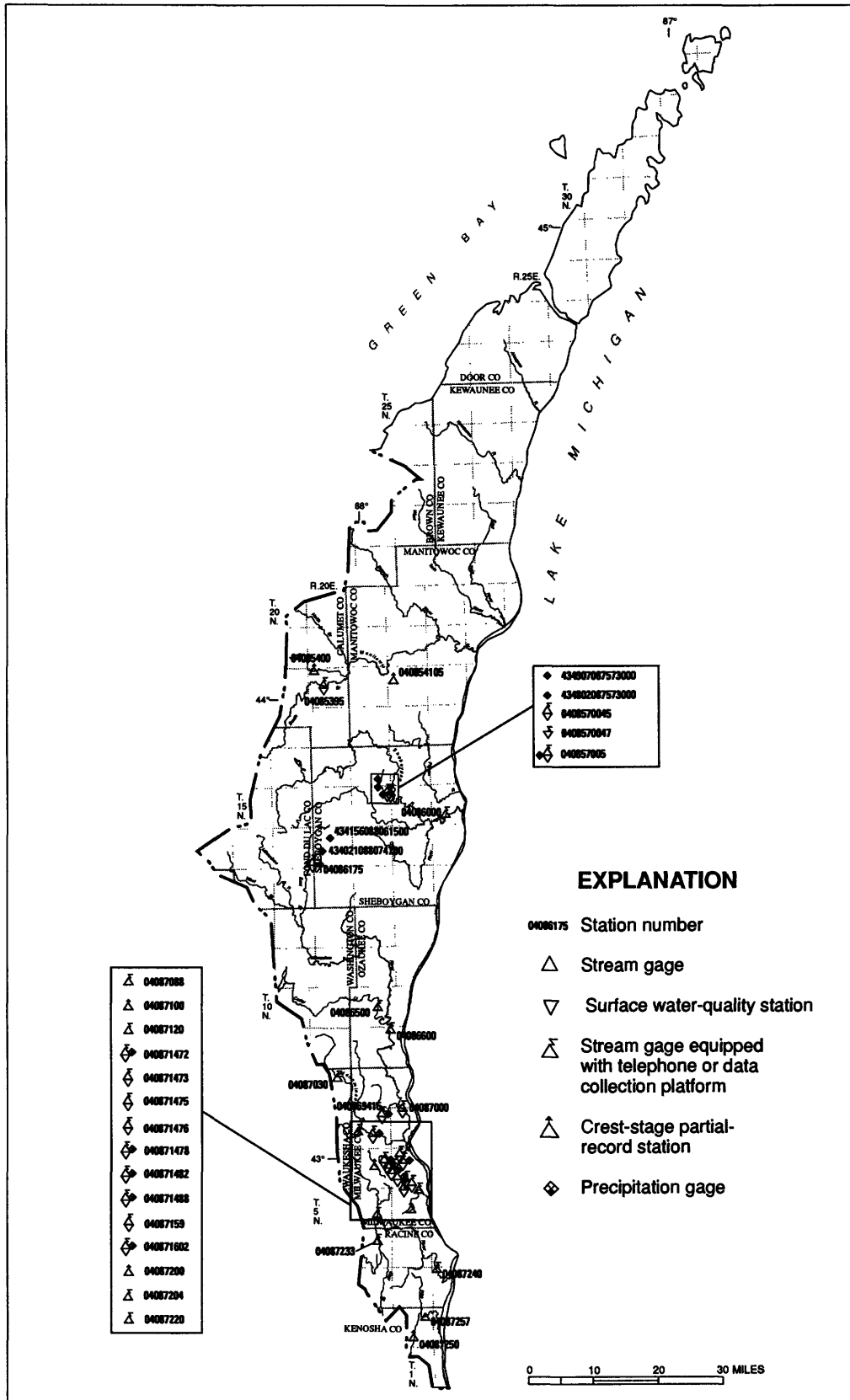
SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1989 - 1997

ANNUAL TOTAL	2092183	1691301	
ANNUAL MEAN	5716	4634	
HIGHEST ANNUAL MEAN			5252
LOWEST ANNUAL MEAN			9102
HIGHEST DAILY MEAN	16700	14800	3851
LOWEST DAILY MEAN	34	-539	3851
ANNUAL SEVEN-DAY MINIMUM	1110	1030	33800
ANNUAL RUNOFF (CFSM)	.90	.73	3260
ANNUAL RUNOFF (INCHES)	12.30	9.94	598
10 PERCENT EXCEEDS	11700	8710	9910
50 PERCENT EXCEEDS	4870	4110	4230
90 PERCENT EXCEEDS	1890	1740	2050



LAKE MICHIGAN BASIN

STREAMS TRIBUTARY TO LAKE MICHIGAN

04085395 SOUTH BRANCH MANITOWOC RIVER AT HAYTON, WI

LOCATION.--Lat 44°01'29", long 88°07'05", in SW 1/4 SW 1/4 sec.16, T.18 N., R.20 E., Calumet County, Hydrologic Unit 04030101, on left bank 100 ft downstream from Weeks Road bridge, at Hayton.

DRAINAGE AREA.--109 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 808 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 19 to Dec. 12 and Dec. 17 to Mar. 20. Records fair except those for ice-affected periods, which are poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	31	20	10	18	100	268	80	35	131	18	19
2	10	26	19	10	19	120	233	92	29	130	17	18
3	9.5	23	17	12	20	150	209	94	25	118	16	16
4	7.3	21	16	32	20	140	191	91	22	101	16	16
5	7.2	20	14	60	20	130	180	83	16	83	15	16
6	6.9	20	15	56	19	120	170	75	23	68	16	15
7	6.2	21	14	44	18	110	149	62	40	55	15	14
8	7.2	20	13	30	17	110	133	69	47	67	14	13
9	7.6	19	14	25	17	120	118	66	34	66	13	14
10	8.6	18	14	23	17	120	108	60	26	52	17	13
11	9.4	17	15	20	17	140	100	52	22	40	16	13
12	9.4	16	15	17	16	150	95	47	23	32	27	12
13	8.4	15	16	15	15	130	92	46	30	28	29	10
14	8.8	14	16	13	14	120	97	43	30	28	23	10
15	9.3	14	26	13	13	140	100	43	23	25	31	10
16	9.6	14	33	12	12	130	95	44	34	25	32	12
17	16	16	27	12	12	120	87	44	38	29	32	24
18	13	17	21	12	35	110	82	43	32	28	30	17
19	12	14	18	13	84	100	78	42	23	25	26	21
20	12	14	14	13	250	100	75	42	37	22	33	28
21	12	13	12	18	220	171	69	41	126	22	37	29
22	12	12	11	26	190	288	66	38	174	22	31	22
23	22	12	11	30	160	295	63	36	167	26	25	19
24	20	12	13	28	140	267	60	37	146	27	31	17
25	18	11	14	20	120	291	60	53	122	27	28	16
26	17	11	14	19	110	301	57	50	101	26	25	15
27	16	11	13	18	100	333	55	42	94	27	22	13
28	14	10	13	17	90	373	51	38	95	28	19	18
29	21	11	12	17	---	395	50	37	99	21	19	18
30	44	18	11	17	---	369	50	39	117	19	20	12
31	43	---	11	18	---	319	---	38	---	18	21	---
TOTAL	426.3	491	492	670	1783	5862	3241	1667	1830	1416	714	490
MEAN	13.8	16.4	15.9	21.6	63.7	189	108	53.8	61.0	45.7	23.0	16.3
MAX	44	31	33	60	250	395	268	94	174	131	37	29
MIN	6.2	10	11	10	12	100	50	36	16	18	13	10
CFSM	.13	.15	.15	.20	.58	1.73	.99	.49	.56	.42	.21	.15
IN.	.15	.17	.17	.23	.61	2.00	1.11	.57	.62	.48	.24	.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1997, BY WATER YEAR (WY)												
MEAN	17.0	27.2	15.9	13.2	38.9	102	84.3	47.4	63.8	70.7	19.9	15.1
MAX	29.3	47.5	24.0	21.6	63.7	189	112	63.8	170	232	30.4	35.3
(WY)	1994	1996	1994	1997	1997	1997	1996	1996	1996	1993	1993	1993
MIN	7.17	10.9	8.74	6.21	6.42	58.2	48.2	30.1	12.1	2.46	8.48	4.91
(WY)	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1994

SUMMARY STATISTICS				FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1993 - 1997	
ANNUAL TOTAL				19022.3		19082.3			
ANNUAL MEAN				52.0		52.3		38.9	
HIGHEST ANNUAL MEAN								54.8	1996
LOWEST ANNUAL MEAN								17.3	1995
HIGHEST DAILY MEAN				537	Jun 18	395	Mar 29	640	Jul 6 1993
LOWEST DAILY MEAN				(a) 6.0	Feb 3, 4	6.2	Oct 7	.92	Jul 31 1995
ANNUAL SEVEN-DAY MINIMUM				(a) 6.6	Jan 30	7.3	Oct 4	1.5	Jul 26 1995
INSTANTANEOUS PEAK FLOW						397	Mar 29	866	Jul 5 1993
INSTANTANEOUS PEAK STAGE						5.32	Mar 29	6.76	Jul 5 1993
INSTANTANEOUS LOW FLOW						(b) 3.8	Nov 11	.89	(c) Jul 30 1995
ANNUAL RUNOFF (CFSM)				.48		.48		.36	
ANNUAL RUNOFF (INCHES)				6.49		6.51		4.85	
10 PERCENT EXCEEDS				107		130		100	
50 PERCENT EXCEEDS				28		25		22	
90 PERCENT EXCEEDS				9.0		12		6.5	

(a) Ice affected

(b) Result of freezeup

(c) Also occurred July 31 to Aug. 1, 1995

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1993 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 1994 to current year.

SUSPENDED-SOLIDS DISCHARGE: June 1993 to May 15, 1996.

INSTRUMENTATION.--Stage-activated water-quality sampler since June 16, 1993. Continuous water-temperature recorder since July 7, 1994.

REMARKS.--Chemical analyses by the Wisconsin State Laboratory of Hygiene and National Water-Quality Laboratory. Samples are point samples unless otherwise indicated. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum observed, 33.5°C, July 14, 1995; minimum observed, 0.0°C, on many days during 1995, 1996 and 1997 water years.

SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 26 tons, Mar. 12, 1995; minimum daily, 0.08 ton, on many days during 1994 and 1995 water years.

SUSPENDED-SOLIDS CONCENTRATIONS: Maximum observed, 466 mg/L, July 25, 1994; minimum observed, 3 mg/L, numerous days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 29.5°C, July 16; minimum observed, 0.0°C, on many day.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	RESIDUE TOTAL AT 105 DEG. C., SUS- PENDED (MG/L.) (00530)
MAR 1997			
01...	1444	134	23
01...	1614	187	36
01...	1714	216	53
09...	1359	132	10
10...	1744	179	13
19...	1310	112	8
*19...	1311	112	<5

* Equal-width increment (EWI) sample

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	18.5	14.5	16.5	2.5	.5	1.5	1.5	1.0	1.0	.5	.5	.5
2	16.5	13.0	15.0	2.0	.5	1.5	1.5	.5	1.0	.5	.5	.5
3	14.5	11.0	12.5	3.5	1.0	2.5	1.5	.5	1.0	1.0	.5	.5
4	12.0	10.0	11.0	3.5	2.5	3.0	1.5	.5	1.0	.5	.5	.5
5	13.5	10.0	11.5	5.5	3.5	4.5	1.5	1.0	1.0	.5	.0	.0
6	16.0	11.5	14.0	8.5	5.5	6.5	1.5	1.0	1.0	.0	.0	.0
7	15.5	11.5	13.5	8.0	5.5	7.0	1.5	1.0	1.0	.5	.0	.0
8	12.0	9.5	10.5	5.5	4.5	5.0	1.0	.5	1.0	.5	.0	.0
9	10.5	9.5	10.0	4.5	2.5	3.5	1.0	.5	1.0	.5	.0	.0
10	10.0	8.5	9.5	2.5	.5	1.5	1.5	.5	1.0	.5	.0	.0
11	10.5	7.0	9.0	1.0	.5	1.0	1.5	1.0	1.0	.0	.0	.0
12	13.0	9.0	11.0	2.0	.5	1.5	1.5	1.0	1.5	.0	.0	.0
13	15.5	11.0	13.5	3.0	1.5	2.5	2.0	1.0	1.5	.0	.0	.0
14	14.0	12.5	13.5	3.5	2.5	3.0	2.0	1.0	1.5	.0	.0	.0
15	14.5	11.5	13.0	3.0	2.5	3.0	2.0	1.5	1.5	.0	.0	.0
16	17.0	12.5	15.0	3.5	2.5	3.0	2.0	.5	1.5	.0	.0	.0
17	16.5	13.5	15.5	3.0	1.0	2.0	1.0	.5	.5	.0	.0	.0
18	13.5	10.5	12.0	1.0	.0	.5	.5	.5	.5	.0	.0	.0
19	12.0	8.5	10.0	1.5	.5	1.0	.5	.0	.5	.0	.0	.0
20	11.0	8.5	10.0	2.0	1.0	1.5	.5	.0	.5	.5	.0	.0
21	12.5	10.0	11.0	2.5	1.5	2.0	1.0	.0	.5	.5	.0	.5
22	12.0	11.5	11.5	2.5	2.0	2.5	1.0	.5	.5	.5	.0	.0
23	11.5	10.0	11.0	2.5	2.0	2.5	1.0	.5	.5	.0	.0	.0
24	10.5	8.5	9.5	2.5	1.5	2.0	.5	.0	.0	.5	.0	.0
25	11.0	8.0	9.5	2.5	1.0	1.5	.5	.0	.0	.0	.0	.0
26	12.0	10.0	11.0	2.0	1.0	1.5	.5	.0	.0	.0	.0	.0
27	13.5	11.5	12.5	1.5	1.0	1.0	.5	.0	.0	.5	.0	.0
28	11.5	9.5	10.0	2.0	1.0	1.0	.5	.0	.5	.0	.0	.0
29	9.5	8.0	8.5	1.5	1.0	1.5	.5	.0	.0	.0	.0	.0
30	9.0	4.5	7.5	1.5	1.0	1.5	.0	.0	.0	.0	.0	.0
31	4.5	2.0	3.0	---	---	---	.5	.0	.0	.5	.0	.0
MONTH	18.5	2.0	11.3	8.5	.0	2.4	2.0	.0	.7	1.0	.0	.1

STREAMS TRIBUTARY TO LAKE MICHIGAN
04085395 SOUTH BRANCH MANITOWOC RIVER AT HAYTON, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	.5	.0	.0	.5	.0	.5	6.5	3.5	5.0	13.5	7.0	10.0
2	.5	.0	.5	1.0	.0	.5	9.0	5.5	7.5	12.0	9.5	10.5
3	.5	.0	.0	.5	.0	.5	11.5	8.5	10.0	12.5	9.0	10.5
4	.5	.0	.0	.5	.0	.5	13.5	10.0	11.5	14.5	8.5	11.5
5	.5	.0	.0	.5	.0	.5	12.0	11.0	11.5	16.0	10.5	13.0
6	.5	.0	.0	.5	.0	.5	11.0	5.5	9.5	16.0	11.5	14.0
7	.5	.0	.0	.5	.0	.5	5.5	3.0	4.0	15.0	12.0	13.5
8	.5	.0	.0	1.0	.0	.5	4.0	1.0	2.5	16.0	11.5	13.5
9	.5	.0	.0	.5	.0	.5	6.0	1.0	3.0	14.0	10.5	11.5
10	.5	.0	.0	1.0	.0	.5	6.5	2.0	4.0	16.0	9.5	12.0
11	.5	.0	.0	1.5	.0	.5	6.5	4.5	5.5	15.5	12.0	14.0
12	.5	.0	.0	1.0	.0	.5	5.5	3.0	4.0	14.0	10.0	11.5
13	.5	.0	.0	.5	.0	.0	7.5	1.5	4.5	12.5	9.0	11.0
14	.5	.0	.0	.5	.0	.5	9.0	3.5	6.5	11.5	10.0	10.5
15	.5	.0	.0	.5	.0	.0	11.5	5.5	8.5	10.5	8.5	9.5
16	.5	.0	.0	.5	.0	.0	10.0	7.0	8.5	10.0	8.5	9.0
17	.5	.0	.0	.5	.0	.5	10.5	5.0	8.0	14.0	8.0	10.5
18	1.0	.0	.5	.5	.0	.5	9.0	6.0	7.5	13.0	11.0	12.0
19	.5	.0	.0	1.0	.0	.5	10.0	7.0	8.5	13.0	10.5	12.0
20	.5	.0	.0	1.5	.0	.5	9.5	7.5	8.5	13.5	11.0	12.5
21	.5	.0	.5	1.5	.5	1.0	12.5	7.5	10.0	16.0	10.5	13.0
22	.5	.0	.5	1.0	.0	.5	13.0	7.5	10.5	17.5	13.0	15.5
23	.5	.0	.5	1.5	.0	.5	11.0	8.5	10.0	18.5	15.0	16.5
24	.5	.0	.0	1.0	.0	.5	12.5	8.5	10.5	17.0	14.5	16.0
25	.5	.0	.5	1.0	.0	.5	14.5	9.0	12.0	16.0	12.5	14.0
26	.5	.0	.5	2.5	.5	1.0	15.0	10.5	13.0	16.0	12.5	14.0
27	.5	.0	.5	3.5	1.0	2.0	13.5	12.0	13.0	17.0	13.0	15.0
28	.5	.0	.5	4.5	3.5	4.0	15.5	10.5	13.0	17.0	15.0	16.0
29	---	---	---	4.5	3.5	4.0	16.5	11.5	14.5	16.0	14.5	15.0
30	---	---	---	4.0	2.5	3.5	16.5	9.5	13.5	17.0	14.0	15.5
31	---	---	---	5.0	2.0	3.5	---	---	---	21.0	15.5	17.5
MONTH	1.0	.0	.2	5.0	.0	1.0	16.5	1.0	8.6	21.0	7.0	12.9
	JUNE			JULY			AUGUST			SEPTEMBER		
1	22.5	18.0	20.0	26.5	21.5	23.5	25.0	22.5	23.5	26.5	20.5	23.5
2	23.0	19.5	21.0	25.5	22.0	23.5	27.5	21.5	24.5	24.5	21.0	23.0
3	23.0	20.0	21.5	23.0	19.5	21.5	26.5	24.0	25.5	25.5	18.5	21.5
4	25.0	20.0	22.0	21.5	18.0	19.5	27.5	23.0	25.0	23.0	18.0	21.0
5	21.5	18.5	19.5	22.5	17.5	20.0	29.0	22.0	24.5	23.0	16.0	18.5
6	20.0	17.0	18.5	23.5	18.0	20.5	27.0	21.5	24.0	22.0	15.5	18.5
7	19.5	18.0	18.5	23.0	18.0	20.5	28.0	21.0	24.5	21.5	19.5	20.5
8	22.5	16.5	19.0	21.0	17.5	19.0	27.5	22.5	24.5	22.5	19.0	20.0
9	24.0	19.0	21.5	23.0	16.5	19.5	25.0	22.0	23.5	21.0	18.0	19.5
10	25.5	21.0	23.0	24.0	18.0	21.0	24.0	21.5	22.5	21.0	17.0	19.0
11	25.0	22.0	23.0	25.0	19.5	22.0	24.5	20.0	21.5	21.0	16.5	19.0
12	26.0	20.5	23.0	26.0	21.0	23.5	26.5	18.5	20.5	23.5	17.0	20.5
13	25.0	22.0	23.5	28.0	22.5	25.0	23.0	17.5	20.0	23.0	19.0	21.0
14	24.5	20.0	22.0	29.0	23.5	26.0	24.5	18.5	20.5	23.5	19.0	21.0
15	22.0	19.0	20.5	29.0	23.5	26.0	24.0	18.5	20.5	24.0	19.5	21.5
16	21.5	18.5	20.0	29.5	24.5	27.0	23.5	21.0	22.0	24.5	20.0	22.0
17	22.5	18.0	20.5	28.0	22.5	25.0	22.0	17.0	20.0	23.5	20.0	21.5
18	22.0	19.0	20.5	29.0	24.0	26.5	22.5	17.0	19.0	22.5	19.0	20.5
19	22.5	20.0	21.0	27.5	23.5	25.5	22.0	17.5	19.5	21.5	19.5	20.5
20	23.0	19.5	21.5	27.5	22.5	24.5	20.0	17.5	19.0	20.0	17.0	18.5
21	23.0	20.0	21.5	26.0	22.0	24.0	22.5	16.0	18.0	18.5	15.0	17.0
22	25.0	20.0	22.0	25.0	20.5	22.5	21.5	15.5	18.5	17.0	14.5	16.0
23	27.0	21.5	24.0	25.0	21.5	23.0	24.5	19.0	21.0	18.5	14.0	16.5
24	28.0	23.0	25.5	25.5	20.0	23.0	20.5	18.5	19.5	18.5	14.5	16.0
25	27.0	23.0	25.0	25.0	22.5	23.5	23.0	17.5	20.0	19.0	14.0	16.5
26	27.0	22.0	24.5	28.0	22.0	24.5	24.5	18.5	21.0	19.5	15.5	17.5
27	27.5	22.0	24.5	28.5	24.0	26.0	26.5	20.5	23.5	19.5	16.0	17.5
28	27.5	22.5	25.0	28.5	23.5	26.0	25.0	21.5	23.5	19.5	16.5	18.0
29	27.0	22.5	24.5	27.0	22.5	24.5	23.5	20.0	21.5	17.5	13.0	15.0
30	25.0	22.5	23.5	27.5	21.5	24.5	21.0	19.0	19.5	15.0	11.5	13.5
31	---	---	---	27.5	22.0	25.0	24.0	18.0	21.0	---	---	---
MONTH	28.0	16.5	22.0	29.5	16.5	23.4	29.0	15.5	21.7	26.5	11.5	19.1

434907087573000 OTTER CREEK RAIN GAGE #2 NEAR PLYMOUTH, WI

LOCATION.--Lat 43°49'07", long 87°57'30", in NE 1/4 NW 1/4 sec.35, T.16 N., R.21 E., Sheboygan County, Hydrologic Unit 04030101, on Garton Road, 0.5 mi east of junction with CTH E, near Plymouth.

PERIOD OF RECORD.--January 1991 to current year (non-frozen precipitation).

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established on Jan. 9, 1991. Rainfall estimated to be 0.00 for Nov. 23, Dec. 4-7, 11-12, Jan. 21, 31, Feb. 7, 27, Mar. 8, 17, 25, and Apr. 13 because recorded precipitation interpreted as collector snowmelt.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.50 in., June 21, 1997.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 2.50 in., June 21.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.02	.00	.05	.00	.22	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.27	.00	.13	.00	.00
3	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.01	.00
4	.00	.00	.00	.89	.00	.01	.08	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.13	.15	.02	.00	.00	.00
6	.07	.10	.00	.00	.00	.00	.00	.00	.38	.00	.00	.00
7	.05	.00	.00	.00	.00	.00	.00	.34	.26	.01	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.12	.00	.76	.00	.00
9	.02	.00	.00	.00	.00	.25	.00	.00	.00	.00	.03	.02
10	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.93	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
14	.00	.00	.02	.00	.00	.00	.00	.18	.00	.00	.00	.02
15	.00	.00	.21	.00	.00	.00	.01	.09	.37	.00	.34	.00
16	.00	.00	.00	.00	.00	.00	.00	.05	.47	.18	.12	.60
17	.30	.10	.00	.00	.00	.00	.00	.00	.00	.06	.47	.00
18	.00	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.17
19	.00	.00	.00	.00	.00	.00	.02	.03	.00	.00	.09	.21
20	.00	.00	.00	.00	.10	.00	.01	.00	.66	.00	.62	.08
21	.00	.00	.00	.00	.48	.01	.00	.00	2.50	.05	.00	.00
22	.65	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.38	.00	.28	.00	.00	.00	.00	.00	.02	.42	.34	.00
24	.01	.00	.00	.00	.00	.00	.12	.06	.41	.00	.01	.00
25	.01	.00	.00	.00	.00	.00	.00	.00	.00	.21	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.01	.09	.00	.00	.18	.00	.02	.00	.00	.00	.03
29	1.15	.33	.00	.00	---	.00	.00	.51	.17	.00	.00	.00
30	.18	.09	.00	.00	---	.00	.92	.01	.33	.00	.21	.26
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	2.83	0.63	0.63	0.91	0.58	0.50	1.30	2.09	5.62	1.85	3.17	1.49

STREAMS TRIBUTARY TO LAKE MICHIGAN

434802087573000 OTTER CREEK RAIN GAGE #1 NEAR PLYMOUTH, WI

LOCATION.--Lat 43°48'02", long 87°57'30", in SE 1/4 NW 1/4 sec.2, T.15 N., R.21 E., Sheboygan County, Hydrologic Unit 04030101, on Green Tree Road, 0.45 mi east of junction with CTH E, near Plymouth.

PERIOD OF RECORD.--January 1991 to current year (non-frozen precipitation).

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established on Jan. 9, 1991. Rainfall estimated to be 0.00 for Nov. 23-25, Dec. 2-7, 11-13, Jan. 10, 21, 30-31, Feb. 4-5, 7, 9, 24-25, 27, Mar. 8, 17-18, 25, and Apr. 12-13 because recorded precipitation interpreted as collector snowmelt.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.74 in., June 21, 1997.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 2.74 in., June 21.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.05	.00	.06	.00	.26	.00	.00	.02	.00
2	.00	.00	.00	.00	.00	.00	.00	.33	.00	.11	.00	.00
3	.00	.00	.00	.00	.00	.00	.01	.02	.00	.00	.01	.00
4	.00	.00	.00	1.03	.00	.04	.08	.00	.00	.00	.00	.00
5	.00	.00	.00	.01	.00	.01	.11	.19	.04	.00	.00	.00
6	.05	.08	.00	.00	.00	.00	.01	.00	.56	.00	.00	.00
7	.11	.00	.00	.00	.00	.00	.00	.36	.31	.01	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.12	.00	.86	.00	.00
9	.02	.00	.00	.00	.00	.25	.00	.00	.00	.00	.03	.04
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.95	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10
14	.00	.00	.02	.00	.00	.00	.00	.23	.00	.00	.00	.00
15	.00	.00	.21	.00	.00	.00	.01	.16	.43	.00	.31	.00
16	.00	.00	.00	.00	.00	.00	.00	.07	.48	.18	.12	.63
17	.26	.09	.00	.00	.00	.00	.00	.00	.00	.06	.41	.00
18	.00	.00	.00	.00	.00	.00	.01	.05	.00	.00	.00	.12
19	.00	.00	.00	.00	.00	.00	.02	.03	.00	.00	.09	.29
20	.00	.00	.00	.00	.14	.00	.02	.00	1.08	.00	.68	.07
21	.00	.00	.00	.00	.58	.03	.01	.00	2.74	.07	.00	.00
22	.60	.00	.04	.00	.05	.00	.00	.00	.00	.00	.00	.00
23	.35	.00	.32	.00	.00	.00	.00	.00	.00	.42	.35	.00
24	.01	.00	.00	.00	.00	.04	.17	.08	.36	.00	.02	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.51	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
28	.00	.02	.19	.00	.01	.21	.00	.02	.00	.00	.00	.02
29	.98	.29	.00	.00	---	.01	.00	.60	.28	.00	.00	.00
30	.15	.07	.00	.00	---	.00	1.09	.03	.29	.00	.31	.38
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	2.53	0.55	0.78	1.09	0.78	0.65	1.54	2.55	6.59	2.25	3.31	1.65

STREAMS TRIBUTARY TO LAKE MICHIGAN

105

0408570045 OTTER CREEK #3A, AT COUNTY HIGHWAY J, NEAR PLYMOUTH, WI

LOCATION.--Lat 43°47'26", long 87°56'00" in NE 1/4 NW 1/4 sec.12, T.15 N., R.21 E., Sheboygan County, Hydrologic Unit 04030101, on right bank downstream of easternmost bridge on County Highway J, 0.4 mi east of intersection of Highway 57, and 3.7 mi northeast of Plymouth.

DRAINAGE AREA.--9.10 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1994 to June 1997 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 775 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: June 30 and ice-affected periods Nov. 12-14, 25-26, 29, Dec. 15-19, 24, Jan. 16, Feb. 7-10, 12-16, and Mar. 6-7, 15-16. Records are good except those for estimated daily discharges, which are fair (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	3.6	2.9	2.1	2.6	20	8.4	15	3.3	---	---	---
2	2.0	3.1	2.7	2.3	2.5	30	7.5	11	2.9	---	---	---
3	1.7	2.9	2.5	3.4	2.6	19	7.4	11	2.6	---	---	---
4	1.6	2.8	2.3	34	2.8	12	7.4	8.2	2.4	---	---	---
5	1.6	2.9	2.5	27	2.8	8.6	7.6	6.9	2.3	---	---	---
6	1.6	3.0	2.6	10	2.7	6.3	7.5	6.1	3.4	---	---	---
7	1.6	3.1	2.6	6.7	2.6	5.8	5.8	5.3	4.1	---	---	---
8	1.6	2.9	2.5	4.8	2.4	5.2	4.7	8.6	3.6	---	---	---
9	1.6	2.7	2.3	3.9	2.5	14	4.2	6.9	2.9	---	---	---
10	1.6	2.6	2.3	3.4	2.6	21	3.9	5.6	2.6	---	---	---
11	1.5	2.5	2.3	2.9	2.5	25	3.9	4.9	2.4	---	---	---
12	1.5	2.4	2.4	2.9	2.2	16	4.4	4.2	2.3	---	---	---
13	1.6	2.3	2.6	2.7	2.5	8.9	5.3	3.9	2.2	---	---	---
14	1.4	2.3	2.7	2.5	2.4	7.0	7.4	3.9	2.0	---	---	---
15	1.5	2.3	2.7	2.4	2.3	5.8	7.5	4.5	2.1	---	---	---
16	1.6	2.4	2.6	2.3	2.2	5.0	6.3	4.6	3.7	---	---	---
17	1.7	2.7	2.5	2.4	2.4	4.9	5.4	4.5	3.0	---	---	---
18	1.6	2.6	2.4	2.2	48	5.6	4.7	4.3	2.6	---	---	---
19	1.5	2.6	2.3	2.0	32	7.3	4.6	4.2	2.5	---	---	---
20	1.5	2.5	2.1	2.0	16	28	4.4	3.8	5.2	---	---	---
21	1.5	2.5	2.0	2.0	27	40	4.3	3.5	105	---	---	---
22	1.7	2.4	2.1	9.7	16	28	4.0	3.3	43	---	---	---
23	3.3	2.5	2.4	6.0	9.9	15	3.8	3.1	16	---	---	---
24	2.8	2.6	2.3	5.7	7.1	10	3.9	3.2	8.9	---	---	---
25	2.4	2.2	2.3	4.1	5.9	13	3.8	3.2	7.0	---	---	---
26	2.2	2.1	2.2	3.5	5.0	15	3.6	2.9	4.9	---	---	---
27	2.1	1.9	2.1	3.1	4.9	21	3.5	2.7	3.9	---	---	---
28	1.9	1.9	2.1	2.9	4.4	23	3.5	2.6	3.4	---	---	---
29	3.2	2.0	2.1	2.7	---	21	3.3	3.8	3.4	---	---	---
30	5.3	3.1	2.0	2.7	---	14	4.3	4.6	4.2	---	---	---
31	4.1	---	2.0	2.7	---	10	---	3.9	---	---	---	---
TOTAL	63.0	77.4	73.4	167.0	218.8	465.4	156.3	164.2	257.8	---	---	---
MEAN	2.03	2.58	2.37	5.39	7.81	15.0	5.21	5.30	8.59	---	---	---
MAX	5.3	3.6	2.9	34	48	40	8.4	15	105	---	---	---
MIN	1.4	1.9	2.0	2.0	2.2	4.9	3.3	2.6	2.0	---	---	---
CFSM	.22	.28	.26	.59	.86	1.65	.57	.58	.94	---	---	---
IN.	.26	.32	.30	.68	.89	1.90	.64	.67	1.05	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1997, BY WATER YEAR (WY)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
MEAN	2.03	3.06	2.57	4.39	6.26	9.35	7.01	5.03	7.14	2.37	2.08	1.71
MAX	2.19	3.83	2.72	5.39	8.78	15.0	8.47	5.59	15.7	2.76	2.30	1.85
(WY)	1996	1996	1995	1997	1996	1997	1996	1996	1996	1994	1994	1996
MIN	1.88	2.58	2.37	2.67	2.09	6.46	5.21	3.92	2.11	1.90	1.87	1.46
(WY)	1995	1997	1997	1995	1995	1995	1997	1995	1994	1995	1996	1995

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR
(OCTOBER - JUNE)

WATER YEARS 1994 - 1997

ANNUAL TOTAL	1918.3											
ANNUAL MEAN	5.24											
HIGHEST ANNUAL MEAN									4.23			
LOWEST ANNUAL MEAN									5.38			1996
HIGHEST DAILY MEAN	91	Jun 17				105	Jun 21		3.08			1995
LOWEST DAILY MEAN	1.3	Aug 15				1.4	Oct 14		1.3	(a)	Sep 4	1995
ANNUAL SEVEN-DAY MINIMUM	1.5	Aug 12				1.5	Oct 9		1.3		Sep 12	1995
INSTANTANEOUS PEAK FLOW						234	Jun 21		234		Jun 21	1997
INSTANTANEOUS PEAK STAGE						28.34	Jun 21		28.34		Jun 21	1997
INSTANTANEOUS LOW FLOW						.98	(b) Nov 25		.98	(b)	Nov 25	1996
ANNUAL RUNOFF (CFSM)	.58								.47			
ANNUAL RUNOFF (INCHES)	7.84								6.32			
10 PERCENT EXCEEDS	11					14			8.3			
50 PERCENT EXCEEDS	2.6					3.1			2.6			
90 PERCENT EXCEEDS	1.7					2.0			1.7			

(a) Also occurred Sept. 5, 13-18, 1995

(b) Result of freezeup

STREAMS TRIBUTARY TO LAKE MICHIGAN

0408570045 OTTER CREEK #3A, AT COUNTY HIGHWAY J, NEAR PLYMOUTH, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1994 to June 1997 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SOLIDS DISCHARGE: April 1994 to June 1997.

TOTAL-PHOSPHORUS DISCHARGE: April 1994 to June 1997.

INSTRUMENTATION.--Stage-activated water-quality sampler April 1994 to June 1997.

REMARKS.--Chemical analyses by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 40.0 tons, June 17, 1996; minimum daily, 0.009 ton, Sept. 2-6, 1995.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 261 lb, June 17, 1996; minimum daily, 0.022 ton, Sept. 17, 18, 1994.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 8.8 tons, Mar. 21; minimum daily, 0.02 ton, many days.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 71 lb, Mar. 21; minimum daily, 0.21 lb, Oct. 3.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT 1996									
*02...	1336	--	2.0	8.5	0.2	1400	<5	<0.027	0.022
*16...	1138	--	1.6	8.4	1.9	5400	<5	<0.013	0.056
22...	1910	--	2.0	8.6	1.3	970	<5	0.028	0.022
22...	2000	--	2.2	8.5	1.6	7800	5	0.035	0.041
22...	2115	--	2.2	8.5	2.1	10000	6	0.029	0.057
23...	0215	--	3.3	8.5	2.1	6300	6	0.025	0.038
23...	0715	--	3.6	8.4	2.8	8700	11	0.024	0.080
23...	1215	--	3.3	8.5	1.7	7500	5	0.020	0.072
*29...	1254	--	2.3	8.3	1.8	4600	5	0.036	0.058
29...	1310	--	2.4	--	--	--	<5	0.016	0.053
29...	1425	--	2.8	--	--	--	<5	0.029	0.053
29...	1655	--	3.8	--	--	--	7	0.029	0.042
29...	2025	--	6.4	--	--	--	28	0.116	0.129
29...	2255	--	6.8	--	--	--	28	0.058	0.216
30...	0125	--	6.4	--	--	--	18	0.058	0.174
30...	0625	--	5.8	--	--	--	14	0.042	0.126
30...	1325	--	5.2	--	--	--	6	0.015	0.073
31...	0255	--	4.3	--	--	--	5	0.040	0.041
NOV									
*14...	1354	2.3	--	8.3	1.0	520	<5	0.123	0.019
*25...	1214	2.2	--	8.4	1.1	220	<5	0.105	0.025
DEC									
*11...	1302	--	2.3	8.3	1.1	590	<5	0.113	0.027
JAN 1997									
04...	1415	--	56	--	--	--	840	0.460	1.46
04...	1530	--	75	--	--	--	724	0.505	1.43
04...	1725	--	87	7.7	--	--	376	0.447	1.05
04...	1805	--	98	7.6	--	--	484	0.399	1.08
05...	0130	--	42	7.7	--	--	77	0.353	0.532
05...	0900	--	29	7.8	--	--	48	0.279	0.384
*22...	1612	--	15	7.9	4.7	720	28	0.346	0.355
FEB									
*11...	1246	--	2.5	8.3	0.2	1100	6	0.099	0.045
MAR									
*04...	0802	--	13	7.9	2.8	110	9	0.273	0.140
*12...	1258	--	15	8.1	1.9	70	10	0.172	0.161
12...	1259	--	15	8.3	2.0	110	20	0.187	0.161
21...	1040	--	33	--	--	--	182	0.326	0.386
21...	1130	--	45	--	--	--	218	0.369	0.458
21...	1220	--	56	--	--	--	204	0.415	0.494
21...	1325	--	65	--	--	--	178	0.453	0.540
21...	1445	--	70	--	--	--	134	0.404	0.490
21...	1540	--	66	--	--	--	98	0.358	0.406
*21...	1702	--	63	--	--	--	75	0.318	0.320
21...	1703	--	63	--	--	--	73	0.325	0.342
21...	2015	--	52	--	--	--	40	0.279	0.270
22...	0115	--	41	--	--	--	25	0.233	0.192
22...	0615	--	31	--	--	--	17	0.202	0.166
*22...	0938	--	28	--	--	--	14	0.205	0.158
22...	0939	--	28	--	--	--	13	0.204	0.152

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

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0408570045 OTTER CREEK #3A, AT COUNTY HIGHWAY J, NEAR PLYMOUTH, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
APR 1997									
*09...	1736	4.2	8.5	1.2	60	<5	0.015	0.035	--
*24...	1358	4.1	8.5	1.8	100	<5	0.019	0.037	--
30...	1735	3.8	8.4	2.0	520	<5	0.027	0.038	--
30...	1825	4.1	8.4	2.0	E4200	10	0.070	0.068	--
30...	1915	4.8	8.4	2.4	E8500	17	0.088	0.090	--
30...	2140	7.8	8.3	3.0	2700	19	0.086	0.096	--
MAY									
01...	0140	17	8.2	4.5	5200	65	0.093	0.237	--
01...	0410	20	8.3	4.4	8000	54	0.114	0.248	--
01...	0640	17	8.2	3.7	10000	32	0.132	0.222	--
01...	1140	15	8.2	3.1	6900	15	0.081	0.161	--
01...	1536	14	8.3	2.7	2100	15	0.029	0.122	--
01...	1537	14	8.3	2.7	2700	12	0.040	0.121	--
01...	2140	12	8.3	2.4	900	15	0.029	0.105	--
02...	0510	11	8.2	2.0	600	10	0.030	0.089	--
07...	2230	5.8	8.4	2.1	4600	11	<0.013	0.065	0.015
07...	2320	6.0	8.3	1.9	5100	10	0.015	0.055	--
07...	2345	6.4	8.3	1.7	1600	10	0.016	0.054	--
08...	0010	6.4	8.3	2.0	1400	9	0.029	0.053	--
08...	0335	8.8	8.2	2.6	450	13	0.025	0.067	--
08...	0635	9.3	8.2	2.0	420	14	0.025	0.089	0.036
08...	0935	9.6	8.3	1.8	780	7	<0.013	0.075	--
08...	1535	8.8	8.5	1.6	180	9	0.013	0.064	--
09...	0635	7.1	8.4	1.0	180	11	0.018	0.052	0.019
*22...	1436	3.4	8.6	1.3	80	6	<0.013	0.057	--
29...	1205	3.8	8.2	3.5	15000	13	0.117	0.112	0.038
29...	1255	4.1	8.3	2.6	10000	10	0.089	0.085	--
29...	1345	4.3	8.3	2.6	4500	8	0.073	0.075	0.021
29...	1410	4.4	8.3	3.2	4000	10	0.062	0.087	0.024
29...	1710	5.0	8.3	3.1	10000	15	0.054	0.091	--
29...	2310	4.6	8.3	2.6	1000	16	0.052	0.104	--
30...	0510	4.8	8.1	2.5	1000	14	0.079	0.081	0.022
JUN									
*04...	1204	2.5	8.4	1.5	800	10	0.046	0.090	--
16...	0115	2.8	8.3	3.3	29000	20	0.088	0.155	0.068
16...	0230	2.9	8.3	2.7	20000	17	0.068	0.123	0.039
16...	0320	3.0	8.3	3.0	12000	21	0.065	0.134	--
16...	0550	4.1	8.2	3.3	17000	30	0.073	0.151	0.051
16...	0820	5.0	8.2	3.4	54000	29	0.062	0.149	0.048
16...	1050	4.4	8.3	2.8	17000	18	0.041	0.156	--
*16...	1538	3.7	8.4	1.8	<10	9	0.048	0.124	--
*16...	1539	3.7	8.4	2.2	15000	9	0.045	0.123	--
16...	2250	3.3	8.4	2.4	3300	18	0.051	0.123	--
17...	0550	3.0	8.3	2.0	3600	10	0.046	0.087	0.032
*18...	1238	2.6	8.4	1.1	1000	6	0.039	0.073	--
20...	0555	2.8	--	--	--	16	0.073	0.112	--
20...	0645	2.9	--	--	--	28	0.114	0.160	--
20...	0800	3.6	--	--	--	65	0.157	0.252	--
20...	0950	6.6	--	--	--	55	0.097	0.212	--
20...	1045	8.0	--	--	--	62	0.059	0.235	--
20...	1310	8.0	--	--	--	46	0.077	0.274	--
21...	0640	41	7.9	6.5	--	1490	0.142	1.68	0.182

E Estimated

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

0408570045 OTTER CREEK #3A, AT COUNTY HIGHWAY J, NEAR PLYMOUTH, WI--CONTINUED

SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED(TONS PER DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.05	.04	---	---	---	.21	1.2	.11	---	---	---
2	.03	.04	.04	---	---	---	.17	e.48	.09	---	---	---
3	.02	.04	.03	---	---	---	.16	e.48	.07	---	---	---
4	.02	.04	.03	---	---	---	.15	.18	.06	---	---	---
5	.02	.04	.03	---	---	---	.14	.14	.06	---	---	---
6	.02	.04	.04	---	---	---	.13	.11	.08	---	---	---
7	.02	.04	.04	---	---	---	.09	.09	.10	---	---	---
8	.02	.04	.03	---	---	---	.07	.23	.08	---	---	---
9	.02	.04	.03	---	---	---	.06	.20	.06	---	---	---
10	.02	.04	.03	---	---	---	.05	.16	.05	---	---	---
11	.02	.03	.03	---	---	---	.05	.13	.05	---	---	---
12	.02	.03	.03	---	---	---	.06	.11	.04	---	---	---
13	.02	.03	.03	---	---	---	e.12	.10	.04	---	---	---
14	.02	.03	.04	---	---	---	e.22	.09	.04	---	---	---
15	.02	.03	.04	---	---	---	e.22	.10	.03	---	---	---
16	.02	.03	.04	---	---	---	e.16	.10	.19	---	---	---
17	.02	.04	.03	---	---	---	e.12	.09	.08	---	---	---
18	.02	.04	.03	---	---	---	.06	.08	.04	---	---	---
19	.02	.03	.03	---	---	---	.06	.08	.04	---	---	---
20	.02	.03	.03	---	---	---	.06	.07	.54	---	---	---
21	.02	.03	.03	---	---	8.8	.06	.06	---	---	---	---
22	.02	.03	.03	---	---	1.2	.05	.05	---	---	---	---
23	.06	.03	.03	---	---	.49	.05	.05	---	---	---	---
24	.04	.03	.03	---	---	.31	.05	.05	---	---	---	---
25	.03	.03	.03	---	---	e.50	.05	.05	---	---	---	---
26	.03	.03	.03	---	---	e.68	.05	.05	---	---	---	---
27	.03	.03	.03	---	---	e1.3	.05	.04	---	---	---	---
28	.03	.03	.03	---	---	e1.6	.05	.04	---	---	---	---
29	.12	.03	.03	---	---	e1.3	.04	.11	---	---	---	---
30	.15	.04	.03	---	---	e.59	.15	.17	---	---	---	---
31	.06	---	.03	---	---	.27	---	.14	---	---	---	---
TOTAL	1.01	1.04	1.00	---	---	17.04	2.96	5.03	1.85	---	---	---

e Estimated

0408570045 OTTER CREEK #3A, AT COUNTY HIGHWAY J, NEAR PLYMOUTH, WI--CONTINUED

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	.50	.41	---	---	---	6.1	14	1.5	---	---	---
2	.24	.33	.38	---	---	---	4.7	e7.5	1.4	---	---	---
3	.21	.30	.35	---	---	---	3.9	e7.5	1.2	---	---	---
4	.22	.29	.33	---	---	---	3.3	3.3	1.1	---	---	---
5	.24	.29	.35	---	---	---	2.9	2.6	1.1	---	---	---
6	.25	.31	.37	---	---	---	2.4	2.1	1.5	---	---	---
7	.27	.31	.37	---	---	---	1.6	1.7	1.8	---	---	---
8	.29	.30	.36	---	---	---	1.1	3.2	1.5	---	---	---
9	.31	.28	.33	---	---	---	.82	2.0	1.2	---	---	---
10	.33	.27	.33	---	---	---	.75	1.6	.98	---	---	---
11	.33	.25	.33	---	---	---	.74	1.4	.87	---	---	---
12	.36	.25	.36	---	---	---	.84	1.2	.81	---	---	---
13	.38	.24	.37	---	---	---	e2.0	1.1	.74	---	---	---
14	.38	.24	.39	---	---	---	e3.6	1.1	.66	---	---	---
15	.42	.24	.39	---	---	---	e3.5	1.3	.66	---	---	---
16	.46	.26	.38	---	---	---	e2.7	1.4	2.8	---	---	---
17	.45	.30	.36	---	---	---	e2.0	1.3	1.4	---	---	---
18	.35	.30	.35	---	---	---	.92	1.3	1.0	---	---	---
19	.29	.30	.34	---	---	---	.90	1.3	.97	---	---	---
20	.25	.30	.31	---	---	---	.86	1.1	6.1	---	---	---
21	.22	.30	.29	---	---	71	.84	1.1	---	---	---	---
22	.28	.30	.30	---	---	25	.80	1.0	---	---	---	---
23	.86	.33	.34	---	---	13	.76	.96	---	---	---	---
24	.33	.34	.34	---	---	8.9	.79	.98	---	---	---	---
25	.29	.30	.34	---	---	e11	.78	.98	---	---	---	---
26	.26	.28	.33	---	---	e14	.75	.89	---	---	---	---
27	.25	.26	.31	---	---	e23	.73	.83	---	---	---	---
28	.22	.27	.31	---	---	e26	.73	.80	---	---	---	---
29	1.5	.28	.31	---	---	e23	.71	1.7	---	---	---	---
30	2.9	.42	.30	---	---	e12	1.6	2.1	---	---	---	---
31	.82	---	.29	---	---	8.6	---	1.8	---	---	---	---
TOTAL	14.21	8.94	10.62	---	---	235.5	54.12	71.14	29.29	---	---	---

e Estimated

STREAMS TRIBUTARY TO LAKE MICHIGAN
0408570047 OTTER CREEK, AT LAACK FARM, NEAR PLYMOUTH, WI

LOCATION.--Lat 43°47'18" long 87°55'44", in NW 1/4 NE 1/4 sec.12, T.15 N., R.21 E., Sheboygan County, Hydrologic Unit 04030101, on left bank downstream from cattle bridge on Howard Laack farm, 800 ft south of County Highway J, and 3.8 mi northeast of Plymouth.

DRAINAGE AREA.--9.16 mi².

PERIOD OF RECORD.--April 1994 to June 1997 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SOLIDS DISCHARGE: April 1994 to June 1997 .

TOTAL-PHOSPHORUS DISCHARGE: April 1994 to June 1997.

INSTRUMENTATION.--Stage-activated water-quality sampler April 1994 to June 1997.

REMARKS.--Chemical analyses by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated. See station 0408570045 Otter Creek #3A at County Highway J near Plymouth for daily mean discharges. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 71.3 tons, Mar. 11, 1995; minimum daily, 0.01 ton, many days during 1996 water year.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 265 lb, June 17, 1996; minimum daily, 0.15 lb, Oct. 2, 1995.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 18.0 tons, Mar. 21; minimum daily, 0.02 ton, many days.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 114 lb, Mar. 21; minimum daily, 0.11 lb, Oct. 14-16.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT 1996							
*02...	1252	8.6	0.3	930	<5	<0.027	0.022
*16...	1124	8.2	1.3	21000	<5	0.016	0.013
22...	1915	8.5	3.5	21000	13	0.099	0.159
22...	2005	8.4	3.4	30000	16	0.090	0.174
22...	2120	8.4	3.7	65000	23	0.137	0.214
23...	0220	8.3	6.9	140000	106	0.215	0.417
23...	0720	8.4	2.9	74000	19	0.066	0.111
23...	1220	8.5	2.9	33000	12	0.039	0.127
29...	1210	--	--	--	9	0.043	0.113
*29...	1224	8.2	4.1	20000	49	0.073	0.205
29...	1235	--	--	--	60	0.135	0.330
29...	1325	--	--	--	56	0.068	0.265
29...	1415	--	--	--	29	0.095	0.210
29...	1645	--	--	--	19	0.128	0.176
29...	1910	--	--	--	80	0.396	0.373
29...	2140	--	--	--	62	0.153	0.301
30...	0010	--	--	--	44	0.086	0.271
30...	0510	--	--	--	20	0.136	0.210
30...	1010	--	--	--	10	0.026	0.118
30...	2340	--	--	--	5	0.017	0.049
NOV							
*14...	1216	8.3	1.8	340	<5	0.118	0.026
*25...	1152	8.4	0.4	320	10	0.088	0.031
DEC							
*11...	1242	8.3	2.0	730	<5	0.098	0.030
JAN 1997							
*23...	0744	8.0	3.1	470	12	0.265	0.206
FEB							
*11...	1222	8.3	0.2	390	6	0.096	0.048
MAR							
*04...	0834	7.9	2.3	70	5	0.264	0.139
*12...	1222	8.2	1.8	70	8	0.174	0.165
12...	1223	8.2	2.2	80	8	0.179	0.201
21...	1105	--	--	--	124	0.379	0.374
21...	1155	--	--	--	214	0.398	0.484
21...	1220	--	--	--	194	0.406	0.480
21...	1330	--	--	--	168	0.445	0.530
21...	1445	--	--	--	146	0.465	0.544
21...	1545	--	--	--	106	0.385	0.444
*21...	1636	--	--	--	76	0.345	0.380
21...	1637	--	--	--	74	0.347	0.376
21...	1810	--	--	--	61	0.318	0.333
21...	2130	--	--	--	34	0.275	0.251
22...	0500	--	--	--	19	0.233	0.182
*22...	0926	--	--	--	9	0.200	0.148
22...	0927	--	--	--	9	0.200	0.153

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

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0408570047 OTTER CREEK, AT LAACK FARM, NEAR PLYMOUTH, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
APR 1997							
*09...	1724	8.6	1.5	70	<5	0.009	0.046
*24...	1332	8.6	2.3	640	<5	0.012	0.046
30...	1745	8.4	3.2	E3200	18	0.034	0.102
30...	1835	8.4	2.3	6700	9	0.026	0.088
30...	1925	8.3	3.7	17000	34	0.112	0.212
30...	2215	8.2	4.7	23000	37	0.122	0.200
MAY							
01...	0210	8.1	5.7	27000	72	0.117	0.288
01...	0440	8.1	5.0	24000	55	0.120	0.264
01...	0710	8.1	4.2	27000	36	0.123	0.232
01...	1210	8.3	2.9	11000	13	0.069	0.148
01...	1506	8.3	2.3	2500	13	0.031	0.120
01...	1507	8.3	2.2	6900	12	0.021	0.113
01...	2210	8.2	2.8	2800	17	0.015	0.094
02...	0540	8.2	2.0	1000	10	0.016	0.075
07...	2220	8.3	3.7	13000	67	0.180	0.377
07...	2310	8.3	2.6	18000	25	0.097	0.181
07...	2335	8.2	2.4	23000	18	0.058	0.137
07...	2400	8.3	2.4	8000	17	0.039	0.106
08...	0325	8.2	2.1	6500	22	0.025	0.092
08...	0625	8.2	2.1	4400	14	0.027	0.082
08...	0925	8.3	1.9	3500	9	<0.013	0.072
08...	1525	8.5	3.9	13000	115	0.017	0.233
09...	0625	8.3	1.2	460	8	<0.013	0.049
*22...	1412	8.9	2.0	430	29	<0.013	0.057
29...	1210	8.1	9.3	640000	230	0.281	0.644
29...	1300	8.2	4.3	120000	20	0.106	0.163
29...	1350	8.2	3.2	64000	15	0.078	0.109
29...	1415	8.3	3.2	64000	13	0.057	0.117
29...	1715	8.3	4.0	78000	15	0.046	0.120
29...	2315	8.2	3.0	10000	21	0.073	0.096
30...	0515	8.2	2.6	6900	20	0.090	0.088
JUN							
*04...	1148	8.6	1.8	1200	8	0.018	0.086
16...	0130	8.2	3.8	45000	29	0.105	0.208
16...	0245	8.2	4.0	51000	32	0.114	0.233
16...	0335	8.2	8.0	49000	311	0.144	0.686
16...	0605	8.2	5.7	210000	47	0.127	0.308
16...	0835	8.3	3.3	71000	30	0.070	0.176
16...	1105	8.3	3.0	47000	18	0.043	0.163
*16...	1526	8.4	2.2	12000	11	0.056	0.141
16...	1527	8.4	2.5	29000	14	0.051	0.133
16...	2305	8.3	2.7	6600	20	0.076	0.133
17...	0605	8.2	2.0	3200	12	0.061	0.107
*18...	1224	8.5	1.4	2200	7	0.058	0.089
20...	0615	--	--	--	22	0.146	0.181
20...	0705	--	--	--	20	0.126	0.158
20...	0820	--	--	--	107	0.255	0.594
20...	1025	--	--	--	90	0.150	0.392
20...	1255	--	--	--	85	0.081	0.384
20...	1310	--	--	--	80	0.074	0.358
20...	2340	--	--	--	47	0.110	0.264
21...	0650	8.0	13	--	650	0.190	1.47

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN
0408570047 OTTER CREEK, AT LAACK FARM, NEAR PLYMOUTH, WI--CONTINUED

SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED(TONS PER DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.05	.06	---	---	---	.21	1.3	.12	---	---	---
2	.03	.04	.05	---	---	---	.17	e.55	.09	---	---	---
3	.02	.04	.05	---	---	---	.16	e.55	.07	---	---	---
4	.02	.04	.04	---	---	---	.15	.18	.05	---	---	---
5	.02	.04	.04	---	---	---	.14	.14	.05	---	---	---
6	.02	.04	.04	---	---	---	.13	.11	.07	---	---	---
7	.02	.04	.04	---	---	---	.09	.13	.08	---	---	---
8	.02	.04	.04	---	---	---	.07	.87	.07	---	---	---
9	.02	.04	.03	---	---	---	.06	.19	.06	---	---	---
10	.02	.04	.03	---	---	---	.05	.14	.05	---	---	---
11	.02	.03	.03	---	---	---	.05	.13	.04	---	---	---
12	.02	.03	.03	---	---	---	.06	.12	.04	---	---	---
13	.02	.03	.03	---	---	---	e.14	.13	.04	---	---	---
14	.02	.03	.04	---	---	---	e.26	.14	.03	---	---	---
15	.02	.03	.04	---	---	---	e.26	.18	.03	---	---	---
16	.02	.04	.04	---	---	---	e.19	.20	.37	---	---	---
17	.02	.04	.03	---	---	---	e.14	.21	.09	---	---	---
18	.02	.05	.03	---	---	---	.06	.23	.05	---	---	---
19	.02	.05	.03	---	---	---	.06	.25	.04	---	---	---
20	.02	.05	.03	---	---	---	.06	.24	.88	---	---	---
21	.02	.05	.03	---	---	18	.06	.25	---	---	---	---
22	.05	.05	.03	---	---	1.1	.05	.25	---	---	---	---
23	.24	.06	.03	---	---	.39	.05	.20	---	---	---	---
24	.08	.06	.03	---	---	.27	.05	.16	---	---	---	---
25	.06	.06	.03	---	---	e.57	.05	.13	---	---	---	---
26	.05	.05	.03	---	---	e.79	.05	.09	---	---	---	---
27	.04	.05	.03	---	---	e1.7	.05	.07	---	---	---	---
28	.03	.05	.03	---	---	e2.1	.05	.05	---	---	---	---
29	.32	.05	.03	---	---	e1.7	.04	.20	---	---	---	---
30	.21	.07	.03	---	---	e.68	.22	.24	---	---	---	---
31	.06	---	.03	---	---	.27	---	.17	---	---	---	---
TOTAL	1.58	1.34	1.08	---	---	27.57	3.18	7.80	2.32	---	---	---

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	.53	.49	---	---	---	6.3	15	1.6	---	---	---
2	.24	.34	.44	---	---	---	5.0	e7.2	1.4	---	---	---
3	.19	.30	.41	---	---	---	4.3	e7.2	1.2	---	---	---
4	.18	.31	.38	---	---	---	3.7	3.0	1.1	---	---	---
5	.17	.32	.41	---	---	---	3.3	2.4	1.0	---	---	---
6	.16	.34	.43	---	---	---	2.9	2.0	1.5	---	---	---
7	.16	.36	.43	---	---	---	1.9	2.1	1.7	---	---	---
8	.15	.35	.40	---	---	---	1.4	5.7	1.5	---	---	---
9	.15	.34	.38	---	---	---	1.1	2.1	1.1	---	---	---
10	.14	.33	.37	---	---	---	.98	1.5	.96	---	---	---
11	.13	.32	.37	---	---	---	.97	1.3	.85	---	---	---
12	.13	.32	.39	---	---	---	1.1	1.1	.80	---	---	---
13	.12	.31	.41	---	---	---	e2.0	1.1	.73	---	---	---
14	.11	.32	.43	---	---	---	e3.6	1.1	.66	---	---	---
15	.11	.33	.43	---	---	---	e3.7	1.3	.66	---	---	---
16	.11	.35	.41	---	---	---	e2.7	1.3	4.1	---	---	---
17	.13	.39	.39	---	---	---	e2.1	1.3	1.7	---	---	---
18	.13	.39	.38	---	---	---	1.2	1.3	1.2	---	---	---
19	.14	.39	.36	---	---	---	1.1	1.3	.92	---	---	---
20	.15	.38	.33	---	---	---	1.1	1.1	8.6	---	---	---
21	.16	.39	.31	---	---	114	1.1	1.1	---	---	---	---
22	.73	.38	.32	---	---	26	1.0	1.0	---	---	---	---
23	2.9	.41	.36	---	---	13	.95	.96	---	---	---	---
24	1.5	.42	.35	---	---	9.0	.98	.98	---	---	---	---
25	.94	.37	.36	---	---	e12	.93	.98	---	---	---	---
26	.63	.35	.34	---	---	e16	.87	.89	---	---	---	---
27	.45	.32	.32	---	---	e27	.81	.83	---	---	---	---
28	.30	.32	.32	---	---	e32	.79	.80	---	---	---	---
29	3.5	.33	.32	---	---	e27	.74	2.3	---	---	---	---
30	3.9	.51	.30	---	---	e14	2.6	2.2	---	---	---	---
31	.90	---	.30	---	---	8.7	---	1.9	---	---	---	---
TOTAL	18.98	10.82	11.64	---	---	298.7	61.22	74.34	33.28	---	---	---

e Estimated

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040857005 OTTER CREEK, AT WILLOW ROAD, NEAR PLYMOUTH, WI

LOCATION.--Lat 43°47'20", long 87°55'20", in NW 1/4 NW 1/4 sec.7, T.15 N., R.22 E., Sheboygan County, Hydrologic Unit 04030101, on left bank downstream from bridge on Willow Road, 900 ft upstream from the Sheboygan River, and 4.2 mi northeast of Plymouth.

DRAINAGE AREA.--9.5 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 760 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 3-5, July 16-17, and ice-affected periods, Nov. 11 -16, 19-20, Nov. 22 to Mar. 2, Mar. 6-8, 13-19, and Apr. 7-9. Records are good except those for estimated daily discharges, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	3.6	3.0	2.2	2.7	21	9.3	16	4.1	4.3	2.0	2.2
2	2.0	3.3	2.8	2.4	2.6	31	8.4	11	3.7	3.8	2.0	2.2
3	1.9	3.1	2.6	3.6	2.7	20	8.3	12	3.3	3.3	2.0	2.0
4	1.9	2.9	2.4	35	2.9	13	8.6	8.9	3.1	3.1	2.0	2.0
5	1.9	2.9	2.6	28	2.9	9.4	8.9	7.4	3.0	2.8	1.8	2.0
6	1.9	3.0	2.8	11	2.8	7.0	8.7	6.6	4.0	2.6	1.7	2.0
7	1.9	3.1	2.8	7.5	2.7	6.5	7.5	5.8	4.9	2.4	1.7	2.0
8	1.8	3.0	2.6	5.5	2.5	6.0	6.1	8.8	4.2	5.2	1.7	2.0
9	1.8	2.9	2.5	4.4	2.6	14	5.5	7.4	3.5	4.1	1.7	2.1
10	1.8	2.7	2.5	3.8	2.7	24	5.0	6.4	3.1	3.2	1.8	2.1
11	1.9	2.6	2.5	3.2	2.6	25	5.0	5.8	2.7	2.8	1.8	1.9
12	1.9	2.5	2.6	3.0	2.3	16	5.6	5.1	2.6	2.6	2.6	1.9
13	1.9	2.4	2.7	2.9	2.6	10	6.5	4.9	2.5	2.5	2.5	1.9
14	1.8	2.4	2.8	2.6	2.5	8.0	8.7	5.0	2.3	2.5	2.3	2.0
15	1.9	2.4	2.8	2.5	2.4	6.5	8.6	5.5	2.3	2.3	2.5	2.0
16	2.0	2.5	2.7	2.4	2.3	5.8	7.4	5.4	4.0	2.2	2.5	2.1
17	2.2	3.0	2.6	2.5	2.5	5.7	6.4	5.3	3.2	2.2	2.8	2.5
18	2.0	2.8	2.5	2.3	50	6.5	5.7	5.2	2.9	2.1	2.9	2.2
19	1.8	2.7	2.4	2.1	33	8.0	5.5	4.9	2.7	2.1	2.6	2.3
20	1.7	2.6	2.2	2.1	17	31	5.4	4.6	5.3	2.0	3.8	2.5
21	1.7	2.7	2.1	2.1	28	41	5.2	4.3	108	2.2	3.4	2.3
22	2.1	2.5	2.2	11	17	29	5.0	4.0	45	2.1	2.8	2.1
23	3.3	2.6	2.5	7.0	11	17	4.8	3.9	17	2.5	2.6	2.0
24	2.8	2.7	2.4	6.6	8.0	12	4.8	3.8	9.4	2.5	3.0	1.9
25	2.5	2.3	2.4	4.9	6.7	14	4.5	4.2	7.5	2.5	2.7	1.7
26	2.3	2.2	2.3	3.9	5.6	17	4.3	3.5	5.4	3.2	2.4	1.7
27	2.2	2.0	2.2	3.3	5.4	22	4.2	3.2	4.2	2.7	2.3	1.8
28	2.1	2.0	2.2	3.0	4.6	25	4.1	3.1	3.4	2.5	2.2	1.8
29	3.4	2.1	2.2	2.8	---	22	4.0	4.4	3.4	2.2	2.2	1.7
30	5.7	3.3	2.1	2.8	---	15	5.1	5.3	4.4	2.1	2.3	1.7
31	4.2	---	2.1	2.8	---	11	---	4.7	---	2.0	2.4	---
TOTAL	70.5	80.8	77.1	179.2	230.6	499.4	187.1	186.4	275.1	84.6	73.0	60.6
MEAN	2.27	2.69	2.49	5.78	8.24	16.1	6.24	6.01	9.17	2.73	2.35	2.02
MAX	5.7	3.6	3.0	35	50	41	9.3	16	108	5.2	3.8	2.5
MIN	1.7	2.0	2.1	2.1	2.3	5.7	4.0	3.1	2.3	2.0	1.7	1.7
CFSM	.24	.28	.26	.61	.87	1.70	.66	.63	.97	.29	.25	.21
IN.	.28	.32	.30	.70	.90	1.96	.73	.73	1.08	.33	.29	.24
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1997, BY WATER YEAR (WY)												
MEAN	3.19	5.29	5.35	4.55	7.25	15.0	12.8	5.43	7.40	4.23	2.41	2.61
MAX	4.82	8.67	11.5	6.76	13.9	25.4	35.6	7.15	17.3	12.9	3.01	5.59
(WY)	1992	1993	1992	1992	1994	1993	1993	1993	1996	1993	1993	1993
MIN	2.11	2.69	2.49	2.67	2.09	7.36	6.24	3.60	2.39	2.18	2.15	1.58
(WY)	1995	1997	1997	1995	1995	1996	1997	1992	1994	1995	1996	1995

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1991 - 1997
ANNUAL TOTAL	2110.4	2004.4	
ANNUAL MEAN	5.77	5.49	6.27
HIGHEST ANNUAL MEAN			10.9
LOWEST ANNUAL MEAN			3.41
HIGHEST DAILY MEAN	93	108	130
LOWEST DAILY MEAN	1.6	1.7 (a)	1.3
ANNUAL SEVEN-DAY MINIMUM	1.7	Aug 5	1.4
INSTANTANEOUS PEAK FLOW		234	234
INSTANTANEOUS PEAK STAGE		7.62	8.26
INSTANTANEOUS LOW FLOW		1.3	1.3
ANNUAL RUNOFF (CFSM)	.61	.58	.66
ANNUAL RUNOFF (INCHES)	8.26	7.85	8.97
10 PERCENT EXCEEDS	12	10	12
50 PERCENT EXCEEDS	3.0	2.8	3.6
90 PERCENT EXCEEDS	1.9	2.0	2.0

(a) Also occurred Oct. 21, Aug. 6-9, Sept. 25-26, 29-30

(b) Also occurred Sept. 15-18, Oct. 2, 1995, and Oct. 20-21, 1996

STREAMS TRIBUTARY TO LAKE MICHIGAN
040857005 OTTER CREEK, AT WILLOW ROAD, NEAR PLYMOUTH, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1990 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1990 to current year.

DISSOLVED OXYGEN: October 1990 to current year, open-water periods.

SUSPENDED-SOLIDS DISCHARGE: October 1990 to current year.

TOTAL-PHOSPHORUS DISCHARGE: October 1990 to current year.

INSTRUMENTATION.--Stage-activated water-quality sampler since October 1990. Continuous water-temperature recorder since October 1990. Dissolved-oxygen recorder during open-water periods since October 1990.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated.

Dissolved-oxygen concentrations greater than 30.0 mg/L are out of calibration range of meter. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum observed, 30.5°C, June 16, 18, 1994; minimum observed, 0.0°C, many days during winter period.

DISSOLVED OXYGEN: Maximum observed, 20.0 mg/L, May 25-28, 1996; minimum observed, 0.2 mg/L, Sept. 18, 1992.

SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 132 tons, June 8, 1993; minimum daily, 0.01 ton, many days during 1992 and 1993 water years.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 455 lb, June 8, 1993; minimum daily, 0.19 lb, Oct. 9-10, 1996.

EXTREMES FOR CURRENT PERIOD.--

WATER TEMPERATURE: 1996 Water Year.--Maximum observed, 29.5°C, May 29; minimum observed, 0.0°C, many days during winter period; 1997 water year.--Maximum observed, 28.0°C, July 16; minimum observed, 0.0°C, many days during winter period

DISSOLVED OXYGEN: 1996 Water Year.--Maximum observed, 20.0 mg/L, May 25-28; minimum observed, 4.5 mg/L, Aug. 8; 1997 Water Year.--Maximum observed, 18.2 mg/L, May 23; minimum observed, 4.3 mg/L, July 18

SUSPENDED-SOLIDS DISCHARGE: 1996 Water Year.--Maximum daily, 32 tons, June 17; minimum daily, 0.02 ton, many days; 1997 Water Year.--Maximum daily, 73 tons, June 21; minimum daily, 0.02 ton, many days.

TOTAL-PHOSPHORUS DISCHARGE: 1996 Water Year.--Maximum daily, 285 lb, June 17; minimum daily, 0.20 lb, Oct. 2; 1997 Water Year.--Maximum daily, 432 lb, June 21; minimum daily, 0.19 lb., Oct. 9-10.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 1996										
*02...	1114	--	2.1	8.5	0.5	680	<5	<0.027	--	--
*10...	1132	--	1.8	8.4	1.2	1800	<5	<0.013	--	--
*16...	1028	--	1.9	8.4	1.3	440	<5	<0.013	--	--
*23...	1308	--	3.4	8.5	2.0	64000	6	0.026	--	--
*29...	1158	--	2.2	8.3	1.5	4300	11	0.030	--	--
NOV										
*14...	1112	2.4	--	8.3	1.0	110	11	0.108	--	--
*25...	1102	2.3	--	8.3	3.0	90	15	0.079	--	--
DEC										
*11...	1108	2.5	--	8.3	1.6	170	8	0.103	--	--
JAN 1997										
06...	2400	11	--	--	--	--	23	0.187	--	--
*22...	1548	11	--	7.9	4.9	700	36	0.372	--	--
22...	1820	11	--	7.8	5.0	700	31	0.330	--	--
FEB										
*11...	1158	2.6	--	8.4	0.4	510	13	0.103	--	--
18...	1115	50	--	--	--	--	73	0.987	--	--
18...	1300	50	--	--	--	--	186	0.999	--	--
18...	1415	50	--	--	--	--	208	1.13	200	97
18...	1430	50	--	--	12	--	180	1.13	183	99
18...	2015	50	--	--	--	--	86	0.985	83	95
19...	0335	33	--	--	--	--	41	0.659	--	--
20...	0335	17	--	8.0	3.7	--	19	0.454	--	--
MAR										
*04...	0738	--	14	7.9	2.8	70	12	0.256	--	--
06...	0920	7.0	--	--	--	--	12	0.176	--	--
09...	1800	--	33	--	--	--	150	0.734	--	--
10...	1820	--	41	--	--	--	144	0.512	--	--
10...	2255	--	27	--	--	--	46	0.572	--	--
11...	1055	--	17	--	--	--	15	0.302	--	--
11...	1345	--	26	8.2	3.5	320	66	0.385	--	--
11...	1500	--	36	8.1	3.9	210	130	0.381	--	--
11...	2305	--	22	8.1	3.2	--	29	0.318	--	--

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040857005 OTTER CREEK, AT WILLOW ROAD, NEAR PLYMOUTH, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00608)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR 1997										
*12...	1104	--	16	8.3	2.0	440	12	0.192	--	--
12...	1105	--	16	8.2	2.2	440	13	0.196	--	--
20...	1755	--	75	--	--	--	212	0.575	--	--
20...	1930	--	52	--	--	--	120	0.593	--	--
20...	2135	--	34	--	--	--	62	0.534	--	--
21...	0550	--	21	--	--	--	23	0.335	--	--
21...	1045	--	30	--	--	--	39	0.374	--	--
21...	1230	--	53	--	--	--	174	0.407	--	--
21...	1350	--	65	--	--	--	174	0.426	--	--
*21...	1538	--	72	--	--	--	162	0.437	--	--
21...	1539	--	72	--	--	--	140	0.442	--	--
21...	2325	--	48	--	--	--	36	0.268	--	--
*22...	0848	--	29	--	--	--	19	0.192	--	--
22...	0849	--	29	--	--	--	14	0.200	--	--
23...	0715	--	17	8.1	--	--	15	0.178	--	--
26...	1645	--	19	8.2	1.8	--	18	0.135	--	--
27...	1645	--	24	8.3	1.7	--	20	0.076	--	--
28...	1645	--	28	8.1	--	--	21	0.221	--	--
29...	0445	--	25	8.1	--	--	11	0.109	--	--
APR										
*09...	1612	5.5	--	8.7	1.4	20	<5	0.011	--	--
*17...	1028	--	6.2	8.5	2.5	150	6	<0.013	--	--
*24...	1306	--	4.6	8.7	2.7	290	<5	0.017	--	--
30...	1950	--	6.1	8.3	2.8	3500	17	0.085	--	--
30...	2315	--	11	8.2	4.3	12000	34	0.120	--	--
MAY										
01...	0220	--	16	8.0	28	20000	98	0.176	--	--
01...	1420	--	14	8.3	3.4	8500	16	0.070	--	--
*01...	1442	--	14	8.4	3.2	--	15	0.080	--	--
01...	1443	--	14	8.3	3.8	8800	15	0.075	--	--
02...	0220	--	11	8.1	2.2	1300	11	0.024	--	--
03...	0225	--	13	8.4	1.7	--	14	0.073	--	--
*08...	1138	--	8.7	8.6	2.8	1500	7	0.017	--	--
*15...	0646	--	5.2	8.2	1.4	2900	<5	<0.013	--	--
*22...	1202	--	3.9	9.0	2.0	190	16	<0.013	--	--
*29...	1432	--	5.3	8.4	3.4	150000	10	0.102	--	--
JUN										
*04...	1112	--	3.1	8.6	1.5	1600	<5	0.040	--	--
*12...	1152	--	2.8	8.6	1.7	11000	<5	0.070	--	--
16...	0335	--	3.6	8.3	--	16000	15	0.153	--	--
16...	1545	--	4.1	8.5	3.0	69000	10	0.099	--	--
*18...	1204	--	2.9	8.6	1.5	1500	<5	0.071	--	--
20...	1055	--	6.5	8.1	--	--	59	0.152	--	--
20...	2255	--	5.7	8.2	--	--	38	0.126	--	--
21...	0225	--	11	8.2	--	--	82	0.155	--	--
21...	0400	--	17	8.0	--	--	650	0.196	--	--
21...	0620	--	27	8.0	--	--	376	0.111	--	--
21...	0725	--	64	7.8	--	--	970	0.320	--	--
21...	0915	--	114	7.8	8.6	--	790	0.174	--	--
21...	1020	--	170	7.7	5.9	--	520	0.140	--	--
21...	1045	--	199	7.7	5.6	--	508	0.121	--	--
21...	1115	--	218	7.7	4.2	--	420	0.105	499	97
21...	1230	--	234	7.7	3.6	--	288	0.073	506	97
21...	1505	--	196	7.7	3.0	--	112	0.040	--	--
21...	1645	--	172	7.8	2.6	--	61	0.038	--	--
21...	2145	--	94	7.9	2.8	--	54	0.089	--	--
22...	1530	--	35	8.1	2.3	--	40	0.061	--	--
JUL										
*02...	1416	--	3.8	8.8	1.7	--	19	4.58	--	--
*09...	1328	--	3.8	8.8	1.5	--	6	<0.013	--	--
*17...	1112	2.2	--	8.4	1	--	<5	<0.013	--	--
*24...	1308	--	2.5	8.7	0.9	--	<5	<0.013	--	--
*30...	0942	--	2.2	8.3	1.2	--	<5	0.019	--	--
AUG										
*07...	1100	--	1.9	8.3	1.1	4700	14	<0.013	--	--
*14...	1115	--	2.4	8.5	1.4	5900	8	<0.010	--	--
*21...	1030	--	3.8	8.3	1.7	--	6	0.071	--	--
*29...	0850	--	2.4	8.3	1	1200	<5	0.019	--	--
SEP										
*04...	1208	--	2.2	8.4	0.3	--	<5	<0.013	--	--
*12...	1344	--	2.2	8.6	1.1	180	<5	<0.013	--	--
*18...	0740	--	2.6	8.2	<3.0	2000	<5	0.036	--	--
*25...	1258	--	2.2	8.6	1.2	5100	<5	0.070	--	--

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN
040857005 OTTER CREEK, AT WILLOW ROAD, NEAR PLYMOUTH, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	17.0	13.0	15.0	9.5	5.0	7.0	.0	.0	.0	.0	.0	.0
2	17.0	11.5	13.5	9.5	5.0	8.0	.5	.0	.0	.0	.0	.0
3	13.5	12.0	12.5	5.0	2.0	3.5	2.5	.5	1.5	.0	.0	.0
4	17.0	10.0	13.0	4.0	1.5	2.5	2.5	.0	1.5	.0	.0	.0
5	14.5	10.5	12.5	5.0	1.0	3.0	2.5	.0	1.5	.0	.0	.0
6	13.0	11.5	12.5	8.0	3.0	5.5	.0	.0	.0	.0	.0	.0
7	13.5	10.5	11.5	6.0	2.0	4.0	.0	.0	.0	.0	.0	.0
8	15.0	9.5	12.0	3.5	.0	1.0	.0	.0	.0	.0	.0	.0
9	16.5	11.0	13.0	2.0	.0	.5	.0	.0	.0	.0	.0	.0
10	17.0	11.0	13.5	4.5	.5	3.5	.0	.0	.0	.0	.0	.0
11	17.5	9.5	13.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
12	20.0	13.0	15.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	20.0	13.0	16.0	2.5	.0	.5	.0	.0	.0	.0	.0	.0
14	15.5	8.5	12.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
15	11.0	6.5	8.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
16	12.0	5.0	8.0	2.5	.0	1.0	.0	.0	.0	.0	.0	.0
17	14.5	6.5	10.0	1.5	.0	.5	.0	.0	.0	.0	.0	.0
18	13.5	8.5	11.0	4.0	1.5	2.5	.0	.0	.0	.0	.0	.0
19	15.0	9.5	11.5	4.0	.0	2.0	.0	.0	.0	.0	.0	.0
20	12.0	8.5	10.0	4.0	1.5	2.5	.0	.0	.0	.0	.0	.0
21	8.5	6.5	7.5	1.5	.0	.5	.0	.0	.0	.0	.0	.0
22	10.5	5.5	7.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
23	13.0	6.5	9.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	11.0	6.0	8.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	11.0	4.0	7.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
26	11.5	6.5	8.5	2.0	.0	1.5	.0	.0	.0	.0	.0	.0
27	10.5	8.5	9.5	2.0	.0	.5	.0	.0	.0	.0	.0	.0
28	9.5	7.0	8.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
29	8.5	5.5	7.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30	8.5	4.5	6.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
31	7.0	5.0	6.0	---	---	---	.0	.0	.0	.0	.0	.0
MONTH	20.0	4.0	10.7	9.5	.0	1.7	2.5	.0	.1	.0	.0	.0
FEBRUARY			MARCH			APRIL			MAY			
1	.0	.0	.0	.0	.0	.0	9.5	.5	4.5	10.0	4.5	7.0
2	.0	.0	.0	.0	.0	.0	8.5	2.5	5.0	14.5	4.5	9.5
3	.0	.0	.0	.0	.0	.0	4.5	2.5	3.5	13.5	8.5	10.5
4	.0	.0	.0	.0	.0	.0	3.5	.0	1.5	16.0	7.5	11.0
5	.0	.0	.0	.0	.0	.0	8.5	.0	3.0	10.0	7.0	8.0
6	.0	.0	.0	.0	.0	.0	8.0	.0	3.5	15.5	6.0	10.0
7	.0	.0	.0	.0	.0	.0	8.0	.0	4.0	16.5	8.5	12.0
8	.0	.0	.0	.0	.0	.0	5.5	1.0	3.5	11.0	8.5	9.0
9	.0	.0	.0	.0	.0	.0	9.0	1.5	4.5	11.5	8.5	10.0
10	.0	.0	.0	.0	.0	.0	13.0	1.5	7.0	10.5	7.5	9.0
11	.0	.0	.0	.0	.0	.0	16.0	5.5	10.0	13.0	5.5	9.0
12	.0	.0	.0	.0	.0	.0	9.5	4.5	6.0	12.0	5.5	8.5
13	.0	.0	.0	3.5	.0	1.0	6.0	3.5	4.5	16.5	4.5	10.0
14	.0	.0	.0	4.5	1.0	2.0	7.5	2.0	4.5	13.0	7.0	10.0
15	.0	.0	.0	3.5	.5	1.5	7.0	.5	3.5	---	---	---
16	.0	.0	.0	3.0	.5	1.5	9.5	2.0	5.5	---	---	---
17	.0	.0	.0	4.0	.0	2.0	12.5	2.5	7.0	15.5	10.0	12.0
18	.0	.0	.0	6.0	.5	3.0	15.0	4.5	9.5	24.5	12.0	18.0
19	.0	.0	.0	5.0	.5	2.5	16.5	7.5	11.5	24.0	16.0	20.0
20	.0	.0	.0	5.0	.0	1.5	11.5	8.0	9.5	20.0	14.5	17.0
21	.0	.0	.0	3.0	.0	1.0	15.5	6.0	10.0	22.0	12.5	16.5
22	.0	.0	.0	6.0	.0	2.0	13.5	7.5	10.0	21.5	12.5	17.0
23	.0	.0	.0	8.0	.0	3.0	14.5	5.5	9.5	16.5	11.0	14.0
24	.0	.0	.0	3.5	1.0	2.5	17.0	6.5	11.0	14.0	9.5	11.5
25	.0	.0	.0	3.0	.0	2.0	12.5	8.5	10.0	14.0	9.0	11.5
26	.0	.0	.0	.5	.0	.0	12.0	6.0	9.0	13.0	10.5	11.5
27	1.0	.0	.5	3.0	.0	1.0	15.0	4.5	9.0	14.0	8.5	11.5
28	.0	.0	.0	6.0	.0	2.5	15.0	5.0	9.5	18.5	9.5	13.5
29	.0	.0	.0	9.5	.0	4.0	8.5	4.0	6.0	19.5	9.5	14.0
30	---	---	---	8.5	1.5	5.0	7.0	2.5	4.5	21.0	8.5	14.5
31	---	---	---	7.5	2.5	5.0	---	---	---	21.5	9.5	15.0
MONTH	1.0	.0	.0	9.5	.0	1.4	17.0	.0	6.7	---	---	---

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WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

[illegible]

STREAMS TRIBUTARY TO LAKE MICHIGAN
040857005 OTTER CREEK, AT WILLOW ROAD, NEAR PLYMOUTH, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	.0	.0	.0	---	---	---	10.5	1.5	5.5	15.0	4.5	9.5
2	.0	.0	.0	---	---	---	13.0	3.0	8.0	10.0	7.5	9.0
3	.0	.0	.0	2.5	.0	1.0	14.0	7.5	10.0	13.0	7.5	10.0
4	.0	.0	.0	2.0	.5	1.0	14.5	7.0	10.5	16.5	6.5	11.0
5	.0	.0	.0	2.5	.0	1.0	10.5	8.0	9.0	17.0	8.0	12.0
6	.0	.0	.0	.5	.0	.0	9.5	1.5	7.0	17.0	8.5	12.5
7	.0	.0	.0	.0	.0	.0	7.0	.0	2.5	13.0	7.5	10.5
8	.0	.0	.0	5.5	.0	2.0	4.5	.0	2.0	17.5	9.0	12.5
9	.0	.0	.0	2.0	.0	1.0	---	---	---	12.0	8.5	10.0
10	.0	.0	.0	3.5	.0	1.0	8.5	1.0	5.0	17.5	6.5	11.5
11	.0	.0	.0	4.0	.0	1.5	7.5	3.5	5.5	17.5	9.5	13.5
12	.0	.0	.0	3.0	.0	1.0	4.0	.5	2.0	14.0	8.0	10.5
13	.0	.0	.0	.5	.0	.0	10.5	.5	5.0	13.5	6.5	9.5
14	.0	.0	.0	.0	.0	.0	12.0	1.5	6.5	10.0	7.5	9.0
15	.0	.0	.0	.0	.0	.0	13.0	3.5	8.0	10.5	6.5	8.5
16	.0	.0	.0	.0	.0	.0	9.5	5.0	7.0	9.5	6.5	8.5
17	.0	.0	.0	.0	.0	.0	12.5	3.0	7.0	15.0	6.5	10.0
18	.0	.0	.0	3.0	.0	1.0	8.5	3.5	6.0	11.0	8.5	10.0
19	.0	.0	.0	4.5	.0	1.5	11.0	5.5	7.5	13.5	9.5	11.5
20	.5	.0	.0	4.0	.5	1.0	9.5	6.5	8.0	14.5	8.5	11.5
21	.5	.0	.0	3.5	.5	1.5	15.0	6.0	9.5	17.5	7.0	12.0
22	.0	.0	.0	3.0	.5	1.5	15.5	5.0	10.0	19.0	8.0	13.5
23	.0	.0	.0	5.0	.5	2.0	13.0	6.0	9.5	18.5	11.0	14.5
24	.0	.0	.0	2.5	.0	1.0	14.5	6.5	10.5	14.0	11.5	12.5
25	.0	.0	.0	4.0	.5	2.0	17.0	6.5	11.5	16.0	10.0	12.0
26	.0	.0	.0	8.5	1.0	4.0	15.5	6.5	11.0	16.5	8.0	12.0
27	1.5	.0	.5	10.0	2.5	5.5	13.5	8.5	10.5	19.5	8.5	13.5
28	3.0	.0	1.5	7.0	3.5	5.0	18.0	7.5	12.5	16.0	10.5	13.0
29	---	---	---	4.5	3.0	4.0	19.0	9.0	13.5	14.5	12.0	12.5
30	---	---	---	6.5	2.0	4.0	14.0	6.0	10.0	17.0	12.0	14.0
31	---	---	---	9.0	.5	4.5	---	---	---	21.5	12.0	16.0
MONTH	3.0	.0	.1	---	---	---	---	---	---	21.5	4.5	11.5
JUNE				JULY			AUGUST			SEPTEMBER		
1	23.5	12.5	17.5	26.0	17.5	21.5	21.5	18.5	19.5	22.5	16.0	19.0
2	23.5	13.0	18.0	25.5	19.5	22.0	25.5	18.5	22.0	20.0	16.5	18.5
3	23.5	14.0	18.0	20.0	17.0	18.5	23.5	20.5	22.0	18.5	13.5	16.0
4	23.0	13.0	17.5	18.5	15.0	16.5	23.0	18.5	20.5	18.5	12.0	15.0
5	17.0	14.5	15.5	22.0	13.5	18.0	21.5	15.5	18.5	15.0	12.5	14.0
6	19.0	13.0	16.0	21.0	16.5	18.5	21.0	16.0	18.5	21.5	14.0	17.5
7	19.0	14.0	16.0	20.5	13.5	17.0	24.0	17.0	20.0	18.5	16.0	17.5
8	23.0	12.5	17.5	17.5	15.0	16.0	23.5	17.0	20.0	18.0	16.0	16.5
9	24.5	14.0	19.0	22.5	14.5	18.0	21.5	16.5	19.0	17.5	15.0	16.0
10	25.5	15.0	20.0	23.0	14.5	18.5	21.0	18.5	20.0	18.0	14.0	16.0
11	23.5	15.5	19.5	23.0	15.5	19.0	18.5	16.5	17.5	18.5	13.0	16.0
12	24.5	15.5	20.0	24.0	16.5	20.0	16.5	16.0	16.0	19.5	13.0	16.0
13	23.5	17.0	19.5	25.0	19.0	22.0	21.0	15.0	18.0	18.5	13.0	16.0
14	23.0	13.5	18.0	27.0	20.0	23.0	17.5	14.5	16.5	19.5	16.0	17.5
15	20.5	12.5	16.5	27.0	19.5	23.0	23.0	16.5	19.5	20.0	14.5	17.0
16	23.0	16.0	19.0	28.0	21.0	24.0	20.5	18.5	20.0	20.5	17.0	18.5
17	23.0	13.0	17.5	25.5	20.0	22.5	18.5	15.5	17.0	21.0	17.0	19.0
18	22.0	14.0	17.5	27.0	20.5	23.5	18.0	14.0	16.0	20.0	14.0	17.0
19	22.0	15.0	18.0	23.5	19.0	21.0	18.5	13.5	16.5	20.0	16.5	18.5
20	21.0	16.0	18.5	24.0	18.0	21.0	17.5	16.0	16.5	16.5	14.0	15.5
21	21.5	17.5	19.0	22.5	18.5	20.0	18.0	15.0	16.0	16.5	11.0	13.5
22	24.0	19.5	21.5	23.5	17.0	20.0	20.0	14.0	17.0	15.0	11.5	13.0
23	26.0	20.0	23.0	20.5	18.0	19.0	19.5	14.0	17.0	16.5	12.5	14.0
24	27.5	21.5	24.0	23.5	16.0	19.5	18.0	16.5	17.0	16.0	9.5	12.5
25	26.0	21.0	23.0	21.0	18.0	19.5	19.0	15.5	17.0	18.0	12.0	14.5
26	26.0	18.5	22.0	25.5	19.5	21.5	21.0	15.5	18.0	17.0	11.5	14.0
27	26.0	18.0	22.0	24.0	20.0	22.0	24.0	17.0	20.0	16.5	11.5	14.0
28	26.5	18.0	22.0	25.0	20.0	22.0	20.5	16.5	18.5	17.0	14.5	15.5
29	24.0	19.0	21.5	22.5	16.5	19.5	18.5	16.5	17.5	14.5	12.5	13.5
30	20.5	18.5	19.5	23.0	16.0	19.5	17.5	15.0	16.5	14.5	12.0	13.0
31	---	---	---	23.5	16.0	20.0	22.5	16.0	19.0	---	---	---
MONTH	27.5	12.5	19.2	28.0	13.5	20.2	25.5	13.5	18.3	22.5	9.5	15.8

STREAMS TRIBUTARY TO LAKE MICHIGAN
040857005 OTTER CREEK, AT WILLOW ROAD, NEAR PLYMOUTH, WI--CONTINUED

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OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	11.2	5.1	7.5	---	---	---	---	---	---	---	---	---
2	14.1	6.2	9.1	---	---	---	---	---	---	---	---	---
3	11.0	6.5	8.0	---	---	---	---	---	---	---	---	---
4	13.6	6.6	9.3	---	---	---	---	---	---	---	---	---
5	14.3	6.8	9.2	---	---	---	---	---	---	---	---	---
6	8.7	6.7	7.8	---	---	---	---	---	---	---	---	---
7	11.8	8.2	9.6	---	---	---	---	---	---	---	---	---
8	12.6	8.8	10.2	---	---	---	---	---	---	---	---	---
9	13.0	8.0	10.0	---	---	---	---	---	---	---	---	---
10	13.6	7.6	10.1	---	---	---	---	---	---	---	---	---
11	14.0	7.1	10.1	---	---	---	---	---	---	---	---	---
12	14.0	5.9	9.2	---	---	---	---	---	---	---	---	---
13	14.2	5.8	9.0	---	---	---	---	---	---	---	---	---
14	14.1	6.3	9.8	---	---	---	---	---	---	---	---	---
15	15.5	9.1	11.5	---	---	---	---	---	---	---	---	---
16	15.4	9.4	11.6	---	---	---	---	---	---	---	---	---
17	15.4	7.4	10.9	---	---	---	---	---	---	---	---	---
18	16.0	7.6	10.5	---	---	---	---	---	---	---	---	---
19	15.6	7.2	9.9	---	---	---	---	---	---	---	---	---
20	13.7	7.5	9.8	---	---	---	---	---	---	---	---	---
21	13.9	9.1	10.9	---	---	---	---	---	---	---	---	---
22	14.9	9.5	11.6	---	---	---	---	---	---	---	---	---
23	15.2	8.1	11.2	---	---	---	---	---	---	---	---	---
24	13.9	8.3	10.7	---	---	---	---	---	---	---	---	---
25	15.1	9.4	11.7	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
FEBRUARY				MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	16.7	8.0	12.0
18	---	---	---	---	---	---	---	---	---	17.8	6.1	11.8
19	---	---	---	---	---	---	---	---	---	18.0	5.6	10.4
20	---	---	---	---	---	---	---	---	---	13.4	5.6	9.5
21	---	---	---	---	---	---	---	---	---	17.7	6.3	11.4
22	---	---	---	---	---	---	---	---	---	18.8	6.4	11.7
23	---	---	---	---	---	---	---	---	---	18.9	6.9	11.8
24	---	---	---	---	---	---	---	---	---	19.7	9.3	14.1
25	---	---	---	---	---	---	---	---	---	e20.0	9.0	13.3
26	---	---	---	---	---	---	---	---	---	e20.0	8.9	13.0
27	---	---	---	---	---	---	---	---	---	e20.0	9.2	14.2
28	---	---	---	---	---	---	---	---	---	e20.0	7.7	13.9
29	---	---	---	---	---	---	---	---	---	19.1	7.2	12.2
30	---	---	---	---	---	---	---	---	---	16.7	5.1	10.6
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

[illegible]

DAY	MAX	MIN	MEAN		MAX	MIN	MEAN		MAX	MIN	MEAN		MAX	MIN	MEAN
OCTOBER					NOVEMBER				DECEMBER				JANUARY		
1	13.0	6.8	9.0		---	---	---		---	---	---		---	---	---
2	13.6	6.9	9.2		---	---	---		---	---	---		---	---	---
3	14.7	8.6	10.8		---	---	---		---	---	---		---	---	---
4	---	---	---		---	---	---		---	---	---		---	---	---
5	---	---	---		---	---	---		---	---	---		---	---	---
6	14.9	6.4	10.0		---	---	---		---	---	---		---	---	---
7	13.1	6.4	9.5		---	---	---		---	---	---		---	---	---
8	15.2	9.2	11.0		---	---	---		---	---	---		---	---	---
9	14.9	9.3	11.2		---	---	---		---	---	---		---	---	---
10	---	---	---		---	---	---		---	---	---		---	---	---
11	---	---	---		---	---	---		---	---	---		---	---	---
12	---	---	---		---	---	---		---	---	---		---	---	---
13	---	---	---		---	---	---		---	---	---		---	---	---
14	---	---	---		---	---	---		---	---	---		---	---	---
15	---	---	---		---	---	---		---	---	---		---	---	---
16	---	---	---		---	---	---		---	---	---		---	---	---
17	---	---	---		---	---	---		---	---	---		---	---	---
18	---	---	---		---	---	---		---	---	---		---	---	---
19	---	---	---		---	---	---		---	---	---		---	---	---
20	---	---	---		---	---	---		---	---	---		---	---	---
21	---	---	---		---	---	---		---	---	---		---	---	---
22	---	---	---		---	---	---		---	---	---		---	---	---
23	---	---	---		---	---	---		---	---	---		---	---	---
24	---	---	---		---	---	---		---	---	---		---	---	---
25	---	---	---		---	---	---		---	---	---		---	---	---
26	---	---	---		---	---	---		---	---	---		---	---	---
27	---	---	---		---	---	---		---	---	---		---	---	---
28	---	---	---		---	---	---		---	---	---		---	---	---
29	---	---	---		---	---	---		---	---	---		---	---	---
30	---	---	---		---	---	---		---	---	---		---	---	---
31	---	---	---		---	---	---		---	---	---		---	---	---
MONTH	---	---	---		---	---	---		---	---	---		---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040857005 OTTER CREEK, AT WILLOW ROAD, NEAR PLYMOUTH, WI--CONTINUED

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

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	---	---	---	---	---	---	---	---	---	18.2	5.5	11.3
24	---	---	---	---	---	---	---	---	---	15.4	5.7	9.7
25	---	---	---	---	---	---	---	---	---	16.9	7.1	11.1
26	---	---	---	---	---	---	---	---	---	16.8	7.4	11.9
27	---	---	---	---	---	---	---	---	---	17.5	6.4	11.7
28	---	---	---	---	---	---	---	---	---	17.5	6.6	11.4
29	---	---	---	---	---	---	---	---	---	13.7	6.8	8.9
30	---	---	---	---	---	---	---	---	---	13.6	7.0	9.6
31	---	---	---	---	---	---	---	---	---	14.0	5.5	9.6
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
JUNE				JULY			AUGUST			SEPTEMBER		
1	13.2	5.1	9.0	10.8	5.8	8.3	11.9	6.0	8.3	12.0	6.3	8.5
2	13.1	5.2	8.8	10.6	5.9	8.0	11.1	4.8	7.9	12.0	5.8	8.3
3	13.5	5.3	8.8	11.3	6.3	8.4	10.7	5.0	7.3	12.7	7.1	9.3
4	14.1	5.4	9.3	12.4	7.3	9.5	11.1	5.7	8.0	13.3	7.5	9.8
5	12.1	5.6	8.8	12.9	6.6	9.6	11.6	6.5	8.7	12.6	7.6	9.4
6	13.6	6.9	9.6	13.1	6.6	9.4	11.8	6.7	8.7	12.3	6.2	8.9
7	12.9	7.1	9.3	14.0	7.0	10.2	11.3	5.7	8.4	11.4	6.3	8.6
8	13.1	6.0	9.6	11.1	7.0	8.7	11.1	5.7	8.1	11.0	6.9	8.6
9	13.2	5.6	9.2	13.2	6.7	9.7	11.4	6.0	8.1	11.0	7.1	8.7
10	13.0	5.2	8.8	13.5	6.1	9.5	10.4	6.0	7.9	11.8	7.1	8.9
11	12.3	5.5	8.4	13.9	6.1	9.5	12.1	6.8	9.0	12.3	6.9	9.1
12	12.2	5.4	8.6	14.1	5.4	9.3	8.7	7.4	8.0	12.3	7.3	9.2
13	12.1	5.5	8.6	13.0	5.6	8.1	11.5	7.0	9.0	13.2	7.0	9.7
14	12.1	6.2	9.0	13.1	5.0	8.4	11.2	7.2	9.0	12.1	7.2	9.0
15	12.1	6.2	9.0	13.0	4.6	8.1	10.5	5.2	8.0	12.7	7.0	9.2
16	9.8	6.2	7.8	12.8	4.3	7.4	9.6	6.1	7.7	12.1	6.2	8.3
17	11.3	6.5	8.9	11.4	4.5	7.3	9.4	6.7	8.1	10.7	6.1	7.7
18	11.6	6.8	8.9	11.3	4.3	7.3	11.5	7.4	9.2	11.9	6.4	8.6
19	11.5	6.7	8.7	12.1	4.5	8.0	11.6	7.3	9.2	9.5	6.6	7.5
20	8.9	6.7	7.5	12.3	4.6	7.8	9.0	7.3	7.9	11.3	7.0	8.6
21	7.8	5.6	6.8	10.4	4.6	7.3	10.1	7.2	8.5	12.0	8.0	9.5
22	7.5	5.8	6.8	12.3	5.5	8.6	10.6	7.1	8.5	12.7	8.4	9.9
23	8.6	6.6	7.5	11.2	5.6	7.8	11.2	6.7	8.6	12.4	8.1	9.8
24	8.8	6.3	7.5	13.4	6.1	9.1	10.2	6.8	8.3	13.1	8.3	10.0
25	9.2	6.6	7.8	11.0	6.1	8.4	10.9	7.3	8.7	13.0	8.0	9.6
26	10.3	6.7	8.4	11.5	5.5	8.0	11.2	6.8	8.6	13.4	8.4	10.2
27	10.4	6.4	8.4	11.4	5.6	7.8	10.9	6.1	8.1	13.7	8.0	10.3
28	10.5	6.1	8.2	11.3	5.7	8.0	11.2	6.2	8.5	13.1	8.0	9.5
29	10.8	6.1	7.9	12.0	6.4	8.7	11.4	6.9	8.8	12.8	8.1	9.7
30	9.4	6.4	7.9	12.0	6.2	8.8	10.8	7.2	8.5	13.3	8.1	10.0
31	---	---	---	12.1	6.2	8.7	11.6	6.5	8.5	---	---	---
MONTH	14.1	5.1	8.5	14.1	4.3	8.5	12.1	4.8	8.4	13.7	5.8	9.1

STREAMS TRIBUTARY TO LAKE MICHIGAN
040857005 OTTER CREEK, AT WILLOW ROAD, NEAR PLYMOUTH, WI--CONTINUED

SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED(TONS PER DAY), WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	9.9	.07	.06	.03	.17	.24	e1.1	e1.0	.06	.03	.02
2	.02	6.9	.07	.06	.03	.06	.22	.20	e3.5	.07	.03	.02
3	.02	.34	.09	.06	.03	.06	.22	.16	e.48	.07	.03	.02
4	.02	.16	.09	.05	.03	.05	e.54	.13	.36	.06	.03	.02
5	.02	.11	.08	.06	.02	.04	e.43	.10	.12	.06	.03	.02
6	e.50	.10	.07	.05	.02	.04	.24	.09	e.73	.06	.05	.03
7	.04	.09	.07	.05	.03	.04	.17	.07	17	.06	.04	.03
8	.03	.08	.06	.05	.33	.04	.13	.07	3.0	.05	.03	.04
9	.03	.08	.06	.05	1.1	.03	.11	.07	1.2	.06	.03	.04
10	.03	.08	.05	.05	2.7	.03	.09	2.5	.69	.06	.03	.04
11	.02	.07	.05	.06	.81	.04	.09	.34	.42	.05	.03	.04
12	.02	.06	.05	.06	.34	3.3	.10	.15	.30	.05	.03	.04
13	.03	.06	.05	.06	.16	4.7	.09	.11	.23	.05	.03	.04
14	.02	.06	.05	.06	.09	4.2	.08	.09	.17	.05	.03	.04
15	.02	.06	.06	.06	.07	2.4	.13	.08	.13	.05	.02	.04
16	.02	.06	.05	.06	.06	1.2	e.66	.08	.11	.04	.02	.03
17	.02	.06	.05	.07	.05	.66	e.54	.08	32	.04	.02	.03
18	.02	.07	.05	6.5	.05	.54	1.3	.07	10	.04	.02	.03
19	.02	.08	.06	.94	.04	.52	3.0	.07	2.6	.05	.03	.03
20	.03	.09	.06	.21	.05	.45	e1.8	.07	1.2	.04	.03	.03
21	.04	.09	.06	.12	.05	.38	.39	.07	.69	.04	.03	.03
22	.04	.08	.06	.08	.04	.30	.23	.06	.49	.04	.03	.03
23	.03	.07	.06	.06	.18	.27	.14	.06	.33	.03	.03	.03
24	.03	.06	.06	.05	2.0	e.23	.10	.07	.27	.03	.03	.03
25	.03	.06	.05	.05	2.4	e.81	.09	.06	.21	.03	.03	.03
26	.03	.06	.05	.05	2.3	.32	.09	.06	.17	.03	.03	.04
27	e.27	.05	.05	.04	9.2	.26	.08	.06	.14	.03	.03	.05
28	e.26	.06	.05	.04	3.1	.24	.08	.06	.12	.03	.03	.04
29	e.09	.06	.05	.04	.67	.22	.09	.05	.10	.03	.02	.03
30	.04	.06	.05	.04	---	.21	e.97	.05	.08	.03	.02	.03
31	.04	---	.06	.04	---	.24	---	.05	---	.03	.03	---
TOTAL	1.85	19.16	1.84	9.23	25.98	22.05	12.44	6.28	77.84	1.42	0.90	0.97

SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED(TONS PER DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.11	.10	.05	.09	e2.0	.22	1.6	.08	e.20	.04	.03
2	.03	.10	.09	.05	.09	e3.5	.19	.33	.06	.18	.04	.03
3	.03	.09	.08	.09	.09	e1.8	.17	.42	.05	.15	.04	.03
4	.04	.09	.07	e4.1	.10	.42	.17	.27	.04	.12	.05	.03
5	.03	.09	.07	e3.0	.10	.30	.16	.20	.04	.09	.05	.03
6	.03	.09	.07	e.76	.10	.23	.15	.16	e.16	.07	.06	.03
7	.03	.10	.07	e.44	.09	.21	.12	e.12	e.32	.06	.07	.03
8	.02	.09	.06	e.28	.09	.19	.09	e.31	e.19	e.39	.06	.03
9	.02	.09	.06	e.20	.09	2.3	.08	.21	.05	e.17	.06	.03
10	.02	.09	.06	.09	.09	2.9	.07	.08	.04	.05	.06	.03
11	.03	.08	.05	.07	.09	3.6	.07	.07	.04	.04	.05	.03
12	.03	.08	.06	.06	.08	.64	.08	.07	.03	.04	.07	.03
13	.03	.08	.06	.06	.09	.20	e.16	.06	.03	.04	.06	.03
14	.02	.08	.06	.06	.09	.11	e.30	.07	.03	.04	.05	.03
15	.03	.08	.06	.05	.08	.09	e.29	.07	.03	.03	.05	.03
16	.03	.08	.06	.05	.08	.08	e.21	.09	.12	.03	.05	.03
17	.03	.10	.06	.05	.09	.08	.10	.10	.06	.03	.06	.04
18	.03	.10	.05	.05	11	.09	.09	.12	.04	.03	.05	.03
19	.02	.10	.05	.05	3.0	.11	.08	.14	.04	.03	.05	.04
20	.02	.10	.05	.05	.87	7.0	.08	.15	.57	.03	e.13	.04
21	.02	.10	.05	.05	e3.0	9.7	.07	.17	73	.03	e.09	.04
22	.03	.10	.05	e.76	e1.4	1.7	.07	.18	5.3	.03	.05	.03
23	e.07	.10	.05	e.39	e.76	.61	.06	.15	.86	.03	.04	.03
24	.05	.11	.05	e.36	e.48	.28	.06	.12	.18	.03	.05	.03
25	.05	.09	.05	.18	e.37	e.58	.06	.11	.10	.03	.04	.03
26	.05	.09	.05	.14	e.28	e.92	.06	.08	.07	e.07	.04	.03
27	.05	.07	.05	.12	.20	e1.7	.05	.06	.06	.04	.04	.03
28	.06	.07	.05	.11	.16	e2.4	.05	.05	.05	.03	.03	.03
29	.10	.07	.05	.10	---	e1.7	.05	e.22	.05	.03	.03	.03
30	.17	.11	.05	.10	---	e.68	.17	e.42	e.22	.03	.03	.03
31	.13	---	.05	.10	---	.29	---	e.28	---	.03	.04	---
TOTAL	1.33	2.73	1.84	12.02	23.05	46.41	3.58	6.48	81.91	2.20	1.63	0.94

e Estimated

STREAMS TRIBUTARY TO LAKE MICHIGAN

123

040857005 OTTER CREEK, AT WILLOW ROAD, NEAR PLYMOUTH, WI--CONTINUED

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.21	47	.80	.43	.38	2.1	3.3	e15	e6.0	2.4	.40	.33
2	.20	49	.79	.41	.34	.67	3.5	4.5	e34	3.1	.38	.32
3	.24	5.7	.92	.40	.31	.64	4.0	3.4	e6.5	2.7	.37	.33
4	.25	2.0	.89	.38	.30	.55	e7.7	2.6	4.7	2.0	.35	.32
5	.28	1.2	.84	.38	.28	.50	e6.2	2.0	3.0	1.5	.36	.35
6	e8.0	1.1	.76	.36	.28	.44	4.1	1.7	e3.4	1.3	.49	.38
7	.55	1.0	.69	.35	.33	.42	2.7	1.4	102	1.1	.39	.41
8	.48	.93	.61	.35	5.1	.41	1.9	1.3	27	.89	.36	.49
9	.48	.83	.56	.35	35	.39	1.4	1.4	14	.76	.30	.50
10	.50	.86	.52	.34	89	.39	1.1	25	9.8	.72	.29	.46
11	.47	.76	.49	.36	46	.47	1.0	5.8	7.6	.61	.27	.48
12	.46	.67	.48	.38	20	17	1.1	2.9	6.0	.61	.26	.48
13	.46	.64	.48	.38	3.7	32	1.0	1.9	5.0	.62	.25	.47
14	.43	.69	.49	.38	1.1	32	.91	1.5	4.1	.63	.24	.46
15	.38	.69	.51	.36	.83	23	1.6	1.2	3.5	.58	.22	.45
16	.35	.69	.48	.36	.69	14	e9.4	1.2	3.1	.53	.23	.44
17	.34	.69	.48	.44	.60	8.5	e7.7	1.1	285	.52	.24	.45
18	.33	.76	.47	73	.53	6.7	9.5	1.0	135	.60	.24	.42
19	.36	.83	.49	46	.52	6.0	28	.93	39	.63	.36	.39
20	.44	.95	.50	20	.55	4.9	e23	.91	17	.57	.39	.38
21	.60	.95	.50	6.0	.61	3.8	5.7	.93	9.4	.53	.40	.40
22	.51	.90	.47	1.5	.50	2.8	3.3	.83	6.6	.52	.42	.40
23	.47	.74	.45	.66	4.4	2.3	2.3	.79	4.6	.51	.42	.40
24	.45	.67	.45	.63	39	e3.5	1.9	.81	3.8	.50	.40	.40
25	.45	.62	.42	.63	39	e11	1.8	.74	3.0	.50	.38	.40
26	.41	.64	.42	.53	31	2.5	1.8	.71	2.7	.46	.36	.54
27	e2.8	.57	.42	.52	69	2.1	1.6	.68	2.7	.42	.34	1.1
28	e2.7	.62	.39	.50	30	2.0	1.5	.64	2.6	.41	.31	.47
29	e1.0	.67	.41	.47	8.5	2.0	1.7	.61	2.6	.45	.30	.42
30	.51	.66	.40	.44	---	2.3	e13	.57	2.5	.44	.31	.40
31	.51	---	.42	.41	---	2.9	---	.54	---	.42	.34	---
TOTAL	25.62	124.03	17.00	157.70	427.85	188.28	153.71	84.59	756.2	27.53	10.37	13.24

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	1.0	.41	.44	.86	e27	4.3	22	2.8	e4.6	.63	.82
2	.35	.95	.40	.48	.83	e51	3.5	5.4	2.3	2.8	.61	.80
3	.37	.85	.38	.91	.86	e25	3.1	6.6	1.9	2.5	.58	.75
4	.40	.77	.37	e62	.92	9.8	2.9	4.4	1.7	2.2	.57	.72
5	.32	.75	.41	e43	.92	6.9	2.6	3.5	1.7	1.9	.52	.73
6	.25	.76	.46	e9.3	.89	4.8	2.3	2.9	e4.1	1.8	.50	.73
7	.23	.75	.48	e4.9	.86	4.5	1.8	2.4	e5.8	1.6	.48	.74
8	.21	.70	.46	e3.0	.80	4.1	1.3	e4.9	e4.4	e6.4	.48	.76
9	.19	.66	.46	e2.0	.83	24	1.0	e3.5	2.3	e4.2	.48	.79
10	.19	.61	.48	.95	.86	33	.99	1.7	2.2	1.8	.51	.80
11	.20	.56	.50	.64	.83	42	1.1	1.5	2.0	1.6	.50	.77
12	.21	.52	.52	.60	.73	15	1.3	1.3	2.0	1.4	e1.9	.76
13	.23	.48	.54	.58	.83	3.8	e2.7	1.3	1.9	1.3	.68	.75
14	.23	.46	.56	.52	.80	1.5	e4.8	1.3	1.8	1.2	.62	.79
15	.25	.44	.56	.50	.76	1.2	e4.6	1.4	1.8	1.1	.69	.80
16	.28	.44	.54	.48	.73	1.1	e3.5	1.4	3.8	1.0	.68	.83
17	.31	.49	.52	.50	.80	1.0	2.4	1.4	2.5	.96	.75	.97
18	.28	.44	.50	.46	117	1.2	2.0	1.3	1.6	.89	.77	.85
19	.25	.40	.48	.42	54	1.5	1.9	1.3	1.8	.81	.70	.93
20	.24	.37	.44	.42	19	54	1.7	1.2	7.9	.74	e3.7	1.1
21	.24	.36	.42	.42	e43	83	1.6	1.1	432	.76	e3.1	1.0
22	.32	.32	.44	e9.3	e19	29	1.4	.99	82	.71	1.5	1.0
23	1.6	.31	.50	e4.4	e9.3	14	1.3	.96	16	.80	1.3	1.0
24	1.5	.31	.48	e4.0	e5.5	5.0	1.3	.91	5.8	.75	1.4	1.0
25	1.3	.25	.48	1.7	e4.1	7.3	1.2	.99	3.8	.76	1.2	1.0
26	1.0	.25	.46	1.2	e3.0	e11	1.1	.87	2.7	e2.8	1.1	.97
27	.90	.23	.44	1.0	2.1	e21	1.1	.80	2.0	.84	.94	.91
28	.76	.24	.44	.96	1.6	e28	1.0	.77	1.6	.80	.84	.86
29	e1.6	.26	.44	.89	---	e21	.99	e4.8	1.5	.72	.80	.77
30	e3.4	.43	.42	.89	---	e8.6	2.3	e6.6	e4.8	.68	.84	.72
31	e2.2	---	.42	.89	---	5.9	---	e5.4	---	.64	.87	---
TOTAL	20.21	15.36	14.41	157.75	291.71	546.2	63.08	94.89	608.5	51.06	30.24	25.42

e Estimated

STREAMS TRIBUTARY TO LAKE MICHIGAN
040857005 OTTER CREEK, AT WILLOW ROAD, NEAR PLYMOUTH, WI--CONTINUED

PRECIPITATION QUANTITY

PERIOD OF RECORD.--October 1990 to current year (non-frozen precipitation).

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established on Oct. 1, 1990. Rainfall estimated to be 0.00 for Nov. 23, Dec. 1, 5-6, 12, 26-27, Jan. 24-25, 27, Feb. 4, Mar. 8, 14, 25, and Apr. 11-13 because recorded precipitation interpreted as collector snowmelt. Rainfall data missing for the periods Nov. 29-30, Apr. 24, and July 1-23.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 3.05 in., June 21, 1997.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 3.05 in., June 21.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.01	.00	.06	.00	.19	.00	---	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.27	.00	---	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.01	.00	---	.00	.00
4	.00	.00	.00	.71	.00	.01	.09	.00	.00	---	.00	.00
5	.00	.00	.00	.00	.00	.00	.02	.11	.02	---	.00	.00
6	.09	.14	.00	.00	.00	.00	.00	.00	.31	---	.00	.00
7	.07	.00	.00	.00	.00	.00	.00	.33	.36	---	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.09	.00	---	.00	.00
9	.04	.00	.00	.00	.00	.16	.00	.00	.00	---	.01	.02
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	.01	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.04	---	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	1.01	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	.00	.09
14	.00	.00	.00	.00	.00	.00	.00	.17	.00	---	.00	.01
15	.00	.00	.13	.00	.00	.00	.00	.10	.28	---	.29	.00
16	.00	.00	.00	.00	.00	.00	.00	.06	.55	---	.05	.70
17	.34	.05	.00	.00	.00	.00	.00	.00	.00	---	.33	.01
18	.00	.00	.00	.00	.00	.00	.00	.05	.00	---	.00	.06
19	.00	.00	.00	.00	.00	.00	.00	.02	.00	---	.06	.21
20	.00	.00	.00	.00	.10	.00	.00	.00	.83	---	.68	.06
21	.00	.00	.00	.00	.58	.00	.00	.00	3.05	---	.01	.00
22	.59	.00	.04	.00	.00	.00	.00	.00	.00	---	.00	.00
23	.30	.00	.19	.00	.00	.00	.00	.00	.00	---	.30	.00
24	.00	.00	.00	.00	.00	.02	---	.06	.22	.00	.02	.00
25	.00	.00	.00	.00	.00	.00	.00	.01	.08	.64	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.01	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00
28	.00	.00	.01	.00	.00	.20	.00	.00	.00	.00	.00	.00
29	.88	---	.00	.00	---	.00	.00	.48	.45	.00	.00	.00
30	.13	---	.00	.00	---	.00	.88	.02	.11	.00	.23	.27
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	2.44	---	0.37	0.72	0.68	0.45	---	1.97	6.30	---	3.01	1.43

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 11-14, 19-23, Nov. 25 to Dec. 4, and Dec. 15 to Mar. 23. Records good except those for ice-affected periods, which are poor (see page 11). Diurnal fluctuation caused by numerous powerplants above station. Gage-height telemeter at station.

(a) Result of freezeup

STREAMS TRIBUTARY TO LAKE MICHIGAN

04086175 PARNELL CREEK NEAR DUNDEE, WI

LOCATION.--Lat 43°38'52", long 88°09'36", in SE 1/4 SE 1/4 sec.25, T.14 N., R.19 E., Fond du Lac County, Hydrologic Unit 04030003, on right bank 200 ft downstream from Division Road near Dundee.

DRAINAGE AREA.--9.35 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1996 to September 1997 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 1,005 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected period, Nov. 11 to Mar. 27. Records fair except those for ice-affected period, which is poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.41	3.4	.98	.80	.74	2.7	19	11	3.3	6.8	1.3	1.3
2	.41	2.4	.92	1.2	.78	4.5	18	11	2.5	5.4	1.2	1.1
3	.43	1.9	.84	2.5	.82	6.9	19	13	2.0	4.9	1.1	.87
4	.39	1.4	.80	6.5	.80	6.6	18	11	1.7	4.5	.98	.76
5	.40	1.4	.82	3.6	.78	4.8	17	9.0	1.6	3.9	.81	.74
6	.44	1.6	.92	1.7	.74	3.2	16	8.2	2.2	3.3	.67	.66
7	.74	2.0	.86	.90	.69	2.3	14	7.1	2.6	2.9	.52	.57
8	.55	1.9	.84	.74	.68	1.5	11	9.5	2.5	5.2	.42	.57
9	.42	1.5	.78	.64	.68	2.7	8.9	8.6	1.8	5.6	.46	.57
10	.59	1.4	.78	.58	.68	3.2	7.7	7.1	1.4	3.8	.57	.56
11	.52	1.3	.89	.56	.69	5.8	7.5	6.2	1.1	3.1	.56	.44
12	.45	1.2	.92	.54	.69	12	16	5.3	1.1	2.5	1.5	.40
13	.48	1.1	.90	.52	.68	13	20	4.7	.88	2.3	2.9	.35
14	.42	1.0	.94	.50	.67	9.6	9.8	4.4	.67	2.3	1.9	.54
15	.42	1.1	1.0	.50	.66	7.0	14	5.2	.62	1.9	2.4	.52
16	.44	1.2	1.1	.49	.65	5.2	14	5.3	2.5	1.6	3.2	.51
17	1.1	1.3	1.0	.48	.64	4.0	11	5.2	2.0	2.0	3.5	.90
18	1.2	1.4	.92	.47	1.8	4.6	9.1	5.0	1.3	1.7	5.9	.74
19	1.0	1.0	.82	.46	6.0	5.0	8.8	4.9	1.0	1.3	4.5	.75
20	1.0	.92	.72	.45	9.5	7.2	8.4	4.4	5.3	1.2	4.2	1.0
21	1.0	.84	.70	1.5	8.8	14	7.6	3.8	66	1.9	4.5	.92
22	1.2	.82	.74	4.0	20	28	6.9	3.5	91	1.9	3.4	.73
23	2.8	.84	.84	2.5	11	19	6.2	3.1	39	1.6	2.6	.65
24	2.6	.80	.78	1.9	6.2	14	6.2	3.0	18	1.5	3.9	.51
25	2.0	.76	.70	1.2	4.0	13	6.7	3.0	14	1.4	3.7	.39
26	1.6	.70	.68	1.0	2.6	16	6.1	2.8	11	4.8	2.9	.37
27	1.4	.69	.66	.91	2.1	30	5.7	2.5	8.5	4.1	2.3	.38
28	1.1	.68	.70	.82	1.7	44	5.5	2.2	6.9	2.7	1.8	.37
29	2.7	.76	.70	.74	---	45	5.1	3.2	5.9	2.0	1.5	.32
30	6.2	.90	.60	.72	---	33	5.3	4.7	6.4	1.7	1.4	.44
31	5.0	---	.58	.70	---	23	---	4.3	---	1.5	1.6	---
TOTAL	39.41	38.21	25.43	40.12	85.77	390.8	328.5	182.2	304.77	91.3	68.19	18.93
MEAN	1.27	1.27	.82	1.29	3.06	12.6	10.9	5.88	10.2	2.95	2.20	.63
MAX	6.2	3.4	1.1	6.5	20	45	20	13	91	6.8	5.9	1.3
MIN	.39	.68	.58	.45	.64	1.5	5.1	2.2	.62	1.2	.42	.32
CFSM	.14	.14	.09	.14	.33	1.35	1.17	.63	1.09	.31	.24	.07
IN.	.16	.15	.10	.16	.34	1.55	1.31	.72	1.21	.36	.27	.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

MEAN	1.27	1.27	.82	1.29	3.06	12.6	10.9	5.88	10.2	2.95	2.20	.63
MAX	1.27	1.27	.82	1.29	3.06	12.6	10.9	5.88	10.2	2.95	2.20	.63
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997
MIN	1.27	1.27	.82	1.29	3.06	12.6	10.9	5.88	10.2	2.95	2.20	.63
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS

FOR 1997 WATER YEAR

ANNUAL TOTAL	1613.63
ANNUAL MEAN	4.42
HIGHEST DAILY MEAN	91 Jun 22
LOWEST DAILY MEAN	.32 Sep 29
ANNUAL SEVEN-DAY MINIMUM	.40 Sep 24
INSTANTANEOUS PEAK FLOW	141 Jun 21
INSTANTANEOUS PEAK STAGE	13.55 (a) Mar 24
INSTANTANEOUS LOW FLOW	.28 Many days
ANNUAL RUNOFF (CFSM)	.47
ANNUAL RUNOFF (INCHES)	6.42
10 PERCENT EXCEEDS	11
50 PERCENT EXCEEDS	1.6
90 PERCENT EXCEEDS	.53

(a) Ice affected

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1996 to September 1997 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1996 to September 1997.

DISSOLVED OXYGEN: October 1996 to September 1997 (open-water periods).

INSTRUMENTATION.--Stage-activated water-quality sampler since October 1996. Continuous water-temperature recorder since October 1996. Dissolved-oxygen recorder during open-water periods since October 1996.

REMARKS.--Chemical analyses by the Wisconsin State Laboratory of Hygiene and National Water-Quality Laboratory. Samples are point samples unless otherwise indicated. Dissolved-oxygen concentrations greater than 30.0 mg/L are out of calibration range of meter. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 28.5°C, July 16; minimum observed, 0.0°C, on many days during winter.

DISSOLVED OXYGEN: Maximum observed, 15.6 mg/L, Sept. 27; minimum observed, 5.1 mg/L, June 23.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOVER- ABLE (MG/L) (00921)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	ALKA- LITY WAT WH TOT FET LAB MG/L AS CACO3 (00417)
OCT 1996											
02...	1506	--	0.42	8.5	1.0	9700	60	60	36	36	279
16...	0838	--	1.7	8.4	0.8	2400	62	54	36	31	288
29...	0916	--	1.1	8.3	12	--	63	61	36	35	272
NOV											
14...	0846	1.0	--	8.3	1.6	260	74	74	42	41	320
25...	0934	0.76	--	8.5	0.9	220	67	67	37	37	284
DEC											
11...	0922	0.89	--	8.1	1.0	40	68	68	36	36	269
JAN 1997											
22...	1232	4.0	--	7.9	2.1	340	34	33	18	17	133
FEB											
11...	1014	0.69	--	8.4	0.4	30	71	74	37	39	300
APR											
10...	0832	--	7.8	7.7	5.7	10	44	47	23	23	301
24...	1502	--	6.4	8.4	<6.0	10	45	48	23	23	189
MAY											
12...	1348	--	5.1	8.4	1.1	20	47	46	24	23	202
22...	1028	--	3.6	8.4	1.9	30	49	49	26	26	215
JUN											
04...	1316	--	1.7	8.7	2.2	130	54	52	29	29	235
18...	1022	--	1.4	7.3	6.5	400	56	55	32	32	26

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOVER- ABLE (UG/L) (01113)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOVER- ABLE (UG/L) (01119)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	LEAD, TOTAL RECOVER- ABLE (UG/L) (01114)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
OCT 1996										
02...	17	6	<0.027	0.039	<0.04	0.05	2	0.90	<1	<0.40
16...	23	3	<0.013	0.044	<0.04	<0.02	2	1.3	<1	<0.40
29...	17	<5	<0.013	0.027	<0.01	0.05	2	1.1	<1	<0.40
NOV										
14...	18	<5	0.144	0.020	<0.04	0.02	1	11	<1	0.70
25...	16	<5	0.113	0.020	<0.04	0.05	2	0.90	<1	<0.40
DEC										
11...	15	<5	0.109	0.021	<0.04	0.07	2	0.90	<1	<0.40
JAN 1997										
22...	14	12	0.192	0.124	0.06	<0.02	3	1.5	1	0.50
FEB										
11...	--	5	0.107	0.023	<0.04	<0.02	2	0.70	<1	<0.40
APR										
10...	9.3	<5	0.034	0.021	<0.04	0.02	1	<0.70	<1	1.0
24...	10	<5	0.014	0.026	0.04	0.02	1	1.3	<1	<0.40
MAY										
12...	--	<5	0.021	0.041	0.04	<0.02	2	<0.70	1	0.60
22...	10	<5	0.014	0.065	<0.04	<0.02	2	0.90	<1	0.40
JUN										
04...	11	7	0.017	0.094	0.14	<0.02	2	1.2	<1	<0.40
18...	12	<5	<0.013	0.081	<0.04	<0.02	3	1.1	<1	<0.40

STREAMS TRIBUTARY TO LAKE MICHIGAN
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WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	ZINC, TOTAL RECOVER- ABLE (UG/L) (01094)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	ACE- NAPHTH- ENE TOTAL (UG/L) (34205)	ACE- NAPHTH- YLENE TOTAL (UG/L) (34200)	ANTHRA- CENE TOTAL (UG/L) (34220)	BENZO A ANTHRAC- ENE1,2- BENZANT HRACENE TOTAL (UG/L) (34526)	BENZO- A- PYRENE TOTAL (UG/L) (34247)	BENZO B FLUOR- AN- THENE TOTAL (UG/L) (34230)
OCT 1996										
02...	<20	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
16...	<20	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
29...	30	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
NOV										
14...	<20	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
25...	<20	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
DEC										
11...	<20	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
JAN 1997										
22...	20	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
FEB										
11...	<20	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
APR										
10...	<20	<8.0	14	13	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
24...	<20	<8.0	14	13	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
MAY										
12...	<20	<8.0	16	16	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
22...	<20	<8.0	15	15	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
JUN										
04...	<20	<8.0	16	15	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073
18...	<20	<8.0	14	14	<0.048	<0.044	<0.015	<0.059	<0.041	<0.073

DATE	BENZO K FLUOR- AN- THENE TOTAL (UG/L) (34242)	BENZOGH I PERYL ENE1,12 -BENZOP ERYLENE TOTAL (UG/L) (34521)	CHRY- SENE TOTAL (UG/L) (34320)	FLUOR- ANTHENE TOTAL (UG/L) (34376)	FLUOR- ENE TOTAL (UG/L) (34381)	INDENO (1,2,3- CD) PYRENE TOTAL (UG/L) (34403)	NAPHTH- ALENE TOTAL (UG/L) (34696)	1,2,5,6 -DIBENZ -ANTHRA- CENE TOTAL (UG/L) (34556)	PHENAN- THRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)
OCT 1996										
02...	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
16...	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
29...	<0.059	<0.050	<0.030	0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
NOV										
14...	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
25...	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
DEC										
11...	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
JAN 1997										
22...	<0.059	<0.059	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.035
FEB										
11...	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
APR										
10...	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
24...	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
MAY										
12...	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
22...	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
JUN										
04...	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
18...	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063

STREAMS TRIBUTARY TO LAKE MICHIGAN
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WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STORM-EVENT SAMPLES

DATE	BEGIN- NING DATE	BEGIN- NING TIME	ENDING DATE	ENDING TIME	RUNOFF VOLUME, MILLIONS OF CUBIC FEET (99905)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	
	02-18-97	1305	02-19-97	1820	0.330	7.7	4.4	320	24	24	
	03-01-97	1930	03-04-97	1203	1.42	8.0	1.7	10	51	52	
	03-04-97	1351	03-05-97	1433	0.510	8.2	5.3	--	58	61	
	03-11-97	0437	03-12-97	1409	0.370	8.5	2.6	--	49	49	
	03-21-97	1217	03-22-97	1056	2.16	8.4	4.4	50	40	39	
	03-22-97	1254	03-24-97	0628	2.06	8.1	2.2	30	41	42	
	03-26-97	2007	03-27-97	1853	2.80	8.2	1.1	40	38	37	
	03-27-97	1927	03-28-97	1720	3.31	8.1	1.3	30	33	33	
	03-28-97	1748	03-30-97	1808	8.38	8.3	1.9	40	31	30	
	05-01-97	0806	05-02-97	0900	1.52	8.3	2.6	1000	47	46	
	05-02-97	1020	05-04-97	2149	2.77	8.4	2.2	80	45	45	
	05-29-97	1828	06-01-97	0307	1.28	8.3	2.9	--	53	52	
	06-16-97	0722	06-16-97	1812	0.350	8.4	6.7	800	54	53	
	06-20-97	1036	06-21-97	1340	2.73	8.2	2.9	--	36	36	
	06-21-97	1449	06-21-97	2349	10.7	8.0	2.3	--	29	28	
	06-22-97	2106	06-26-97	0723	7.06	8.1	--	--	38	37	
DATE	MAGNE- SIUM, TOTAL RECOVER- -ABLE (MG/L) (00921)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG) (00925)	ALKA- LINITY WAT WH TOT FET LAB CACO3 (00417)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL) (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	PHOS- PHORUS TOTAL (MG/L) AS P) (00665)	CADMIUM TOTAL RECOVER- -ABLE (UG/L) (01113)	CADMIUM DIS- SOLVED (UG/L) AS CD) (01025)	COPPER, TOTAL RECOVER- -ABLE (UG/L) (01119)	COPPER, DIS- SOLVED (UG/L) AS CU) (01040)
02-18-97	13	13	92	16	22	0.343	0.197	0.05	0.02	3	1.7
03-01-97	27	27	203	--	<5	0.041	0.040	0.05	<0.02	3	1.0
03-04-97	30	31	236	--	<5	0.031	0.039	<0.04	<0.02	2	1.3
03-11-97	25	25	196	9.8	10	0.067	0.052	0.04	0.02	2	1.2
03-21-97	20	20	159	7.8	--	0.058	0.069	0.05	0.10	2	1.5
03-22-97	21	22	171	8.6	8	0.053	0.035	0.06	0.04	2	0.90
03-26-97	19	20	154	8.1	40	0.042	0.074	0.07	0.02	2	<0.70
03-27-97	17	17	135	6.7	24	0.058	0.059	<0.04	<0.02	1	1.3
03-28-97	16	16	126	6.4	14	0.043	0.045	<0.04	<0.02	1	<0.70
05-01-97	24	24	194	10	20	0.016	0.058	<0.04	<0.02	3	1.2
05-02-97	23	23	190	9.7	10	0.017	0.037	<0.04	0.03	2	1.7
05-29-97	27	27	229	10	15	<0.013	0.031	<0.04	<0.02	2	1.4
06-16-97	30	29	245	11	16	0.034	0.149	<0.04	<0.02	2	1.3
06-20-97	18	18	143	4.4	82	0.053	0.202	0.09	<0.02	3	2.7
06-21-97	14	14	116	4.3	27	0.020	0.151	0.06	0.04	4	1.6
06-22-97	18	18	159	5.4	13	--	0.073	0.05	<0.02	2	1.8
DATE	LEAD, TOTAL RECOVER- -ABLE (UG/L) (01114)	LEAD, DIS- SOLVED (UG/L) AS PB) (01049)	ZINC, TOTAL RECOVER- -ABLE (UG/L) (01094)	ZINC, DIS- SOLVED (UG/L) AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	ACE- NAPHTH- ENE TOTAL (UG/L) (34205)	ACE- NAPHTH- YLENE TOTAL (UG/L) (34200)	ANTHRA- CENE TOTAL (UG/L) (34220)	BENZO A ANTHRAC- ENE1,2- BENZANT HRACENE TOTAL (UG/L) (34526)	BENZO- A- PYRENE TOTAL (UG/L) (34247)
02-18-97	1	<0.40	20	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041
03-01-97	<1	0.40	<20	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041
03-04-97	<1	<0.40	<20	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041
03-11-97	<1	0.60	<20	<8.0	--	--	--	--	--	--	--
03-21-97	1	<0.40	<20	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041
03-22-97	<1	<0.40	<20	<8.0	--	--	<0.048	<0.044	<0.015	<0.059	<0.041
03-26-97	1	<0.40	<20	<8.0	10	9.5	<0.048	<0.044	<0.015	<0.059	<0.041
03-27-97	1	<0.40	<20	<8.0	9.5	9.1	<0.048	<0.044	<0.015	<0.059	<0.041
03-28-97	<1	<0.40	<20	<8.0	10	9.6	<0.048	<0.044	<0.015	<0.059	<0.041
05-01-97	<1	<0.40	<20	<8.0	--	--	--	--	--	--	--
05-02-97	1	0.40	<20	<8.0	16	15	<0.048	<0.044	<0.015	<0.059	<0.041
05-29-97	<1	0.50	30	<8.0	17	15	<0.048	<0.044	<0.015	<0.059	<0.041
06-16-97	1	<0.40	<20	<8.0	--	--	--	--	--	--	--
06-20-97	1	1.3	<20	<8.0	15	15	<0.048	<0.044	<0.015	0.090	<0.041
06-21-97	<1	<0.40	<20	<8.0	15	14	<0.048	<0.044	<0.015	<0.059	<0.041
06-22-97	<1	<0.40	<20	<8.0	--	--	--	--	--	--	--

STREAMS TRIBUTARY TO LAKE MICHIGAN
04086175 PARNELL CREEK NEAR DUNDEE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	BENZO B FLUOR- AN- THENE TOTAL (UG/L) (34230)	BENZO K FLUOR- AN- THENE TOTAL (UG/L) (34242)	BENZOGH I PERYL ENE1, 12 -BENZOP ERYLENE TOTAL (UG/L) (34521)	CHRY- SENE TOTAL (UG/L) (34320)	FLUOR- ANTHENE TOTAL (UG/L) (34376)	FLUOR- ENE TOTAL (UG/L) (34381)	INDENO (1, 2, 3- CD) PYRENE TOTAL (UG/L) (34403)	NAPHTH- ALENE TOTAL (UG/L) (34696)	1, 2, 5, 6 -DIBENZ -ANTHRA CENE TOTAL (UG/L) (34556)	PHENAN- THRENE TOTAL (UG/L) (34461)	PYRENE TOTAL (UG/L) (34469)
	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
02-18-97	<0.073	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
03-01-97	<0.073	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
03-04-97	<0.073	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
03-11-97	--	--	--	--	--	--	--	--	--	--	--
03-21-97	<0.073	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
03-22-97	<0.073	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
03-26-97	<0.073	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
03-27-97	<0.073	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
03-28-97	<0.073	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
05-01-97	--	--	--	--	--	--	--	--	--	--	--
05-02-97	<0.073	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
05-29-97	<0.073	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
06-16-97	--	--	--	--	--	--	--	--	--	--	--
06-20-97	<0.073	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	0.079	<0.035	<0.063
06-21-97	<0.073	<0.059	<0.050	<0.030	<0.098	<0.120	<0.078	<0.054	<0.019	<0.035	<0.063
06-22-97	--	--	--	--	--	--	--	--	--	--	--

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	20.0	12.0	15.0	3.5	.0	1.0	.0	.0	.0	.0	.0	.0
2	15.0	8.5	13.0	3.5	.0	1.0	.5	.0	.0	.5	.0	.0
3	14.5	6.5	9.5	4.0	.0	1.5	.0	.0	.0	.5	.0	.0
4	10.0	5.0	7.5	4.0	1.0	3.0	.5	.0	.0	.0	.0	.0
5	16.0	7.5	10.5	6.0	3.5	4.5	.5	.0	.0	.0	.0	.0
6	18.0	9.5	13.5	9.5	5.5	7.5	.5	.0	.0	.0	.0	.0
7	14.0	8.5	11.0	8.0	3.5	6.0	.5	.0	.0	.0	.0	.0
8	13.5	6.5	9.5	4.5	2.0	3.5	.0	.0	.0	.0	.0	.0
9	11.5	5.5	8.0	3.5	1.0	2.0	.0	.0	.0	.5	.0	.0
10	10.5	5.0	8.0	1.5	.0	.5	.0	.0	.0	.0	.0	.0
11	11.5	3.0	7.0	1.0	.0	.0	.5	.0	.0	.0	.0	.0
12	15.0	7.0	10.0	.5	.0	.0	.5	.0	.0	.0	.0	.0
13	17.5	8.5	12.0	.5	.0	.0	.5	.0	.0	.0	.0	.0
14	15.0	8.0	10.5	.5	.0	.0	.5	.0	.0	.0	.0	.0
15	15.5	8.5	11.5	.5	.0	.0	.5	.0	.0	.0	.0	.0
16	19.0	10.0	14.0	1.5	.0	.5	.5	.0	.0	.0	.0	.0
17	15.5	10.5	14.0	4.0	.0	2.0	.0	.0	.0	.0	.0	.0
18	13.5	6.5	10.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
19	12.5	4.5	7.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
20	11.5	3.5	7.0	.0	.0	.0	.0	.0	.0	.5	.0	.0
21	13.5	7.5	10.0	.0	.0	.0	.0	.0	.0	.5	.0	.0
22	11.5	10.0	10.5	.5	.0	.0	.0	.0	.0	.5	.0	.0
23	11.0	8.5	9.5	.5	.0	.0	.5	.0	.0	.0	.0	.0
24	9.0	7.0	8.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
25	12.0	6.0	8.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
26	12.0	9.0	10.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
27	15.0	10.0	12.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
28	12.0	6.0	8.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
29	8.0	5.0	6.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
30	8.5	3.5	7.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
31	4.0	.5	2.5	---	---	---	.0	.0	.0	.5	.0	.0
MONTH	20.0	.5	9.8	9.5	.0	1.1	.5	.0	.0	.5	.0	.0

STREAMS TRIBUTARY TO LAKE MICHIGAN
04086175 PARNELL CREEK NEAR DUNDEE, WI--CONTINUED

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WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.5	.0	.0	.5	.0	.0	7.5	.5	4.0	13.5	4.5	8.5
2	.5	.0	.0	.5	.0	.0	9.5	2.5	6.0	10.0	7.5	8.5
3	.0	.0	.0	.5	.0	.0	11.5	6.0	8.5	11.0	6.5	8.5
4	.0	.0	.0	.5	.0	.0	11.5	7.0	9.5	14.5	6.0	10.0
5	.5	.0	.0	.5	.0	.0	10.0	8.0	8.5	14.5	9.0	11.5
6	.5	.0	.0	.5	.0	.0	8.0	2.5	6.5	15.0	9.0	12.0
7	.0	.0	.0	.5	.0	.0	---	---	---	12.0	8.5	10.5
8	.0	.0	.0	.0	.0	.0	---	---	---	16.0	9.0	12.0
9	.5	.0	.0	.5	.0	.0	---	---	---	12.5	9.0	10.5
10	.0	.0	.0	.5	.0	.0	---	---	---	16.0	7.0	11.0
11	.5	.0	.0	.5	.0	.0	4.5	2.5	3.5	16.5	10.5	13.5
12	.5	.0	.0	.5	.0	.0	2.5	.0	1.0	13.5	9.0	11.0
13	.0	.0	.0	.0	.0	.0	6.0	.0	2.5	13.5	7.0	10.0
14	.5	.0	.0	.0	.0	.0	8.5	.5	4.5	10.0	8.0	9.0
15	.0	.0	.0	.0	.0	.0	10.5	3.0	6.5	9.0	6.5	7.5
16	.0	.0	.0	.5	.0	.0	9.0	4.0	6.0	9.5	5.5	7.5
17	.5	.0	.0	.0	.0	.0	9.5	2.0	5.5	15.5	6.0	10.5
18	.5	.0	.0	.0	.0	.0	6.0	3.5	5.0	11.0	9.0	10.0
19	.5	.0	.0	.5	.0	.0	7.0	4.0	5.5	13.0	9.5	11.0
20	.5	.0	.0	.5	.0	.0	8.5	5.0	7.0	13.5	8.0	11.0
21	.0	.0	.0	.5	.0	.0	11.0	5.5	8.0	16.5	7.5	11.5
22	.5	.0	.0	.5	.0	.0	10.0	4.5	7.5	18.5	8.5	13.0
23	.0	.0	.0	1.0	.0	.0	8.0	5.0	7.0	19.5	11.0	14.5
24	.0	.0	.0	.5	.0	.0	10.0	5.0	7.5	15.0	12.0	13.5
25	.5	.0	.0	.5	.0	.0	14.0	5.5	9.5	17.0	11.0	13.0
26	.5	.0	.0	1.5	.0	.5	13.5	6.5	10.0	16.0	9.0	12.5
27	.5	.0	.0	1.5	.0	.5	12.5	8.5	10.0	18.5	9.0	13.5
28	.5	.0	.0	3.0	.0	1.5	15.5	7.5	11.0	15.5	11.5	13.5
29	---	---	---	2.0	1.0	1.5	17.0	9.0	13.0	14.0	12.5	13.0
30	---	---	---	3.0	.0	1.5	13.5	7.0	10.5	15.5	12.0	13.5
31	---	---	---	5.5	.0	2.5	---	---	---	20.5	11.5	15.5
MONTH	.5	.0	.0	5.5	.0	.3	17.0	.0	7.1	20.5	4.5	11.3
JUNE			JULY			AUGUST			SEPTEMBER			
1	22.5	13.0	17.5	23.5	19.5	21.5	22.5	18.0	19.5	23.0	16.0	19.5
2	23.5	14.5	18.5	24.0	21.0	22.0	27.0	18.5	22.0	22.0	15.5	18.5
3	23.5	15.5	18.5	21.0	17.5	19.0	25.5	20.5	22.0	20.5	13.5	16.0
4	22.5	14.0	17.5	18.5	16.5	17.0	24.5	18.0	21.0	19.5	11.0	14.5
5	17.0	15.0	16.0	20.0	15.0	17.5	23.0	15.0	18.5	15.5	11.5	13.5
6	18.0	14.0	15.5	21.0	17.0	18.5	23.5	15.0	18.5	23.5	13.5	17.5
7	16.5	15.0	15.5	20.0	14.5	17.0	25.0	15.5	19.5	19.5	15.0	17.0
8	21.5	13.0	17.0	18.0	15.5	16.5	25.5	16.0	20.0	19.0	15.5	17.0
9	23.5	15.0	19.0	19.5	15.0	17.0	22.0	16.5	19.0	18.0	15.0	16.5
10	25.0	15.0	19.5	21.0	15.0	18.0	22.0	17.5	20.0	21.0	14.0	16.5
11	22.5	15.5	19.0	22.5	16.0	19.0	21.0	16.0	18.0	20.5	13.0	16.0
12	24.0	16.0	19.5	24.5	17.5	20.5	17.5	16.0	16.5	20.5	11.5	15.0
13	23.5	16.0	19.5	26.0	20.0	22.5	21.0	16.0	18.0	20.0	12.0	15.5
14	24.0	13.5	18.0	27.5	21.0	23.5	17.5	14.5	16.5	20.5	15.5	17.0
15	21.5	12.5	16.5	27.5	20.5	23.5	22.0	16.5	19.0	22.0	14.5	17.5
16	22.0	16.5	18.5	28.5	21.0	24.0	22.0	19.0	20.0	23.0	16.5	19.0
17	21.5	14.0	17.5	26.5	20.5	22.5	19.0	16.0	17.0	23.0	16.0	19.0
18	22.0	14.5	17.5	27.5	20.5	23.5	17.0	15.0	16.0	21.5	14.0	17.0
19	22.0	15.0	18.0	25.0	19.0	21.0	16.5	14.5	15.5	20.5	16.5	18.0
20	20.5	16.5	18.5	24.5	18.0	21.0	17.0	16.0	16.5	17.0	13.0	15.5
21	19.0	17.0	18.5	21.5	18.5	20.5	17.0	15.0	16.0	17.5	10.5	13.5
22	21.0	19.0	20.0	24.0	17.5	20.5	19.0	14.5	16.5	15.0	10.5	12.5
23	23.0	20.5	21.5	22.5	18.5	20.0	19.0	14.0	16.0	16.5	10.5	13.0
24	24.0	21.5	22.5	25.0	16.5	20.0	18.0	16.5	17.0	17.5	8.5	12.0
25	23.5	21.5	22.5	22.5	18.0	20.0	18.0	15.5	16.5	20.5	11.0	14.5
26	22.5	19.5	21.0	23.5	20.5	21.5	20.0	15.5	17.5	19.5	11.0	14.0
27	23.0	18.5	21.0	23.5	21.0	22.0	23.5	17.5	20.0	18.5	11.5	14.0
28	23.0	19.0	21.5	25.5	19.5	22.5	21.5	17.0	19.0	20.0	13.0	15.5
29	23.0	20.0	21.5	22.5	17.0	19.5	19.5	16.0	17.5	17.0	12.0	13.5
30	21.5	20.0	20.5	23.5	15.5	19.0	18.5	15.5	17.0	15.0	11.0	13.0
31	---	---	---	24.0	15.5	19.5	23.5	17.0	19.5	---	---	---
MONTH	25.0	12.5	18.9	28.5	14.5	20.3	27.0	14.0	18.2	23.5	8.5	15.7

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	---	---	---	---	---	---	---	---	---	12.7	10.1	11.4
14	---	---	---	---	---	---	---	---	---	12.4	10.4	11.2
15	---	---	---	---	---	---	---	---	---	12.8	10.8	11.6
16	---	---	---	---	---	---	---	---	---	12.9	10.7	11.7
17	---	---	---	---	---	---	---	---	---	12.8	9.3	11.2
18	---	---	---	---	---	---	---	---	---	11.8	9.6	10.6
19	---	---	---	---	---	---	---	---	---	12.0	9.6	10.6
20	---	---	---	---	---	---	---	---	---	12.0	9.4	10.8
21	---	---	---	---	---	---	---	---	---	12.2	8.8	10.6
22	---	---	---	---	---	---	---	---	---	11.9	8.4	10.2
23	---	---	---	---	---	---	---	---	---	11.5	7.5	9.7
24	---	---	---	---	---	---	---	---	---	10.7	8.0	9.2
25	---	---	---	---	---	---	---	---	---	11.7	8.5	9.7
26	---	---	---	---	---	---	---	---	---	11.7	8.5	10.1
27	---	---	---	---	---	---	---	---	---	11.3	7.9	9.7
28	---	---	---	---	---	---	---	---	---	11.3	7.8	9.5
29	---	---	---	---	---	---	---	---	---	11.4	7.7	9.4
30	---	---	---	---	---	---	---	---	---	11.3	9.0	10.1
31	---	---	---	---	---	---	---	---	---	11.8	7.6	9.9
MONTH	---	---	---	---	---	---	---	---	---	12.9	7.5	10.4
	JUNE			JULY			AUGUST			SEPTEMBER		
1	11.8	7.9	9.6	8.8	6.7	7.7	12.7	9.0	10.6	12.0	8.4	9.9
2	11.5	7.7	9.5	8.9 ⁺	6.8	7.7	11.6	7.8	10.1	12.7	8.6	10.3
3	11.6	7.7	9.4	9.8	7.1	8.2	11.3	7.6	9.3	13.1	10.0	11.4
4	11.6	8.1	10.0	10.6	8.1	9.2	10.7	8.5	9.4	13.6	10.6	11.8
5	12.1	8.6	10.3	11.2	7.7	9.8	11.1	8.8	9.8	13.5	10.7	11.8
6	12.7	8.7	10.7	11.8	7.7	10.3	10.9	8.6	9.7	12.5	9.6	11.0
7	12.1	8.4	10.3	12.8	9.7	11.1	11.0	8.7	9.8	13.0	9.9	11.0
8	12.6	8.8	10.7	10.3	8.6	9.3	15.4	11.0	12.9	12.3	9.5	10.5
9	12.2	8.2	10.1	10.6	8.4	9.5	14.1	9.6	11.5	11.7	9.1	10.0
10	12.1	7.8	9.9	11.4	7.4	9.9	12.8	9.9	11.0	11.4	9.0	10.0
11	12.3	7.6	9.7	12.7	9.6	11.2	13.7	10.3	11.4	10.7	8.7	9.6
12	12.3	7.9	9.9	15.3	11.0	13.3	10.3	7.4	9.0	12.8	8.9	10.8
13	12.7	7.9	9.9	13.9	10.3	11.6	10.3					

STREAMS TRIBUTARY TO LAKE MICHIGAN
04086175 PARNELL CREEK NEAR DUNDEE, WI--CONTINUED

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PRECIPITATION QUANTITY

PERIOD OF RECORD.--October 1996 to September 1997 (non-frozen precipitation) discontinued.

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established on Oct. 1, 1996. Rainfall estimated to be 0.00 for Nov. 23, Dec. 4, 11-13, Jan. 2, 21, 31, Feb. 5, 17, 26-27, Mar. 10, 17, 25, and Apr. 13 because recorded precipitation interpreted as collector snowmelt.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 2.62 in., June 21.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.11	.00	.32	.00	.00	.02	.00
2	.00	.00	.00	.00	.00	.00	.00	.34	.00	.08	.01	.00
3	.00	.00	.00	.00	.00	.00	.00	.07	.00	.00	.01	.00
4	.03	.00	.00	.84	.00	.08	.00	.00	.00	.01	.00	.00
5	.00	.00	.00	.00	.00	.00	.12	.20	.07	.00	.00	.00
6	.15	.13	.00	.00	.00	.00	.01	.00	.19	.00	.01	.00
7	.12	.00	.00	.00	.00	.00	.00	.47	.23	.00	.00	.00
8	.00	.00	.00	.00	.00	.17	.00	.09	.00	.96	.00	.00
9	.08	.00	.00	.00	.00	.41	.00	.00	.00	.00	.16	.03
10	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.09	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.17	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.20
14	.00	.00	.00	.00	.00	.00	.00	.13	.00	.00	.00	.03
15	.00	.00	.28	.00	.00	.00	.01	.07	.53	.00	.60	.00
16	.00	.00	.00	.00	.00	.00	.00	.04	.42	.22	.00	.49
17	.46	.09	.00	.00	.00	.00	.00	.00	.00	.12	1.05	.00
18	.00	.00	.00	.00	.00	.00	.11	.06	.00	.00	.00	.08
19	.00	.00	.00	.00	.00	.00	.08	.01	.16	.00	.04	.45
20	.00	.00	.00	.00	.17	.00	.00	.00	1.02	.04	.33	.01
21	.00	.00	.00	.00	.39	.01	.00	.00	2.62	.43	.00	.00
22	.70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
23	.24	.00	.24	.00	.00	.00	.00	.00	.00	.10	.48	.01
24	.01	.00	.00	.00	.00	.00	.27	.02	.39	.00	.01	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.98	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.01	.00	.01	.20	.00	.01	.00	.00	.00	.00
29	1.04	.39	.00	.00	---	.01	.00	.44	.02	.00	.00	.00
30	.14	.11	.00	.00	---	.02	.65	.01	.84	.00	.10	.31
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	3.00	0.72	0.53	0.84	0.57	1.01	1.25	2.28	6.58	2.97	3.99	1.62

STREAMS TRIBUTARY TO LAKE MICHIGAN
434021088074700 PARNELL CREEK RAIN GAGE #1 NEAR DUNDEE, WI

LOCATION.--Lat 43°40'21", long 88°07'47", in NW 1/4 NE 1/4 sec.20, T.14 N., R.20 E., Fond du Lac County, Hydrologic Unit 04040003, on Highway V, 0.4 mi north of Butler Lake Road near Dundee.

PERIOD OF RECORD.--October 1996 to July 14, 1997 (non-frozen precipitation) discontinued.

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established on Oct. 1, 1996. Rainfall estimated to be 0.00 for Nov. 23, Dec. 4, 5, 11-12, Jan. 2, 21, Feb. 26, Mar. 17, 25, and Apr. 13 because recorded precipitation interpreted as collector snowmelt.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 4.11 in., June 21.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.09	.00	.19	.00	.00	---	---
2	.00	.00	.00	.00	.00	.00	.00	.33	.00	.09	---	---
3	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	---	---
4	.02	.00	.00	.88	.00	.05	.00	.00	.00	.00	---	---
5	.00	.00	.00	.00	.00	.00	.13	.14	.07	.00	---	---
6	.12	.15	.00	.00	.00	.00	.00	.00	.25	.00	---	---
7	.08	.00	.00	.00	.00	.00	.00	.40	.20	.00	---	---
8	.00	.00	.00	.00	.00	.14	.00	.05	.00	.95	---	---
9	.07	.00	.00	.00	.00	.01	.00	.00	.00	.00	---	---
10	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
11	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	---	---
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
14	.00	.00	.01	.00	.00	.00	.00	.13	.00	.00	---	---
15	.00	.00	.25	.00	.00	.00	.00	.06	.52	---	---	---
16	.00	.00	.00	.00	.00	.00	.00	.06	.36	---	---	---
17	.40	.08	.00	.00	.00	.00	.00	.00	.00	---	---	---
18	.00	.00	.00	.00	.00	.00	.09	.04	.00	---	---	---
19	.00	.00	.00	.00	.00	.00	.06	.00	.07	---	---	---
20	.00	.00	.00	.00	.17	.00	.00	.00	1.60	---	---	---
21	.00	.00	.00	.00	.44	.00	.00	.00	4.11	---	---	---
22	.72	.00	.01	.00	.00	.00	.00	.00	.00	---	---	---
23	.21	.00	.22	.00	.00	.00	.00	.00	.00	---	---	---
24	.01	.00	.00	.00	.00	.00	.27	.03	.35	---	---	---
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
28	.00	.00	.01	.00	.00	.21	.00	.02	.00	---	---	---
29	1.11	.34	.00	.00	---	.01	.00	.48	.01	---	---	---
30	.13	.09	.00	.00	---	.00	.66	.02	.60	---	---	---
31	.00	---	.00	.00	---	.00	---	.00	---	---	---	---
TOTAL	2.90	0.66	0.50	0.88	0.61	0.51	1.21	2.00	8.20	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN

135

434156088061500 PARNELL CREEK RAIN GAGE #2 NEAR DUNDEE, WI

LOCATION.--Lat 43°41'56", long 88°06'15", in NW 1/4 NE 1/4 sec.9, T.14 N., R.20 E., Fond du Lac County, Hydrologic Unit 04040003, on Highway U, 0.1 mi south of Woodside Road near Dundee.

PERIOD OF RECORD.--October 1996 to September 1997 (non-frozen precipitation) discontinued.

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established on Oct. 1, 1996. Rainfall estimated to be 0.00 for Nov. 23, Dec. 11-13, Jan. 2, 21, 31, Feb. 17, 26, Mar. 17, 25, and Apr. 13 because recorded precipitation interpreted as collector snowmelt.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 3.64 in., June 21.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.42	.00	.25	.00	.00	.01	.00
2	.00	.00	.00	.00	.00	.00	.00	.34	.00	.09	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.01	.00
4	.01	.00	.00	.85	.00	.06	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.13	.14	.06	.00	.02	.00
6	.34	.14	.00	.00	.00	.00	.01	.00	.12	.00	.00	.00
7	.05	.00	.00	.00	.00	.00	.00	.39	.09	.01	.00	.00
8	.00	.00	.00	.00	.00	.23	.00	.06	.00	.85	.00	.00
9	.06	.00	.00	.00	.00	.04	.00	.00	.00	.00	.11	.02
10	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.33	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.16
14	.00	.00	.00	.00	.00	.00	.00	.14	.00	.00	.00	.06
15	.00	.00	.27	.00	.00	.00	.01	.05	.40	.00	.67	.00
16	.00	.00	.00	.00	.00	.00	.00	.06	.36	.15	.01	.62
17	.37	.09	.00	.00	.00	.00	.00	.00	.00	.07	.65	.00
18	.00	.00	.00	.00	.00	.00	.09	.06	.00	.00	.00	.01
19	.00	.00	.00	.00	.00	.00	.05	.02	.04	.00	.04	.21
20	.00	.00	.00	.00	.17	.00	.00	.00	3.23	.00	.36	.04
21	.00	.00	.00	.00	.33	.02	.00	.00	3.64	.17	.00	.00
22	.76	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.26	.00	.25	.00	.00	.00	.00	.00	.00	.13	.45	.00
24	.01	.00	.00	.00	.00	.00	.18	.00	.33	.00	.04	.00
25	.00	.00	.00	.00	.00	.00	.00	.01	.00	.84	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.01	.00	.04	.21	.00	.02	.00	.00	.00	.00
29	1.10	.42	.00	.00	---	.01	.00	.46	.00	.00	.00	.00
30	.16	.10	.00	.00	---	.01	.67	.05	.66	.00	.08	.31
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	3.16	0.75	0.53	0.85	0.54	1.00	1.14	2.10	8.95	2.35	3.79	1.43

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 September 1987, October 1990 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 and crest-stage gage. Datum of gage is 795.33 ft above sea level (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: Ice-affected periods, Nov. 12-15, 20, 26, 27, Dec. 1-3, 6-8, Dec. 15 to Mar. 12, and Mar. 16, 17. Records good except those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	179	62	56	62	220	204	244	77	85	30	33
2	26	123	58	62	62	210	176	317	60	93	28	30
3	24	95	58	90	64	300	161	316	52	101	25	28
4	24	84	55	130	64	320	150	290	47	72	24	26
5	24	77	53	170	66	300	145	233	43	62	24	25
6	23	74	54	120	64	250	155	181	49	55	23	25
7	28	72	56	92	62	200	136	147	54	49	22	23
8	36	68	54	82	60	170	114	216	56	61	20	23
9	28	63	52	72	58	160	100	266	49	95	20	24
10	26	60	51	66	56	170	92	229	43	72	19	26
11	25	55	52	60	54	180	88	217	38	52	19	25
12	24	50	57	54	54	190	93	171	36	42	26	22
13	23	50	62	50	52	185	104	147	36	37	72	20
14	23	45	66	46	49	167	151	136	34	38	49	20
15	23	45	90	45	48	139	209	133	32	36	38	21
16	24	45	100	43	47	130	200	130	100	31	40	25
17	34	52	86	43	45	140	161	125	150	33	34	42
18	77	56	60	42	90	152	134	119	95	40	51	44
19	51	50	54	42	140	156	126	117	69	34	54	30
20	42	45	54	43	200	213	128	110	60	30	53	26
21	39	43	54	52	310	289	121	99	226	48	74	25
22	39	41	56	90	500	329	111	93	404	77	67	23
23	73	39	64	100	640	303	97	89	465	66	51	25
24	98	40	80	86	600	232	90	85	376	54	79	24
25	74	39	58	76	480	229	90	98	301	48	111	21
26	62	38	56	70	350	289	84	101	236	47	79	19
27	56	37	54	64	300	302	79	89	175	49	60	18
28	52	35	52	60	260	305	75	76	119	47	52	17
29	65	35	56	58	---	304	71	83	84	43	43	16
30	214	54	56	58	---	281	72	112	82	38	38	16
31	230	---	54	60	---	246	---	90	---	34	35	---
TOTAL	1614	1789	1874	2182	4837	7061	3717	4859	3648	1669	1360	742
MEAN	52.1	59.6	60.5	70.4	173	228	124	157	122	53.8	43.9	24.7
MAX	230	179	100	170	640	329	209	317	465	101	111	44
MIN	23	35	51	42	45	130	71	76	32	30	19	16
CFSM	.43	.50	.50	.59	1.44	1.90	1.03	1.31	1.01	.45	.37	.21
IN.	.50	.55	.58	.68	1.50	2.19	1.15	1.51	1.13	.52	.42	.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1997, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
MEAN	44.9	59.1	51.0	50.5	63.7
MAX	306	376	268	273	253
(WY)	1955	1986	1992	1975	1984
MIN	5.65	6.66	4.92	3.74	5.32
(WY)	1935	1938	1964	1940	1959

SUMMARY STATISTICS

	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1930 - 1997
ANNUAL TOTAL	39436	35352	
ANNUAL MEAN	108	96.9	74.6
HIGHEST ANNUAL MEAN			168
LOWEST ANNUAL MEAN			13.5
HIGHEST DAILY MEAN	1380	(a) 640	3320
LOWEST DAILY MEAN	18	16	.20
ANNUAL SEVEN-DAY MINIMUM	19	19	.24
INSTANTANEOUS PEAK FLOW		(b)	3600
INSTANTANEOUS PEAK STAGE		(a) 9.22	(c) 12.25
INSTANTANEOUS LOW FLOW		16	.20
ANNUAL RUNOFF (CFSM)	.90	.81	.62
ANNUAL RUNOFF (INCHES)	12.23	10.96	8.45
10 PERCENT EXCEEDS	217	227	166
50 PERCENT EXCEEDS	58	60	32
90 PERCENT EXCEEDS	24	25	7.0

(a) Ice affected

(b) Unknown, ice affected

(c) From graph based on gage readings, backwater from ice

STREAMS TRIBUTARY TO LAKE MICHIGAN
04086600 MILWAUKEE RIVER NEAR CEDARBURG, WI

137

LOCATION.--Lat 43°16'49", long 87°56'34", 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 sea level (Southeastern Wisconsin Regional Planning Commission bench mark).

REMARKS.--Estimated daily discharges: Apr. 21-25 and ice-affected periods, Nov. 26-30, Dec. 2, and Dec. 6 to Mar. 4. Records fair except those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	203	709	312	200	280	750	1380	674	360	696	164	209
2	175	600	370	210	280	1300	1230	897	326	648	136	190
3	153	520	329	220	300	1400	1120	938	292	635	125	169
4	135	447	339	230	300	1300	1040	924	265	483	103	144
5	128	371	284	320	280	1190	972	840	245	378	93	131
6	139	314	270	340	270	984	937	735	266	311	83	120
7	157	297	280	330	260	815	856	653	285	261	71	120
8	169	292	290	320	260	668	770	774	298	287	66	120
9	178	282	250	300	250	636	709	826	281	371	71	125
10	172	244	240	290	250	854	623	756	262	333	75	129
11	169	222	230	290	250	1020	568	660	232	279	78	128
12	167	208	230	290	240	1110	559	560	209	246	141	127
13	165	194	230	290	230	960	552	487	200	232	228	129
14	161	195	240	290	230	876	625	435	186	218	235	116
15	155	198	250	290	220	780	764	397	173	214	208	108
16	156	180	250	290	220	764	810	388	380	177	188	112
17	208	176	250	280	210	778	767	381	589	167	199	241
18	280	202	260	280	270	769	706	371	436	192	275	244
19	288	203	250	280	400	701	663	364	334	183	340	223
20	264	167	260	280	650	790	638	354	287	164	376	189
21	248	192	260	270	2000	1180	650	335	1090	203	411	189
22	265	190	250	300	1800	1520	610	315	2040	295	379	153
23	347	195	240	320	1600	1520	560	294	1970	260	322	143
24	460	181	240	310	1500	1350	530	282	1730	214	375	129
25	422	185	240	300	1400	1310	500	297	1560	191	454	136
26	382	200	250	300	950	1400	462	292	1350	227	408	118
27	354	180	260	290	770	1390	414	262	1130	390	355	115
28	326	200	260	280	500	1450	391	250	904	362	311	115
29	370	190	220	280	---	1540	367	293	710	272	270	97
30	669	290	200	270	---	1570	403	377	641	214	234	96
31	779	---	200	280	---	1520	---	371	---	191	223	---
TOTAL	8244	8024	8034	8820	16170	34195	21176	15782	19031	9294	6997	4365
MEAN	266	267	259	285	578	1103	706	509	634	300	226	146
MAX	779	709	370	340	2000	1570	1380	938	2040	696	454	244
MIN	128	167	200	200	210	636	367	250	173	164	66	96
CFSM	.44	.44	.43	.47	.95	1.82	1.16	.84	1.05	.49	.37	.24
IN.	.51	.49	.49	.54	.99	2.10	1.30	.97	1.17	.57	.43	.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1997, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	335	512	407	261	415	968	957	468	495	256	211	311				
MAX	1157	1565	757	406	997	1793	2501	757	1887	767	349	1593				
(WY)	1987	1986	1983	1985	1984	1986	1993	1984	1996	1993	1987	1986				
MIN	133	173	120	120	115	417	453	219	89.5	69.7	69.5	108				
(WY)	1995	1995	1990	1994	1995	1995	1994	1988	1988	1988	1988	1994				

SUMMARY STATISTICS

	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1982 - 1997	
ANNUAL TOTAL	184116		160132			
ANNUAL MEAN	503		439		464	
HIGHEST ANNUAL MEAN					720	1986
LOWEST ANNUAL MEAN					247	1995
HIGHEST DAILY MEAN	4870	Jun 19	2040	Jun 22	4870	Jun 19 1996
LOWEST DAILY MEAN	107	Sep 6, 7	66	Aug 8	42	Jul 9 1988
ANNUAL SEVEN-DAY MINIMUM	112	Sep 2	77	Aug 5	49	Jul 5 1988
INSTANTANEOUS PEAK FLOW			(a) 2060	Jun 22	5500	Jun 18 1996
INSTANTANEOUS PEAK STAGE			(b) 11.99	Feb 23	12.88	Jun 18 1996
INSTANTANEOUS LOW FLOW			56	Aug 8	42	Jul 9 1988
ANNUAL RUNOFF (CFSM)	.83		.72		.76	
ANNUAL RUNOFF (INCHES)	11.28		9.81		10.38	
10 PERCENT EXCEEDS	906		954		1000	
50 PERCENT EXCEEDS	311		287		288	
90 PERCENT EXCEEDS	140		153		120	

(a) Gage height, 8.84 ft, peak discharge may have been higher during ice-affected period
(b) Backwater from ice

STREAMS TRIBUTARY TO LAKE MICHIGAN

040869415 LINCOLN CREEK, AT 47TH STREET, AT MILWAUKEE, WI
(NATIONAL WATER-QUALITY ASSESSMENT PROGRAM STATION)

LOCATION.--Lat 43°05'49", long 87°58'20", in NW 1/4 SE 1/4 sec.2, T.7 N., R.21 E., Milwaukee County, Hydrologic Unit 04040003, on right bank upstream from concrete drop structure at 47th Street, 100 ft west from intersection of 47th and Congress Streets.

DRAINAGE AREA.--9.56 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1993 to July 1995, October 1996 to June 1997 (no winter record), discontinued.

GAGE.--Water-stage recorder. Elevation of gage is 640 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 27 to Apr. 1, Apr. 6-8, May 8, 26, and June 21. Records fair except those for estimated daily discharges, which are poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, OCTOBER 1996 TO JUNE 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	3.9	4.0	---	---	64	3.4	29	1.8	---	---	---
2	2.6	3.3	3.3	---	---	15	2.9	30	2.0	---	---	---
3	2.5	2.8	3.0	---	---	7.2	2.8	17	2.1	---	---	---
4	2.5	3.3	2.4	---	---	5.9	2.7	6.5	2.1	---	---	---
5	2.2	3.2	7.3	---	---	4.9	7.0	8.2	2.2	---	---	---
6	1.9	3.6	6.2	---	---	4.2	3.5	5.1	15	---	---	---
7	51	3.0	4.1	---	---	3.8	3.3	18	2.6	---	---	---
8	3.3	2.7	2.3	---	---	3.7	3.1	35	1.5	---	---	---
9	2.7	2.2	2.0	---	---	15	2.9	6.9	1.5	---	---	---
10	2.8	1.8	2.4	---	---	6.4	2.9	4.9	1.8	---	---	---
11	2.5	1.8	4.2	---	---	5.6	6.3	4.2	2.8	---	---	---
12	2.5	2.0	3.7	---	---	5.3	24	3.8	3.1	---	---	---
13	2.3	2.1	3.1	---	---	4.9	19	3.7	2.6	---	---	---
14	2.2	2.1	2.9	---	---	11	8.5	6.8	1.7	---	---	---
15	2.1	2.1	---	---	---	5.2	6.0	4.0	9.0	---	---	---
16	2.3	1.8	---	---	---	4.1	4.7	3.6	100	---	---	---
17	116	4.6	---	---	---	6.5	4.5	3.0	3.1	---	---	---
18	4.4	2.0	---	---	---	5.0	5.6	3.4	2.4	---	---	---
19	2.7	2.0	---	---	---	4.1	10	2.8	2.4	---	---	---
20	2.1	2.6	---	---	---	4.2	4.8	2.8	125	---	---	---
21	2.3	4.9	---	---	---	4.8	5.2	2.5	1900	---	---	---
22	29	2.9	---	---	---	4.4	5.7	2.5	34	---	---	---
23	18	2.6	---	---	---	3.9	3.4	2.4	14	---	---	---
24	3.5	2.7	---	---	---	4.7	3.1	10	28	---	---	---
25	2.9	2.0	---	---	---	14	2.8	11	20	---	---	---
26	2.5	1.8	---	---	---	4.8	2.4	2.0	6.6	---	---	---
27	2.0	1.7	---	---	---	4.0	2.3	1.7	5.2	---	---	---
28	2.4	2.1	---	---	---	3.6	3.0	4.5	4.3	---	---	---
29	110	12	---	---	---	3.3	2.6	33	3.6	---	---	---
30	17	11	---	---	---	3.8	84	4.2	40	---	---	---
31	5.2	---	---	---	---	3.6	---	2.3	---	---	---	---
TOTAL	407.6	96.6	50.9	---	---	240.9	242.4	274.8	2340.4	---	---	---
MEAN	13.1	3.22	3.64	---	---	7.77	8.08	8.86	78.0	---	---	---
MAX	116	12	7.3	---	---	64	84	35	1900	---	---	---
MIN	1.9	1.7	2.0	---	---	3.3	2.3	1.7	1.5	---	---	---
CFSM	1.38	.34	.38	---	---	.81	.85	.93	8.16	---	---	---
IN.	1.59	.38	.20	---	---	.94	.94	1.07	9.11	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1997, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
MEAN	6.78	6.92	4.61	5.61	10.9	11.8	19.5	8.67	30.2	13.1	13.6	10.8
MAX	13.1	9.94	7.31	9.15	17.7	22.7	47.1	12.4	78.0	19.3	14.1	15.7
(WY)	1997	1996	1996	1996	1996	1993	1993	1995	1997	1994	1993	1993
MIN	3.42	3.22	2.98	1.79	2.92	5.35	6.46	5.35	6.63	7.02	13.2	5.94
(WY)	1995	1997	1994	1994	1995	1996	1994	1994	1995	1995	1994	1994

SUMMARY STATISTICS

FOR 1997 WATER YEAR
(OCTOBER - DECEMBER,
AND MARCH - JUNE)

WATER YEARS 1993 - 1997

ANNUAL MEAN	8.48
HIGHEST ANNUAL MEAN	8.48
LOWEST ANNUAL MEAN	8.48
HIGHEST DAILY MEAN	1900 Jun 21
LOWEST DAILY MEAN	1.5 Jun 8
ANNUAL SEVEN-DAY MINIMUM	2.0 Nov 10
INSTANTANEOUS PEAK FLOW	(b) 5540 Jun 21
INSTANTANEOUS PEAK STAGE	(b) 20.09 Jun 21
INSTANTANEOUS LOW FLOW	.80 Jun 15
ANNUAL RUNOFF (CFSM)	.89
ANNUAL RUNOFF (INCHES)	12.05
10 PERCENT EXCEEDS	18
50 PERCENT EXCEEDS	3.6
90 PERCENT EXCEEDS	2.0

(a) Estimated, result of freezeup

(b) From rating curve extended above 4,000 ft³/s on basis of indirect measurement of peak flow

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1993 to July 1995, October 1996 to June 1997 (open-water periods), discontinued. National Water-Quality Assessment Program sampling April 1993 to July 1995.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: March 1993 to July 1995, October 1996 to June 1997.

DISSOLVED OXYGEN: June 1994 to July 1995, October 1996 to June 1997 (open-water periods).

INSTRUMENTATION.--Stage-activated water-quality sampler from March 1993 to June 1997. Continuous water-temperature recorder since March 1993. Dissolved-oxygen recorder during open-water periods since June 1994.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are storm-composite samples collected by an automatic point sampler unless otherwise indicated. Dissolved-oxygen concentrations greater than 30.0 mg/L are out of calibration range of meter. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum observed, 30.5°C, July 13, 1995; minimum observed, 0.0°C, many days during winter period.

DISSOLVED OXYGEN: Maximum observed, 16.2 mg/L, May 21, 1997; minimum observed, 0.1 mg/L, Aug. 25, 1995.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 24.0°C, June 28; minimum observed, 0.5°C, Nov. 27-28.

DISSOLVED OXYGEN: Maximum observed, 16.2 mg/L, May 21; minimum observed, 0.3 mg/L, June 12.

WATER-QUALITY DATA, OCTOBER 1996 TO JUNE 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOVER- ABLE (MG/L) (00921)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	ALKA- LITY WAT WH TOT FET LAB MG/L AS CACO3 (00417)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
NOV 1996												
*05...	1042	3.1	7.9	14	7400	62	66	25	25	192	130	<5
*19...	0912	1.6	8.1	6.0	1900	67	68	26	26	186	140	<5
APR 1997												
*08...	1130	5.0	8.4	2.1	--	100	96	45	44	238	590	8
*23...	0944	3.2	8.3	1.0	<10	74	70	31	29	189	310	15
MAY												
*14...	0958	3.6	8.3	2.2	330	95	94	45	44	257	420	<5
*21...	1505	2.4	8.5	1.7	10	84	84	41	41	228	370	<5
JUN												
*04...	1602	2.2	8.6	2.9	310	77	77	38	39	209	370	5
*18...	1506	2.4	8.2	3.9	700	79	78	34	34	218	300	7

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOVER- ABLE (UG/L) (01113)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOVER- ABLE (UG/L) (01119)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	LEAD, TOTAL RECOVER- ABLE (UG/L) (01114)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	ZINC, TOTAL RECOVER- ABLE (UG/L) (01094)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 1996											
05...	0.018	0.075	0.22	0.07	13	8.1	2.3	<0.40	44	20	--
19...	<0.013	0.060	0.08	0.06	5	3.3	2.5	0.80	37	13	--
APR 1997											
08...	0.023	0.238	0.11	0.20	6	2.8	2.0	<0.40	43	<8.0	4.7
23...	0.100	0.558	<0.04	0.04	4	1.7	1.4	0.60	<19	<8.0	3.2
MAY											
14...	<0.013	0.126	0.09	0.04	4	2.7	1.3	<0.40	<19	<8.0	4.3
21...	<0.013	0.146	0.07	0.04	4	3.0	1.3	<0.40	<19	<8.0	4.5
JUN											
04...	<0.013	0.155	0.10	0.02	4	2.9	1.2	<0.40	20	<8.0	4.9
18...	0.048	0.278	0.08	<0.02	4	2.5	2.9	0.40	29	14	5.3

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN
040869415 LINCOLN CREEK, AT 47TH STREET, AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY DATA, OCTOBER 1996 TO JUNE 1997

DATE	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	ACE- NAPHTH- ENE TOTAL (UG/L) (34205)	ACE- NAPHTH- ENE DISSOLV TOTAL (UG/L) (34206)	ACE- NAPHTH- YLENE TOTAL (UG/L) (34200)	ACE- NAPHTH- YLENE DISSOLV TOTAL (UG/L) (34201)	ANTHRA- CENE TOTAL (UG/L) (34220)	ANTHRA- CENE DISSOLV TOTAL (UG/L) (34221)	BENZO A ANTHRAC ENE1, 2- BENZANT HRACENE TOTAL (UG/L) (34526)	BENZO A ANTHRAC ENE1, 2- BENZANT HRACENE DISSOLV TOTAL (UG/L) (34527)	BENZO- A- PYRENE TOTAL (UG/L) (34247)	BENZO- A- PYRENE DISSOLV TOTAL (UG/L) (34248)
NOV 1996											
05...	--	<0.048	--	<0.044	--	<0.015	--	<0.059	--	<0.041	--
19...	--	<0.048	--	<0.044	--	<0.015	--	<0.059	--	<0.041	--
APR 1997											
08...	4.2	<0.048	--	<0.044	--	<0.015	--	<0.059	--	<0.041	--
23...	3.0	<0.048	<0.05	<0.044	<0.04	<0.015	<0.01	<0.059	<0.06	<0.041	<0.04
MAY											
14...	4.1	<0.048	<0.05	<0.044	<0.04	<0.015	<0.01	<0.059	<0.06	<0.041	<0.04
21...	4.0	<0.048	<0.05	<0.044	<0.04	<0.015	<0.01	<0.059	<0.06	<0.041	<0.04
JUN											
04...	4.3	<0.048	<0.05	<0.044	<0.04	--	<0.01	<0.059	<0.06	--	<0.04
18...	4.9	<0.048	<0.05	<0.044	<0.04	<0.015	<0.01	<0.059	<0.06	<0.041	<0.04
DATE	BENZO B FLUOR- AN- THENE TOTAL (UG/L) (34230)	BENZO B FLUOR- AN- THENE DISSOLV TOTAL (UG/L) (34231)	BENZO K FLUOR- AN- THENE TOTAL (UG/L) (34242)	BENZO K FLUOR- AN- THENE DISSOLV TOTAL (UG/L) (34243)	BENZOGH I PERYL ENE1, 12 -BENZOP ERYLENE TOTAL (UG/L) (34521)	BENZOGH I PERYL ENE1, 12 -BENZOP ERYLENE DISSOLV TOTAL (UG/L) (34522)	CHRY- SENE TOTAL (UG/L) (34320)	CHRY- SENE DISSOLV TOTAL (UG/L) (34321)	FLUOR- ANTHENE TOTAL (UG/L) (34376)	FLUOR- ANTHENE DISSOLV TOTAL (UG/L) (34377)	FLUOR- ENE TOTAL (UG/L) (34381)
NOV 1996											
05...	<0.073	--	<0.059	--	<0.050	--	<0.030	--	<0.098	--	<0.120
19...	<0.073	--	<0.059	--	<0.050	--	<0.030	--	<0.098	--	<0.120
APR 1997											
08...	<0.073	--	<0.059	--	<0.050	--	<0.030	--	0.120	--	<0.120
23...	<0.073	<0.07	<0.059	<0.06	<0.050	<0.05	<0.030	<0.03	<0.098	<0.10	<0.120
MAY											
14...	<0.073	<0.07	<0.059	<0.06	<0.050	<0.05	<0.030	<0.03	<0.098	<0.10	<0.120
21...	<0.073	<0.07	<0.059	<0.06	<0.050	<0.05	<0.030	<0.03	<0.098	<0.10	<0.120
JUN											
04...	<0.073	<0.07	--	<0.06	--	<0.05	--	<0.03	--	<0.10	<0.120
18...	<0.073	<0.07	<0.059	<0.06	<0.050	<0.05	<0.030	<0.03	<0.098	<0.10	<0.120
DATE	FLUOR- ENE DISSOLV (UG/L) (34382)	INDENO (1,2,3- CD) PYRENE TOTAL (UG/L) (34403)	INDENO (1,2,3- CD) PYRENE DISSOLV TOTAL (UG/L) (34404)	NAPHTH- ALENE TOTAL (UG/L) (34696)	NAPHTH- ALENE DISSOLV TOTAL (UG/L) (34443)	1,2,5,6 -DIBENZ -ANTHRA -CENE TOTAL (UG/L) (34556)	1,2,5,6 -DIBENZ -ANTHRA -CENE DISSOLV TOTAL (UG/L) (34557)	PHENAN- THRENE TOTAL (UG/L) (34461)	PHENAN- THRENE DISSOLV TOTAL (UG/L) (34462)	PYRENE TOTAL (UG/L) (34469)	PYRENE DISSOLV TOTAL (UG/L) (34470)
NOV 1996											
05...	--	<0.078	--	0.380	--	<0.019	--	0.042	--	<0.063	--
19...	--	<0.078	--	<0.054	--	<0.019	--	<0.035	--	<0.063	--
APR 1997											
08...	--	<0.078	--	0.720	--	<0.019	--	<0.035	--	<0.063	--
23...	<0.12	<0.078	<0.08	<0.054	<0.05	<0.019	<0.02	0.044	0.04	<0.063	<0.06
MAY											
14...	<0.12	<0.078	<0.08	<0.054	<0.05	<0.019	<0.02	<0.035	<0.04	<0.063	<0.06
21...	<0.12	<0.078	<0.08	<0.054	<0.05	<0.019	<0.02	0.038	0.04	<0.063	<0.06
JUN											
04...	<0.12	--	<0.08	<0.054	<0.05	--	<0.02	--	<0.04	<0.063	<0.06
18...	<0.12	<0.078	<0.08	<0.054	0.06	<0.019	<0.02	<0.035	0.04	<0.063	<0.06

STREAMS TRIBUTARY TO LAKE MICHIGAN
040869415 LINCOLN CREEK, AT 47TH STREET, AT MILWAUKEE, WI-CONTINUED

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WATER-QUALITY DATA, OCTOBER 1996 TO JUNE 1997

STORM EVENT SAMPLES

BEGIN- NING DATE	BEGIN- NING TIME	ENDING DATE	ENDING TIME	RUNOFF VOLUME OF CUBIC FEET (99905)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOVER -ABLE (MG/L) (00921)
10-17-96	0241	10-17-96	1215	9.39	7.2	15	61000	38	12	15
10-22-96	2024	10-23-96	0545	3.49	6.8	>22	25000	23	17	7.8
10-29-96	1153	10-30-96	0448	10.3	7.1	16	--	29	--	11
05-02-97	1323	05-03-97	0642	3.01	7.8	8.8	--	37	36	13
05-07-97	2243	05-08-97	1206	2.42	7.5	16	2600	36	30	14
05-29-97	0017	05-29-97	1801	3.02	7.3	--	13000	36	21	13
06-15-97	2221	06-16-97	1148	8.94	7.7	16	5000	52	16	20
06-20-97	0846	06-20-97	1718	10.2	7.7	16	--	78	16	33

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	ALKA- LINITY WAT WH TOT FET LAB (MG/L AS CACO3 (00417)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOVER -ABLE (UG/L) (01113)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOVER -ABLE (UG/L) (01119)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	LEAD, TOTAL RECOVER -ABLE (UG/L) (01114)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
10-17-96	2.6	46	13	336	0.226	0.472	0.51	<0.02	23	4.0	43	3.0
10-22-96	4.7	54	24	83	0.265	0.316	0.27	0.09	16	8.6	14	3.5
10-29-96	--	49	19	164	0.122	0.298	0.24	0.06	14	5.6	16	2.7
05-02-97	13	100	130	--	0.248	0.142	0.19	0.08	13	7.2	8.4	0.50
05-07-97	11	87	95	98	0.202	0.238	0.25	0.04	14	4.6	16	0.80
05-29-97	7.0	67	63	164	0.117	0.433	0.42	0.03	22	6.7	25	2.4
06-15-97	4.9	63	38	343	0.097	0.564	0.55	<0.02	25	2.8	42	0.40
06-20-97	3.5	69	23	676	0.415	0.769	1.0	<0.02	38	2.3	64	<0.40

DATE	ZINC, TOTAL RECOVER -ABLE (UG/L) (01094)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	ACE- NAPHTH- ENE TOTAL (UG/L) (34205)	ACE- NAPHTH- ENE DISSOLV (UG/L) (34206)	ACE- NAPHTH- YLENE TOTAL (UG/L) (34200)	ACE- NAPHTH- YLENE DISSOLV (UG/L) (34201)	ANTHRA- CENE TOTAL (UG/L) (34220)	ANTHRA- CENE DISSOLV (UG/L) (34221)	BENZO A ANTHRAC ENE1,2- BENZANT HRACENE TOTAL (UG/L) (34526)	BENZO A ANTHRAC ENE1,2- BENZANT HRACENE DISSOLV (UG/L) (34527)
10-17-96	130	<8.0	--	--	0.140	--	<0.044	--	0.220	--	1.30	--
10-22-96	70	36	--	--	<0.048	--	<0.044	--	0.032	--	0.180	--
10-29-96	90	23	--	--	--	--	--	--	--	--	--	--
05-02-97	60	23	9.0	8.4	<0.048	--	<0.044	--	<0.015	--	0.120	--
05-07-97	90	18	10	9.2	<0.048	--	<0.044	--	0.028	--	0.360	--
05-29-97	140	23	12	11	<0.100	--	<0.044	--	0.150	--	0.630	--
06-15-97	160	<8.0	7.6	6.9	0.071	<0.05	<0.044	<0.04	0.140	<0.01	0.890	<0.06
06-20-97	230	<8.0	--	--	--	<0.05	--	<0.04	--	<0.01	--	<0.06

DATE	BENZO- A- PYRENE TOTAL (UG/L) (34247)	BENZO- A- PYRENE DISSOLV (UG/L) (34248)	BENZO B FLUOR- AN- THENE TOTAL (UG/L) (34230)	BENZO B FLUOR- AN- THENE DISSOLV (UG/L) (34231)	BENZO K FLUOR- AN- THENE TOTAL (UG/L) (34242)	BENZO K FLUOR- AN- THENE DISSOLV (UG/L) (34243)	BENZOGH I PERYL ENE1,12 -BENZOP ERYLENE TOTAL (UG/L) (34521)	BENZOGH I PERYL ENE1,12 -BENZOP ERYLENE DISSOLV (UG/L) (34522)	CHRY- SENE TOTAL (UG/L) (34320)	CHRY- SENE DISSOLV (UG/L) (34321)	FLUOR- ANTHENE TOTAL (UG/L) (34376)	FLUOR- ANTHENE DISSOLV (UG/L) (34377)
10-17-96	1.90	--	1.80	--	0.960	--	1.40	--	1.70	--	4.70	--
10-22-96	0.350	--	0.400	--	0.200	--	0.310	--	0.370	--	0.970	--
10-29-96	--	--	--	--	--	--	--	--	--	--	--	--
05-02-97	0.240	--	0.400	--	0.170	--	0.280	--	0.330	--	0.900	--
05-07-97	0.780	--	1.00	--	0.480	--	0.730	--	0.870	--	2.40	--
05-29-97	1.10	--	1.40	--	0.670	--	0.980	--	1.10	--	3.10	--
06-15-97	1.60	<0.04	<0.073	<0.07	0.920	<0.06	1.40	<0.05	1.60	<0.03	4.00	<0.10
06-20-97	--	<0.04	--	<0.07	--	<0.06	--	<0.05	--	<0.03	--	0.13

STREAMS TRIBUTARY TO LAKE MICHIGAN
040869415 LINCOLN CREEK, AT 47TH STREET, AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY DATA, OCTOBER 1996 TO JUNE 1997

DATE	FLUOR- ENE TOTAL (UG/L) (34381)	FLUOR- ENE DISSOLV (UG/L) (34382)	INDENO (1,2,3- CD) PYRENE TOTAL (UG/L) (34403)	INDENO (1,2,3- CD) PYRENE DISSOLV (UG/L) (34404)	NAPHTH- ALENE TOTAL (UG/L) (34696)	NAPHTH- ALENE DISSOLV (UG/L) (34443)	1,2,5,6 -DIBENZ -ANTHRA -CENE TOTAL (UG/L) (34556)	1,2,5,6 -DIBENZ -ANTHRA -CENE DISSOLV (UG/L) (34557)	PHENAN- THRENE TOTAL (UG/L) (34461)	PHENAN- THRENE DISSOLV (UG/L) (34462)	PYRENE TOTAL (UG/L) (34469)	PYRENE DISSOLV (UG/L) (34470)
10-17-96	0.230	--	1.40	--	<0.054	--	0.160	--	2.40	--	3.30	--
10-22-96	<0.120	--	0.300	--	<0.054	--	0.036	--	0.430	--	0.660	--
10-29-96	--	--	--	--	--	--	--	--	--	--	--	--
05-02-97	<0.120	--	0.270	--	<0.054	--	<0.030	--	0.250	--	0.550	--
05-07-97	<0.120	--	0.680	--	<0.054	--	0.071	--	0.980	--	1.60	--
05-29-97	0.140	--	0.920	--	0.081	--	0.100	--	1.30	--	2.20	--
06-15-97	<0.120	<0.12	1.30	<0.08	<0.054	<0.05	0.140	<0.02	1.60	0.10	2.80	<0.06
06-20-97	--	<0.12	--	<0.08	--	0.06	--	<0.02	--	0.11	--	<0.06

WATER TEMPERATURE, DEGREES CELSIUS, OCTOBER 1996 TO JUNE 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	5.5	3.5	4.5	5.0	2.5	4.0	---	---	---
2	---	---	---	4.5	3.5	4.0	3.0	1.5	2.0	---	---	---
3	---	---	---	5.0	3.5	4.5	---	---	---	---	---	---
4	---	---	---	6.5	4.5	5.5	---	---	---	---	---	---
5	---	---	---	9.0	6.5	7.5	---	---	---	---	---	---
6	---	---	---	11.5	9.0	10.0	---	---	---	---	---	---
7	---	---	---	11.5	8.0	10.0	---	---	---	---	---	---
8	---	---	---	8.0	6.5	7.0	---	---	---	---	---	---
9	---	---	---	6.5	4.5	6.0	---	---	---	---	---	---
10	---	---	---	4.5	3.0	3.5	---	---	---	---	---	---
11	---	---	---	3.0	1.5	2.0	---	---	---	---	---	---
12	---	---	---	2.5	1.0	2.0	---	---	---	---	---	---
13	---	---	---	2.5	1.5	2.0	---	---	---	---	---	---
14	---	---	---	2.5	1.5	2.0	---	---	---	---	---	---
15	---	---	---	3.0	2.0	2.5	---	---	---	---	---	---
16	---	---	---	4.5	3.0	3.5	---	---	---	---	---	---
17	---	---	---	9.0	4.0	7.0	---	---	---	---	---	---
18	---	+	---	6.5	2.5	4.0	---	---	---	---	---	---
19	---	---	---	3.0	2.0	2.5	---	---	---	---	---	---
20	---	---	---	3.5	2.0	2.5	---	---	---	---	---	---
21	---	---	---	5.5	3.0	4.0	---	---	---	---	---	---
22	14.5	12.0	13.0	5.5	3.5	4.0	---	---	---	---	---	---
23	14.0	11.0	12.5	3.5	3.5	3.5	---	---	---	---	---	---
24	11.0	10.0	10.5	3.5	3.0	3.0	---	---	---	---	---	---
25	11.0	9.5	10.5	3.0	2.0	2.5	---	---	---	---	---	---
26	13.0	11.0	12.5	4.0	1.0	1.5	---	---	---	---	---	---
27	15.0	13.0	14.0	1.0	.5	1.0	---	---	---	---	---	---
28	13.0	10.0	12.0	1.5	.5	1.0	---	---	---	---	---	---
29	11.5	9.5	10.5	5.0	1.0	1.5	---	---	---	---	---	---
30	11.0	7.0	10.0	5.5	4.0	5.0	---	---	---	---	---	---
31	7.0	5.0	5.5	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	11.5	.5	4.0	---	---	---	---	---	---

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	---	---	---		---	---	---		---	---	---		13.5	9.5	10.5
10	---	---	---		---	---	---		---	---	---		15.0	8.0	11.5
11	---	---	---		---	---	---		---	---	---		16.0	11.5	14.0
12	---	---	---		---	---	---		---	---	---		14.5	11.5	13.5
13	---	---	---		---	---	---		---	---	---		14.0	11.0	12.5
14	---	---	---		---	---	---		---	---	---		13.0	10.0	11.5
15	---	---	---		---	---	---		---	---	---		10.0	8.5	9.0
16	---	---	---		---	---	---		---	---	---		11.0	9.0	10.0
17	---	---	---		---	---	---		---	---	---		13.0	9.0	11.0
18	---	---	---		---	---	---		---	---	---		12.5	11.0	11.5
19	---	---	---		---	---	---		---	---	---		14.5	10.0	12.5
20	---	---	---		---	---	---		---	---	---		15.0	12.5	13.5
21	---	---	---		---	---	---		---	---	---		16.0	11.5	13.5
22	---	---	---		---	---	---		---	---	---		17.0	13.0	15.0
23	---	---	---		---	---	---		---	---	---		16.0	14.0	15.0
24	---	---	---		---	---	---		---	---	---		18.0	12.0	15.5
25	---	---	---		---	---	---		---	---	---		13.0	11.0	12.0
26	---	---	---		---	---	---		---	---	---		---	---	---
27	---	---	---		---	---	---		---	---	---		16.5	11.5	14.0
28	---	---	---		---	---	---		---	---	---		15.0	13.0	14.0
29	---	---	---		---	---	---		---	---	---		14.0	11.5	13.0
30	---	---	---		---	---	---		---	---	---		16.0	12.0	14.0
31	---	---	---		---	---	---		---	---	---		17.5	15.0	16.0
	JUNE				JULY				AUGUST				SEPTEMBER		
1	20.5	15.5	18.0		---	---	---		---	---	---		---	---	---
2	21.0	17.0	18.5		---	---	---		---	---	---		---	---	---
3	19.5	17.0	18.0		---	---	---		---	---	---		---	---	---
4	---	---	---		---	---	---		---	---	---		---	---	---
5	---	---	---		---	---	---		---	---	---		---	---	---
6	18.0	13.5	15.5		---	---	---		---	---	---		---	---	---
7	17.5	16.0	16.5		---	---	---		---	---	---		---	---	---
8	19.5	15.0	17.0		---	---	---		---	---	---		---	---	---
9	21.5	17.5	19.5		---	---	---		---	---	---		---	---	---
10	22.5	19.0	20.5		---	---	---		---	---	---		---	---	---
11	21.5	18.5	20.0		---	---	---		---						

STREAMS TRIBUTARY TO LAKE MICHIGAN
040869415 LINCOLN CREEK, AT 47TH STREET, AT MILWAUKEE, WI--CONTINUED

OXYGEN DISSOLVED (MG/L), OCTOBER 1996 TO JUNE 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	11.2	9.6	10.4	---	---	---
2	---	---	---	---	---	---	13.0	6.6	8.8	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	13.4	12.3	12.9	---	---	---	---	---	---
15	---	---	---	12.7	11.0	12.2	---	---	---	---	---	---
16	---	---	---	12.1	10.4	11.6	---	---	---	---	---	---
17	---	---	---	10.9	6.2	8.1	---	---	---	---	---	---
18	---	---	---	9.8	6.3	8.1	---	---	---	---	---	---
19	---	---	---	11.3	9.8	10.8	---	---	---	---	---	---
20	---	---	---	11.9	10.5	11.0	---	---	---	---	---	---
21	---	---	---	11.2	7.3	10.2	---	---	---	---	---	---
22	---	---	---	7.3	5.2	6.1	---	---	---	---	---	---
23	10.1	7.8	9.1	11.2	6.1	9.4	---	---	---	---	---	---
24	---	---	---	11.3	9.6	10.8	---	---	---	---	---	---
25	---	---	---	10.1	7.4	9.1	---	---	---	---	---	---
26	---	---	---	13.4	8.9	11.0	---	---	---	---	---	---
27	---	---	---	14.7	13.4	14.0	---	---	---	---	---	---
28	---	---	---	14.1	12.5	13.3	---	---	---	---	---	---
29	---	---	---	13.1	9.6	11.0	---	---	---	---	---	---
30	---	---	---	11.8	9.4	10.3	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	14.2	7.8	10.6
16	---	---	---	---	---	---	---	---	---	14.4	11.4	13.0
17	---	---	---	---	---	---	---	---	---	15.3	9.9	12.8
18	---	---	---	---	---	---	---	---	---	13.9	10.9	12.3
19	---	---	---	---	---	---	---	---	---	15.3	6.4	10.8
20	---	---	---	---	---	---	---	---	---	16.0	10.3	13.0
21	---	---	---	---	---	---	---	---	---	16.2	11.5	13.5
22	---	---	---	---	---	---	---	---	---	14.9	8.5	11.4
23	---	---	---	---	---	---	---	---	---	15.7	7.8	11.4
24	---	---	---	---	---	---	---	---	---	13.3	4.2	9.9
25	---	---	---	---	---	---	---	---	---	10.4	7.0	8.4
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	15.1	10.5	12.6
28	---	---	---	---	---	---	---	---	---	13.8	8.4	11.5
29	---	---	---	---	---	---	---	---	---	9.7	6.5	8.2
30	---	---	---	---	---	---	---	---	---	10.8	6.5	9.2
31	---	---	---	---	---	---	---	---	---	10.4	7.3	8.6

OXYGEN DISSOLVED (MG/L), OCTOBER 1996 TO JUNE 1997

[illegible]

STREAMS TRIBUTARY TO LAKE MICHIGAN
04087000 MILWAUKEE RIVER AT MILWAUKEE, WI
(NATIONAL WATER-QUALITY ASSESSMENT PROGRAM 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 sea level (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 discharges: Ice-affected periods, Nov. 21, 26, 27, 30, Dec. 2, 4-6, 9, and Dec. 14 to Feb. 25. Records good except those for ice-affected periods, which are poor (see page 11). Occasional regulation caused by recreation dam approximately 1,200 ft upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	681	279	210	320	828	1510	895	379	874	259	235
2	199	585	300	220	320	1470	1350	1100	358	1400	223	224
3	180	510	307	230	320	1690	1220	1150	325	647	200	206
4	166	459	290	250	330	1650	1110	1090	296	611	183	192
5	155	413	280	420	320	1360	1050	985	275	500	159	178
6	141	382	280	400	300	1050	994	862	347	456	144	172
7	328	355	293	390	290	838	946	748	311	373	137	158
8	169	344	290	380	280	697	859	1040	334	628	127	150
9	179	334	280	360	280	656	779	970	331	488	136	164
10	176	318	272	350	270	745	696	875	310	468	122	173
11	166	301	274	350	270	996	647	755	290	406	126	151
12	166	261	279	350	260	1100	691	650	270	357	385	152
13	163	219	281	340	250	1140	673	569	239	327	275	143
14	160	196	280	350	240	919	690	521	224	327	306	142
15	154	257	290	350	240	723	800	482	214	312	345	130
16	153	259	290	350	230	667	888	453	724	306	263	151
17	520	245	290	340	220	736	860	446	585	288	300	350
18	228	245	280	330	340	820	804	447	524	258	307	248
19	282	256	280	330	500	726	773	438	415	255	377	289
20	256	232	280	340	700	791	717	430	1010	238	447	247
21	234	270	270	330	2300	1070	680	413	8970	340	465	208
22	276	250	270	340	1900	1480	637	304	3480	323	445	218
23	361	250	280	400	1800	1630	592	268	2450	375	400	222
24	348	243	300	440	1700	1500	553	283	2030	307	686	187
25	376	244	320	390	1500	1440	525	410	1800	272	473	188
26	346	240	300	370	1080	1480	516	363	1480	304	458	267
27	316	220	290	340	828	1490	501	332	1240	438	406	299
28	296	219	270	330	670	1510	483	306	1010	458	361	354
29	585	229	230	310	---	1580	451	441	804	440	312	198
30	608	250	210	310	---	1650	632	393	804	316	285	130
31	718	---	210	320	---	1620	---	413	---	283	267	---
TOTAL	8636	9267	8645	10520	18058	36052	23627	18832	31829	13375	9379	6126
MEAN	279	309	279	339	645	1163	788	607	1061	431	303	204
MAX	718	681	320	440	2300	1690	1510	1150	8970	1400	686	354
MIN	141	196	210	210	220	656	451	268	214	238	122	130
CFSM	.40	.44	.40	.49	.93	1.67	1.13	.87	1.52	.62	.43	.29
IN.	.46	.50	.46	.56	.97	1.93	1.26	1.01	1.70	.71	.50	.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

	MEAN	282	355	304	254	385	1058	965	499	399	223	207	268
MAX	1316	1956	981	864	2201	3545	3024	1720	2007	1200	2936	2304	
(WY)	1987	1986	1929	1916	1938	1929	1993	1973	1996	1952	1924	1938	
MIN	52.8	62.4	40.7	45.8	47.4	181	237	86.4	56.3	25.0	19.4	27.4	
(WY)	1947	1950	1964	1959	1959	1940	1958	1958	1934	1936	1934	1932	

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

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SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	201461		194346		433	
ANNUAL MEAN	550		532		874	1986
HIGHEST ANNUAL MEAN					112	1958
LOWEST ANNUAL MEAN					14800	Mar 20 1918
HIGHEST DAILY MEAN	5840	Jun 19	8970	Jun 21	(a) .00	Sep 8 1943
LOWEST DAILY MEAN	113	Sep 7	122	Aug 10	8.3	Aug 3 1936
ANNUAL SEVEN-DAY MINIMUM	127	Sep 19	136	Aug 5	16500	Jun 21 1997
INSTANTANEOUS PEAK FLOW			16500	Jun 21	10.00	Jun 21 1997
INSTANTANEOUS PEAK STAGE			10.00	Jun 21	(a) .00	Sep 8 1943
INSTANTANEOUS LOW FLOW			(a) 5.3	Jul 3	.62	
ANNUAL RUNOFF (CFSM)	.79		.77		8.45	
ANNUAL RUNOFF (INCHES)	10.77		10.39		980	
10 PERCENT EXCEEDS	954		1080		228	
50 PERCENT EXCEEDS	349		340		71	
90 PERCENT EXCEEDS	160		190			

(a) Result of regulation

STREAMS TRIBUTARY TO LAKE MICHIGAN
04087000 MILWAUKEE RIVER AT MILWAUKEE, WI--CONTINUED
(NATIONAL WATER-QUALITY ASSESSMENT PROGRAM STATION)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-65, 1967-69, 1971, 1973 to current year. National Stream-Quality Accounting Network data collection began in January 1973 and was discontinued September 1994. National Water-Quality Assessment Program sampling began in April 1993.

REMARKS.--Chemical analyses of some constituents for Wisconsin District program samples were done by the Wisconsin State Laboratory of Hygiene and National Water-Quality Laboratory.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	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)
APR 1997											
16...	1130	903	735	8.3	9.5	11.3	747	290	64	32	41
MAY											
06...	1315	849	700	8.5	15.0	11.4	740	300	68	32	30
JUN											
11...	1515	279	757	8.8	22.0	9.2	743	310	64	37	38
JUL											
08...	1350	619	495	8.1	2.0	8.2	740	180	42	19	26
AUG											
14...	0840	300	670	8.5	20.5	--	743	200	37	25	34

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	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, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR 1997											
16...	2.7	--	244	200	27	81	0.12	4.4	434	0.920	<0.010
MAY											
06...	2.7	--	--	--	26	61	0.12	4.0	411	0.853	0.019
JUN											
11...	2.8	19	293	272	26	73	0.15	1.8	443	0.212	0.028
JUL											
08...	2.1	1	178	147	16	46	0.14	7.9	315	0.727	0.019
AUG											
14...	2.2	5	238	203	28	81	0.17	4.9	432	0.205	0.011

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR 1997										
16...	<0.015	0.80	0.40	0.110	0.050	0.030	39	18	37	92
MAY										
06...	<0.015	0.91	0.66	0.057	0.018	0.028	48	21	--	--
JUN										
11...	0.035	1.5	0.79	0.118	0.045	<0.010	29	15	28	95
JUL										
08...	0.016	0.69	0.49	0.125	0.083	0.072	14	14	49	100
AUG										
14...	<0.015	1.1	0.47	0.151	0.037	0.040	16	3.4	25	91

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

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PESTICIDE ANALYSES

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)
APR 1997											
16...	1130	903	<0.002	<0.002	<0.002	0.019	<0.002	<0.002	<0.003	<0.003	<0.004
MAY											
06...	1315	849	0.025	E0.002	<0.002	0.058	<0.002	<0.002	<0.003	<0.003	<0.004
JUN											
11...	1515	279	0.029	<0.002	<0.002	0.078	<0.002	<0.002	<0.003	<0.003	<0.004
JUL											
08...	1350	619	<0.002	<0.002	<0.002	0.153	<0.002	<0.002	E0.037	<0.020	<0.004
AUG											
14...	0840	300	<0.002	<0.002	<0.002	0.041	<0.002	<0.002	<0.003	<0.003	<0.004

DATE	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DIAZ- INON D10 SRG WAT FLT 0.7 U GF, REC (UG/L) (91063)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)
APR 1997											
16...	0.010	<0.002	E0.013	<0.002	99.1	<0.001	<0.017	<0.002	<0.004	<0.003	<0.003
MAY											
06...	0.021	<0.002	E0.013	<0.002	96.8	<0.001	<0.017	0.009	<0.004	<0.003	<0.003
JUN											
11...	0.077	<0.002	E0.029	0.004	100	<0.001	<0.017	E0.003	<0.004	<0.003	<0.003
JUL											
08...	0.088	<0.002	E0.014	<0.020	102	<0.001	<0.017	<0.002	<0.004	<0.003	<0.003
AUG											
14...	<0.004	<0.002	E0.022	<0.002	119	<0.001	<0.017	<0.002	<0.004	<0.003	<0.003

DATE	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC PERCENT (91065)	LINDANE DIS- SOLVED (UG/L) (39341)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA- THION, DIS- SOLVED (UG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN WATER FLTRD 0.7 U GF, REC (UG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)
APR 1997										
16...	93.5	<0.004	<0.002	<0.005	<0.001	<0.006	0.008	<0.004	<0.004	<0.003
MAY										
06...	91.8	<0.004	<0.002	<0.005	<0.001	<0.006	0.014	<0.004	<0.004	<0.003
JUN										
11...	106	<0.004	<0.002	<0.005	<0.001	<0.006	0.017	<0.070	<0.004	<0.003
JUL										
08...	109	<0.004	<0.002	<0.010	<0.001	<0.006	0.030	<0.024	<0.004	<0.003
AUG										
14...	109	<0.004	<0.002	<0.005	<0.001	<0.006	<0.050	<0.400	<0.004	<0.003

DATE	PARA- THION, DIS- SOLVED (UG/L) (39542)	PEB- ULATE WATER FLTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	P,P' DDE DISSOLV (UG/L) (34653)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)
APR 1997										
16...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	E0.006	<0.004	<0.013
MAY										
06...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	E0.009	<0.004	<0.013
JUN										
11...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	E0.014	<0.004	<0.013
JUL										
08...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	<0.018	<0.004	<0.013
AUG										
14...	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	0.020	<0.004	<0.013

E Estimated

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC PERCENT (91064)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)
APR 1997										
16...	<0.007	0.007	<0.007	<0.010	<0.013	105	<0.002	<0.001	<0.002	<0.003
MAY										
06...	<0.007	0.077	<0.007	<0.010	<0.013	103	<0.002	<0.001	<0.002	<0.003
JUN										
11...	<0.007	0.346	<0.007	<0.010	<0.013	111	<0.002	<0.001	<0.002	<0.003
JUL										
08...	<0.007	0.024	<0.007	<0.010	<0.013	113	<0.002	<0.001	<0.002	<0.003
AUG										
14...	<0.007	0.236	<0.007	<0.010	<0.013	121	<0.002	<0.001	<0.002	<0.003

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

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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 755.51 ft above sea level (Wisconsin Department of Transportation benchmark). Prior to Aug. 20, 1996, water-stage recorder at present site at datum 2.01 ft lower.

REMARKS.--Estimated daily discharges: Oct. 1 to Nov. 7, Feb. 21 to Mar. 5, June 19-22, July 16, and ice-affected periods, Nov. 12-14, Nov. 26 to Dec. 1, Dec. 18 to Feb. 18. Records fair except those for estimated daily discharges, which are poor (see page 11). Occasional regulation caused by dam in Menomonee Falls, about 1.0 mi upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	42	18	7.0	16	100	37	119	22	48	12	11
2	5.0	34	18	10	17	160	33	100	19	159	9.6	8.8
3	4.7	28	14	15	18	120	31	102	17	121	8.8	9.4
4	4.5	24	13	25	17	80	30	76	15	54	11	10
5	4.3	21	13	18	16	50	32	57	13	34	15	12
6	4.2	19	14	12	15	44	34	45	16	32	16	10
7	35	17	14	9.8	14	38	28	40	14	25	13	13
8	15	16	13	8.0	13	32	24	105	14	90	11	7.2
9	8.6	15	12	7.0	13	46	21	85	12	100	14	7.8
10	7.4	14	12	6.0	12	59	20	62	11	48	16	6.9
11	6.6	13	13	5.4	12	61	20	48	9.5	37	35	5.6
12	6.0	12	16	4.8	11	55	28	39	7.6	27	34	6.5
13	5.6	11	18	4.3	11	46	35	33	6.8	25	26	10
14	5.4	12	19	4.0	10	42	47	30	6.5	20	20	9.8
15	5.0	10	40	3.7	10	35	55	30	10	23	19	7.4
16	4.9	11	40	3.6	9.6	36	46	29	72	15	12	15
17	82	14	27	3.5	15	32	38	28	42	35	33	31
18	45	13	21	3.4	80	42	32	26	23	20	26	20
19	25	12	16	3.4	64	38	33	27	15	24	13	9.3
20	17	14	13	3.4	43	41	30	25	80	17	28	14
21	14	11	12	6.0	250	50	28	24	960	47	37	11
22	17	10	11	30	150	58	26	23	880	38	20	8.8
23	37	10	20	25	100	51	24	21	683	23	18	7.2
24	29	11	15	20	80	41	23	22	495	16	99	6.3
25	22	11	12	17	68	60	23	29	329	12	49	4.9
26	18	11	10	15	60	66	20	24	211	14	26	5.6
27	15	11	9.0	14	54	61	20	20	112	19	18	4.9
28	14	11	8.0	13	50	61	19	20	66	16	16	4.8
29	90	14	7.2	12	---	57	18	32	55	14	13	5.9
30	66	20	6.8	12	---	51	37	31	55	14	14	6.9
31	50	---	6.2	15	---	44	---	26	---	14	13	---
TOTAL	668.4	472	481.2	336.3	1228.6	1757	892	1378	4271.4	1181	695.4	291.0
MEAN	21.6	15.7	15.5	10.8	43.9	56.7	29.7	44.5	142	38.1	22.4	9.70
MAX	90	42	40	30	250	160	55	119	960	159	99	31
MTN	4.2	10	6.2	3.4	9.6	32	18	20	6.5	12	8.8	4.8
CFSM	.62	.45	.45	.31	1.26	1.63	.86	1.28	4.10	1.10	.65	.28
IN.	.72	.51	.52	.36	1.32	1.88	.96	1.48	4.58	1.27	.75	.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1997, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	21.6	30.5	25.4	16.3	29.3	61.0	60.6	26.9	28.7	18.8	14.9	20.4											
MAX	94.3	137	70.4	72.8	87.4	124	193	71.4	142	86.1	34.9	151											
(WY)	1982	1986	1985	1988	1984	1976	1993	1990	1997	1994	1986	1986											
MIN	3.31	3.38	3.00	2.29	4.04	18.3	21.6	3.80	3.33	1.55	1.47	1.86											
(WY)	1977	1977	1977	1977	1995	1980	1994	1977	1988	1988	1988	1976											

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1975 - 1997
ANNUAL TOTAL	11765.5	13652.3	
ANNUAL MEAN	32.1	37.4	29.6
HIGHEST ANNUAL MEAN			53.4
LOWEST ANNUAL MEAN			10.9
HIGHEST DAILY MEAN	501	(a)960	(a)960
LOWEST DAILY MEAN	(a)2.8	(b)3.4	.63
ANNUAL SEVEN-DAY MINIMUM	(a)3.5	(b)3.6	.82
INSTANTANEOUS PEAK FLOW		(c)1500	(c)1500
INSTANTANEOUS PEAK STAGE		(d)8.31	(d)8.31
ANNUAL RUNOFF (CFSM)	.93	1.08	.85
ANNUAL RUNOFF (INCHES)	12.61	14.64	11.59
10 PERCENT EXCEEDS	66	63	62
50 PERCENT EXCEEDS	18	18	15
90 PERCENT EXCEEDS	5.0	6.9	4.3

- (a) Estimated
(b) Ice affected
(c) From rating curve extended above 717 ft³/s
(d) From floodmarks

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. WRD WI-94-1: 1993(M).

GAGE.--Water-stage recorder, crest-stage gage, and steel plate weir. Elevation of gage is 690 ft above sea level, from topographic map. Prior to Sept. 10, 1993, the orifice was located 10 ft downstream from Chicago, Milwaukee, St. Paul and Pacific Railroad bridge. The orifice was moved to 30 ft upstream from Chicago, Milwaukee, St. Paul and Pacific Railroad bridge on Sept. 10, 1993, and is at same elevation.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 13, 14, 26-28, Dec. 18-21, 25-27, Jan. 7-19, Jan. 26 to Feb. 2, and Feb. 12-17. Records good except for June 22 to July 14, which are fair, and those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	8.6	7.0	5.2	13	72	8.4	49	5.9	31	7.4	7.0
2	3.0	7.0	5.2	10	13	44	7.9	45	5.1	232	7.3	6.7
3	3.3	6.0	5.0	8.4	14	23	7.8	41	4.8	50	11	6.7
4	3.4	5.6	4.4	35	21	17	7.9	24	4.6	24	11	6.0
5	3.0	5.1	6.7	17	9.8	14	13	21	4.4	16	7.3	5.6
6	2.7	6.1	6.6	10	6.1	12	11	17	18	35	6.5	5.2
7	20	4.9	5.7	9.6	6.0	11	8.3	17	6.8	15	7.4	4.9
8	4.6	4.6	4.7	9.4	5.7	10	7.9	30	6.3	161	6.5	4.8
9	4.0	4.3	4.3	9.0	5.2	17	7.4	17	5.9	42	12	17
10	4.5	4.1	4.6	8.6	4.6	15	7.1	13	5.8	22	7.3	8.2
11	3.9	3.9	6.8	8.2	4.4	15	9.9	12	6.2	16	8.5	6.5
12	3.5	3.8	6.2	7.8	4.3	13	24	8.7	5.9	13	45	5.8
13	3.2	3.7	5.7	7.6	4.1	12	22	7.3	5.1	11	14	5.7
14	2.9	3.7	5.8	7.2	3.9	16	17	8.3	4.9	12	8.9	6.0
15	2.7	3.6	12	8.0	3.7	11	15	8.2	6.7	12	27	5.1
16	3.0	3.7	6.6	7.4	3.7	9.0	13	7.1	96	24	8.6	15
17	53	5.8	5.3	6.2	5.4	9.3	11	6.7	14	21	18	29
18	12	4.0	5.0	5.8	58	8.8	9.7	7.1	8.1	12	11	7.5
19	6.8	3.7	4.7	9.0	33	8.2	13	6.8	7.1	11	7.3	18
20	5.1	3.7	4.4	33	21	8.5	9.1	6.4	80	11	13	10
21	4.9	5.2	6.4	32	298	9.7	8.8	6.1	1270	23	7.7	6.1
22	18	3.5	8.2	71	77	11	7.7	5.8	232	12	6.7	9.5
23	20	3.3	31	19	30	9.3	7.4	5.7	52	10	9.7	10
24	7.5	3.4	9.4	19	18	9.0	7.4	5.7	44	9.4	202	5.9
25	5.5	2.9	8.2	17	15	14	7.2	5.7	43	11	29	5.3
26	4.8	2.8	7.0	16	18	10	6.9	5.0	19	26	15	5.0
27	4.3	2.8	6.2	15	21	10	6.7	4.8	15	17	11	4.7
28	4.3	4.0	9.9	13	18	11	6.0	9.0	12	11	9.4	4.7
29	67	8.9	6.0	12	---	11	5.3	24	9.7	9.0	7.9	4.3
30	33	13	4.4	11	---	11	52	8.8	67	7.9	11	4.4
31	14	---	4.1	12	---	10	---	6.6	---	7.6	9.0	---
TOTAL	331.2	145.7	217.5	459.4	734.9	461.8	345.8	439.8	2065.3	914.9	563.4	240.6
MEAN	10.7	4.86	7.02	14.8	26.2	14.9	11.5	14.2	68.8	29.5	18.2	8.02
MAX	67	13	31	71	298	72	52	49	1270	232	202	29
MIN	2.7	2.8	4.1	5.2	3.7	8.2	5.3	4.8	4.4	7.6	6.5	4.3
CFSM	.59	.27	.39	.81	1.44	.82	.63	.78	3.78	1.62	1.00	.44
IN.	.68	.30	.44	.94	1.50	.94	.71	.90	4.22	1.87	1.15	.49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1997, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	9.05	11.8	11.4	8.37	12.7	24.7	26.8	15.1	15.8	11.9	13.0	12.2											
MAX	26.9	42.2	27.2	39.1	26.3	73.4	73.6	46.9	68.8	29.5	29.1	56.0											
(WY)	1987	1986	1983	1988	1985	1979	1993	1990	1997	1997	1987	1986											
MIN	2.43	1.81	1.57	.031	1.83	6.74	6.24	2.28	4.80	3.29	3.49	3.06											
(WY)	1976	1977	1977	1977	1977	1981	1977	1977	1976	1976	1976	1982											

SUMMARY STATISTICS

	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1975 - 1997
ANNUAL TOTAL	5428.8	6920.3	
ANNUAL MEAN	14.8	19.0	14.4
HIGHEST ANNUAL MEAN			23.2
LOWEST ANNUAL MEAN			4.21
HIGHEST DAILY MEAN	465	1270	1270
LOWEST DAILY MEAN	1.7	2.7	.00
ANNUAL SEVEN-DAY MINIMUM	1.9	(b) 3.2	.00
INSTANTANEOUS PEAK FLOW		(c) 4650	(c) 4650
INSTANTANEOUS PEAK STAGE		10.53	10.53
ANNUAL RUNOFF (CFSM)	.81	1.04	.79
ANNUAL RUNOFF (INCHES)	11.10	14.14	10.74
10 PERCENT EXCEEDS	32	29	30
50 PERCENT EXCEEDS	6.4	8.4	7.0
90 PERCENT EXCEEDS	3.2	4.3	3.0

(a) No flow on all or part of many days during 1977 winter period

(b) Ice affected

(c) From rating curve extended above 96 ft³/s based on slope-area measurement of peak flow

STREAMS TRIBUTARY TO LAKE MICHIGAN
04087120 MENOMONEE RIVER AT WAUWATOSA, WI

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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 628.86 ft above sea level. Prior to Nov. 1, 1974, nonrecording gage at present site and datum then in use. Prior to June 21, 1997 at 0320, datum was 2.00 ft higher.

REMARKS.--Estimated daily discharges: Nov. 21-28 and ice-affected periods, Nov. 13-15, Dec. 18-21, 26-28, Jan. 7 to Feb. 6, Feb. 12-17, Feb. 25, 26, and Mar. 6, 7. Records good except those for estimated daily discharges, which are poor (see page 11). Gage-height tele-meter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	105	58	37	64	474	91	490	57	259	31	36
2	17	76	41	67	64	574	80	356	50	1620	29	33
3	17	59	40	81	64	330	74	338	44	508	37	31
4	15	52	35	278	62	213	71	209	41	175	37	28
5	14	47	43	230	58	163	95	172	37	122	27	27
6	13	48	50	105	54	120	90	136	91	172	23	27
7	169	42	44	74	53	100	72	119	44	97	24	24
8	33	39	35	70	49	96	64	330	38	671	22	23
9	23	36	33	66	49	147	57	209	36	249	40	54
10	25	33	32	62	41	160	57	156	33	138	35	43
11	20	30	43	60	37	154	69	125	32	103	34	24
12	18	27	45	58	35	142	159	104	35	87	263	20
13	16	26	49	56	33	123	164	90	29	75	92	19
14	15	26	51	54	32	141	170	90	24	77	56	26
15	14	25	96	52	32	97	177	86	27	59	122	20
16	14	25	82	50	32	83	169	74	577	84	48	53
17	411	39	64	48	40	89	156	70	127	107	85	192
18	122	33	40	45	358	106	124	68	74	63	78	59
19	58	29	37	50	411	96	130	66	54	49	47	74
20	39	26	35	90	241	96	105	62	524	47	78	61
21	30	35	50	110	1790	110	101	58	7520	117	79	38
22	92	24	92	450	855	126	90	56	2750	85	58	43
23	177	23	162	130	594	118	69	52	1490	76	49	61
24	79	23	101	90	299	102	60	52	1070	58	938	32
25	53	21	54	74	150	153	57	94	812	56	157	26
26	40	20	50	70	160	147	53	59	423	111	91	23
27	33	28	45	64	167	138	49	50	233	111	70	21
28	30	30	76	62	147	135	49	56	147	65	56	18
29	442	40	50	60	---	129	48	188	118	46	45	17
30	419	100	34	60	---	123	283	92	451	38	51	18
31	178	---	31	62	---	106	---	68	---	34	52	---
TOTAL	2644	1167	1698	2865	5971	4891	3033	4175	16988	5559	2854	1171
MEAN	85.3	38.9	54.8	92.4	213	158	101	135	566	179	92.1	39.0
MAX	442	105	162	450	1790	574	283	490	7520	1620	938	192
MIN	13	20	31	37	32	83	48	50	24	34	22	17
CFSM	.69	.32	.45	.75	1.73	1.28	.82	1.09	4.60	1.46	.75	.32
IN.	.80	.35	.51	.87	1.81	1.48	.92	1.26	5.14	1.68	.86	.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1997, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1962	67.3	232	1982	7.15	1964
1963	83.6	422	1986	11.9	1963
1964	81.3	222	1988	4.65	1964
1965	57.0	191	1974	4.45	1963
1966	92.3	239	1971	4.18	1963
1967	210	582	1979	17.5	1968
1968	202	715	1993	28.7	1963
1969	104	326	1990	17.1	1977
1970	105	566	1997	12.6	1962
1971	76.3	257	1964	10.6	1963
1972	70.9	264	1986	10.5	1962
1973	83.4	562	1986	6.50	1963

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1962 - 1997
ANNUAL TOTAL	43499.6	53016	
ANNUAL MEAN	119	145	103
HIGHEST ANNUAL MEAN			195
LOWEST ANNUAL MEAN			24.0
HIGHEST DAILY MEAN	2770	7520	7520
LOWEST DAILY MEAN	9.6	13	(a)2.8
ANNUAL SEVEN-DAY MINIMUM	13	17	(a)3.1
INSTANTANEOUS PEAK FLOW		(b)13500	(c)13500
INSTANTANEOUS PEAK STAGE		(e)18.63	(d)Apr 21 1973
ANNUAL RUNOFF (CFSM)	.97	1.18	(e)18.63
ANNUAL RUNOFF (INCHES)	13.16	16.03	.83
10 PERCENT EXCEEDS	252	236	11.33
50 PERCENT EXCEEDS	56	61	231
90 PERCENT EXCEEDS	18	26	44

(a) Ice affected

(b) From rating curve extended above 9,430 ft³/s on basis of slope-area measurement of peak flow

(c) From rating curve extended above 6,000 ft³/s on basis of slope-area measurement of peak flow, gage height 13.92 ft, datum then in use

(d) Also occurred June 21, 1997

(e) High-water mark on gage-house door was 18.87 ft

STREAMS TRIBUTARY TO LAKE MICHIGAN

040871472 KINNICKINNIC RIVER AT ST. LUKES HOSPITAL AT MILWAUKEE, WI

LOCATION.--Lat 42°59'19", long 87°57'17", in SE 1/4 SE 1/4 sec.12, T.6 N., R.21 E., Milwaukee County, Hydrologic Unit 04040003, at Milwaukee.

DRAINAGE AREA.--5.40 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Nov. 12, 1996 to May 14, 1997 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 640 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 27, Dec. 18-22, Jan. 7, 9-14, 17-19, 27-30 and Feb. 8-11. Records good except those for discharges greater than 200 ft³/s, which are fair, and ice-affected periods, which are poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	2.8	3.0	4.8	22	2.6	6.9	---	---	---	---
2	---	---	2.1	5.6	4.0	5.4	2.5	15	---	---	---	---
3	---	---	2.6	3.0	2.3	3.8	2.9	6.0	---	---	---	---
4	---	---	2.2	19	6.2	3.5	2.7	3.4	---	---	---	---
5	---	---	4.5	3.7	4.8	3.1	6.1	4.9	---	---	---	---
6	---	---	3.9	3.0	2.5	2.7	2.6	4.0	---	---	---	---
7	---	---	2.7	2.4	2.2	2.5	2.4	6.2	---	---	---	---
8	---	---	2.0	2.3	2.1	2.5	2.4	9.2	---	---	---	---
9	---	---	2.0	2.2	2.0	6.7	2.5	3.8	---	---	---	---
10	---	---	2.3	2.1	1.9	3.4	2.5	3.3	---	---	---	---
11	---	---	3.9	2.0	1.9	3.4	3.8	3.0	---	---	---	---
12	---	1.9	2.7	1.9	2.3	2.9	11	3.0	---	---	---	---
13	---	1.9	2.9	2.1	2.0	3.3	8.6	2.9	---	---	---	---
14	---	1.9	2.7	2.4	2.1	7.8	4.1	4.4	---	---	---	---
15	---	2.2	7.6	2.3	2.1	3.0	3.3	---	---	---	---	---
16	---	3.1	2.5	2.0	2.4	2.7	3.1	---	---	---	---	---
17	---	4.1	2.2	1.9	5.0	3.0	2.7	---	---	---	---	---
18	---	2.0	2.0	1.8	33	3.0	3.2	---	---	---	---	---
19	---	2.2	1.7	1.7	9.1	3.5	5.1	---	---	---	---	---
20	---	2.0	1.7	2.1	7.8	3.6	3.0	---	---	---	---	---
21	---	3.1	1.7	6.5	84	2.9	3.8	---	---	---	---	---
22	---	2.1	1.9	21	7.7	2.9	2.6	---	---	---	---	---
23	---	2.0	18	2.4	4.5	2.4	2.4	---	---	---	---	---
24	---	2.5	2.7	2.2	3.3	3.3	2.3	---	---	---	---	---
25	---	2.0	1.9	2.2	3.2	5.9	2.2	---	---	---	---	---
26	---	1.9	2.0	1.8	7.3	2.9	2.0	---	---	---	---	---
27	---	1.9	2.2	1.8	6.8	2.6	1.8	---	---	---	---	---
28	---	1.9	6.3	1.7	6.2	2.6	1.8	---	---	---	---	---
29	---	6.6	2.7	1.7	---	2.4	1.8	---	---	---	---	---
30	---	5.6	2.0	1.9	---	3.0	27	---	---	---	---	---
31	---	---	1.9	9.1	---	2.5	---	---	---	---	---	---
TOTAL	---	50.9	100.3	118.8	223.5	125.2	124.8	76.0	---	---	---	---
MEAN	---	2.68	3.24	3.83	7.98	4.04	4.16	5.43	---	---	---	---
MAX	---	6.6	18	21	84	22	27	15	---	---	---	---
MIN	---	1.9	1.7	1.7	1.9	2.4	1.8	2.9	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

MEAN	---	---	3.24	3.83	7.98	4.04	4.16	---	---	---	---	---
MAX	---	---	3.24	3.83	7.98	4.04	4.16	---	---	---	---	---
(WY)	---	---	1997	1997	1997	1997	1997	---	---	---	---	---
MIN	---	---	3.24	3.83	7.98	4.04	4.16	---	---	---	---	---
(WY)	---	---	1997	1997	1997	1997	1997	---	---	---	---	---

SUMMARY STATISTICS

FOR 1997 WATER YEAR
(NOV. 12 THROUGH MAY 14)

HIGHEST DAILY MEAN	84	Feb 21
LOWEST DAILY MEAN	1.7 (a)	Dec 19
ANNUAL SEVEN-DAY MINIMUM	1.9	Jan 24
INSTANTANEOUS PEAK FLOW	256	Feb 21
INSTANTANEOUS PEAK STAGE	13.13	Feb 21
10 PERCENT EXCEEDS	7.1	
50 PERCENT EXCEEDS	2.7	
90 PERCENT EXCEEDS	1.9	

(a) Also occurred on Dec. 20,21, Jan. 19,28,29

040871472 KINNICKINNIC RIVER AT ST. LUKES HOSPITAL AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1996 to April 1997.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Nov. 13, 1996 to Apr. 30, 1997.

DISSOLVED OXYGEN: Nov. 13, 1996 to Apr. 30, 1997.

INSTRUMENTATION.--Stage-activated water-quality sampler since November 1996. Continuous water-temperature recorder since November 1996. Dissolved-oxygen recorder since November 1996.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated. Dissolved-oxygen concentrations greater than 30 mg/L are out of calibration range of meter. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 20.5°C, Apr. 29; minimum observed, 0.0°C, many days during winter.

DISSOLVED OXYGEN: Maximum observed, 28.4 mg/L, Mar. 31; minimum observed, 0.1 mg/L, Feb. 18.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE; INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	BOD OXYGEN DEMAND, BIOCHEM CARBON, 5 DAY (MG/L) (80082)	ALKA- LITY WAT WH TOT FET LAB MG/L AS CACO3 (00417)
NOV 1996							
*06...	1410	11	7.6	--	17	15	126
FEB 1997							
*14...	0955	1.9	--	--	8.6	--	--
MAR							
24...	2245	8.2	--	57	23	--	--
APR							
28...	2145	1.9	--	--	1.8	--	--

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	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) (00671)	1,2 ETH- ANEDIOL UNFIL- TERED TOTAL RECOV (MG/L) (99918)	1,2 PRO- PANEDIOL UNFIL- TERED TOTAL RECOV (MG/L) (99919)
NOV 1996							
*06...	100	0.791	0.220	1.1	0.081	<6.4	<4.0
FEB 1997							
*14...	--	0.940	0.228	0.80	--	--	--
MAR							
24...	--	0.989	0.383	1.5	--	--	--
APR							
28...	--	0.426	0.075	0.40	0.130	--	--

COMPOSITE SAMPLES

BEGIN- NING DATE	BEGIN- NING TIME	ENDING DATE	ENDING TIME	RUNOFF VOLUME MILLIONS OF CUBIC FEET (99905)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	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) (00671)
11-24-96	1240	11-24-96	1655	0.049	8.1	5.6	840	0.704	0.086	0.60	0.003
12-05-96	1135	12-05-96	1810	0.153	7.7	7.6	2300	0.803	0.277	1.1	0.006
01-24-97	0605	01-25-97	2120	0.318	7.8	<24	950	1.11	0.258	0.60	0.216
04-11-97	1435	04-12-97	0910	0.611	7.7	8.6	840	0.890	0.356	1.7	0.120

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

040871472 KINNICKINNIC RIVER AT ST. LUKES HOSPITAL AT MILWAUKEE, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	5.0	2.0	3.5	4.0	2.5	3.0
2	---	---	---	---	---	---	4.0	.5	2.0	4.5	3.0	4.0
3	---	---	---	---	---	---	5.5	2.5	3.5	6.0	4.0	5.0
4	---	---	---	---	---	---	6.0	2.0	4.0	5.5	3.5	4.5
5	---	---	---	---	---	---	5.5	2.0	4.0	5.0	.5	3.0
6	---	---	---	---	---	---	5.5	4.0	5.0	.5	.0	.5
7	---	---	---	---	---	---	5.5	2.5	3.5	.5	.0	.5
8	---	---	---	---	---	---	4.0	2.0	2.5	1.0	.0	.5
9	---	---	---	---	---	---	4.5	2.0	3.0	1.5	.5	1.0
10	---	---	---	---	---	---	6.5	2.5	4.5	2.5	.0	1.0
11	---	---	---	---	---	---	5.5	4.5	5.0	.0	.0	.0
12	---	---	---	---	---	---	6.0	4.5	5.0	---	---	---
13	---	---	---	4.5	1.5	2.5	8.0	3.5	5.0	.5	.0	.5
14	---	---	---	5.5	1.0	3.0	6.0	4.0	5.0	.5	.0	.0
15	---	---	---	5.5	3.0	4.5	6.0	3.5	5.0	.0	.0	.0
16	---	---	---	9.5	4.0	6.5	4.5	2.5	3.5	.0	.0	.0
17	---	---	---	9.0	5.0	7.0	4.0	1.0	2.5	.0	.0	.0
18	---	---	---	6.5	4.0	5.0	1.5	.0	.5	.0	.0	.0
19	---	---	---	6.5	3.0	4.0	.5	.0	.5	.0	.0	.0
20	---	---	---	5.5	3.0	4.0	.5	.0	.0	.0	.0	.0
21	---	---	---	7.5	4.0	5.0	.5	.0	.5	.0	.0	.0
22	---	---	---	7.5	3.0	5.0	3.0	.5	2.0	1.5	.0	1.0
23	---	---	---	6.0	5.0	5.5	4.0	2.0	3.0	2.0	.5	1.0
24	---	---	---	5.5	3.5	4.5	3.0	.0	1.0	3.0	.0	1.5
25	---	---	---	---	---	---	---	---	---	2.0	.0	.5
26	---	---	---	3.5	.5	1.0	.5	.0	.5	.5	.0	.0
27	---	---	---	4.0	.5	2.0	.0	.0	.0	.0	.0	.0
28	---	---	---	5.0	2.0	3.0	3.0	.0	1.5	.0	.0	.0
29	---	---	---	5.5	1.5	3.5	3.0	1.5	2.0	.5	.0	.0
30	---	---	---	6.0	3.5	5.0	3.0	1.5	2.0	.5	.0	.0
31	---	---	---	---	---	---	3.0	1.0	2.0	1.5	.0	.5
MONTH	---	---	---	9.5	.5	4.2	8.0	.0	2.7	6.0	.0	.9
FEBRUARY			MARCH			APRIL			MAY			
1	4.5	1.0	2.0	3.5	2.5	3.0	14.5	4.0	8.5	---	---	---
2	5.5	1.5	2.5	5.0	1.5	3.0	17.0	6.0	10.5	---	---	---
3	3.5	1.0	2.0	6.0	1.5	3.0	17.5	9.5	11.0	---	---	---
4	2.5	.5	1.5	5.0	3.0	3.5	15.5	9.0	12.0	---	---	---
5	3.0	1.5	2.0	4.5	2.0	3.0	12.0	10.0	11.0	---	---	---
6	4.0	.5	2.0	6.0	.5	2.0	---	---	---	---	---	---
7	3.5	.5	1.5	6.5	.0	2.5	12.5	2.0	6.0	---	---	---
8	6.5	.0	2.0	8.0	2.0	4.0	9.0	2.5	4.5	---	---	---
9	4.0	.0	1.0	4.5	2.0	3.0	12.5	2.0	5.5	---	---	---
10	4.0	.5	1.5	8.0	1.5	4.5	11.0	3.0	6.0	---	---	---
11	4.5	.5	2.0	9.5	3.5	5.5	7.0	3.5	5.0	---	---	---
12	4.0	.0	1.0	---	---	---	4.0	3.0	3.5	---	---	---
13	3.5	.0	1.0	4.0	2.5	3.0	9.0	3.0	6.0	---	---	---
14	5.0	.0	2.0	4.5	.0	2.5	12.0	4.0	7.5	---	---	---
15	4.0	.0	1.0	6.0	.0	1.5	15.0	5.0	9.5	---	---	---
16	4.0	.0	1.0	4.0	.0	1.5	11.5	6.0	8.5	---	---	---
17	4.5	.0	1.5	8.0	1.0	4.0	15.0	5.0	8.5	---	---	---
18	3.0	1.5	2.5	6.5	2.5	4.0	11.5	5.5	8.0	---	---	---
19	5.5	2.0	3.5	9.0	1.5	4.5	12.0	7.0	8.5	---	---	---
20	4.5	1.0	3.0	11.0	4.0	7.0	13.0	7.0	9.5	---	---	---
21	3.5	1.0	2.0	11.0	5.0	7.5	16.0	7.0	10.0	---	---	---
22	3.5	.0	1.5	8.0	4.5	6.5	17.0	6.0	10.5	---	---	---
23	5.0	.0	2.0	9.5	2.5	5.0	17.0	7.0	10.5	---	---	---
24	4.0	.0	1.0	---	---	---	16.5	7.5	10.5	---	---	---
25	5.0	.0	1.5	6.5	3.5	5.0	18.0	7.0	11.5	---	---	---
26	3.5	1.5	2.5	12.5	4.0	7.5	18.0	8.0	12.0	---	---	---
27	3.5	.5	2.5	16.0	6.0	10.0	13.5	9.0	11.0	---	---	---
28	4.5	2.5	3.5	13.5	9.0	10.5	19.5	8.0	12.5	---	---	---
29	---	---	---	10.0	7.0	8.5	20.5	9.0	13.5	---	---	---
30	---	---	---	9.5	5.5	6.5	15.5	8.0	11.5	---	---	---
31	---	---	---	13.5	3.5	7.5	---	---	---	---	---	---
MONTH	6.5	.0	1.9	16.0	.0	4.8	20.5	2.0	9.1	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040871472 KINNICKINNIC RIVER AT ST. LUKES HOSPITAL AT MILWAUKEE, WI--CONTINUED

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	12.9	8.9	10.4	9.9	5.7	7.7
2	---	---	---	---	---	---	13.4	8.5	10.3	11.6	6.9	9.0
3	---	---	---	---	---	---	11.7	6.7	8.2	8.7	3.4	7.1
4	---	---	---	---	---	---	10.4	6.8	8.0	14.9	3.9	11.1
5	---	---	---	---	---	---	8.9	7.1	7.8	12.8	9.5	11.0
6	---	---	---	---	---	---	9.1	7.1	8.0	14.1	10.2	11.7
7	---	---	---	---	---	---	10.6	6.9	8.5	12.6	5.1	9.9
8	---	---	---	---	---	---	11.2	6.1	8.4	12.3	9.7	10.8
9	---	---	---	---	---	---	12.0	6.1	8.2	11.6	9.1	10.2
10	---	---	---	---	---	---	12.0	7.3	8.7	11.5	8.9	9.8
11	---	---	---	---	---	---	10.2	7.7	8.5	12.7	8.2	10.2
12	---	---	---	---	---	---	8.6	7.0	7.6	---	---	---
13	---	---	---	17.8	9.5	12.7	9.3	5.9	7.3	11.7	4.9	7.9
14	---	---	---	15.4	8.8	10.8	10.2	8.0	8.8	13.2	7.8	10.4
15	---	---	---	15.4	8.4	10.6	10.9	.2	9.4	10.4	7.6	8.8
16	---	---	---	16.1	8.0	10.7	12.2	7.6	9.5	10.3	8.2	9.1
17	---	---	---	9.5	3.2	6.7	11.2	5.9	7.9	9.7	7.8	8.7
18	---	---	---	7.8	1.3	4.8	12.6	7.9	9.7	10.2	7.6	8.6
19	---	---	---	9.1	.5	6.5	12.7	7.7	9.6	10.8	7.8	8.9
20	---	---	---	12.5	5.7	7.5	11.6	8.1	9.3	10.0	7.3	8.6
21	---	---	---	10.0	3.3	6.6	11.8	7.4	9.2	11.5	7.6	8.6
22	---	---	---	10.5	4.6	6.5	11.4	6.9	8.6	12.2	9.3	11.3
23	---	---	---	8.9	5.4	7.0	12.4	7.1	9.8	11.6	6.6	9.5
24	---	---	---	12.2	6.0	8.7	12.5	9.7	10.7	12.3	8.8	10.3
25	---	---	---	---	---	---	---	---	---	13.5	10.2	11.4
26	---	---	---	16.1	6.2	11.3	11.7	8.6	9.5	11.7	9.6	10.5
27	---	---	---	17.4	9.5	12.6	---	---	---	12.3	9.4	10.7
28	---	---	---	15.6	9.4	11.1	---	---	---	13.4	9.7	10.9
29	---	---	---	14.0	8.2	11.1	---	---	---	12.4	9.1	10.6
30	---	---	---	13.7	9.3	11.2	---	---	---	12.4	9.3	10.5
31	---	---	---	---	---	---	---	---	---	12.2	9.4	10.8
MONTH	---	---	---	17.8	.5	9.2	13.4	.2	8.9	14.9	3.4	9.8
FEBRUARY			MARCH			APRIL			MAY			
1	12.4	9.6	10.8	13.3	10.7	12.4	25.2	4.4	12.4	---	---	---
2	13.2	8.6	10.6	15.3	11.0	13.0	25.7	4.7	11.9	---	---	---
3	13.6	9.3	10.7	16.5	11.2	12.8	24.5	4.8	11.7	---	---	---
4	12.7	9.4	11.3	14.6	9.7	11.8	19.5	5.1	10.5	---	---	---
5	13.4	10.4	11.9	15.0	9.5	11.8	9.2	4.8	7.0	---	---	---
6	14.1	9.7	11.3	15.6	9.8	12.1	---	---	---	---	---	---
7	14.8	9.4	11.2	17.5	11.2	13.8	12.3	6.0	8.8	---	---	---
8	14.8	9.4	11.2	---	---	---	14.2	6.4	9.9	---	---	---
9	12.5	8.7	10.8	---	---	---	17.0	.4	7.9	---	---	---
10	13.8	9.1	10.7	---	---	---	18.2	.4	8.0	---	---	---
11	13.2	8.1	10.1	---	---	---	13.9	6.3	9.9	---	---	---
12	12.9	8.0	9.9	---	---	---	12.9	9.9	11.9	---	---	---
13	14.7	8.0	10.5	15.6	8.4	11.0	13.6	9.0	11.3	---	---	---
14	14.7	8.4	10.4	14.6	9.8	11.4	15.1	7.5	11.1	---	---	---
15	15.6	8.4	10.9	18.7	10.2	13.3	18.6	6.9	11.7	---	---	---
16	14.9	8.3	10.9	19.1	8.7	13.2	22.0	6.4	13.1	---	---	---
17	14.9	9.5	11.2	18.7	8.4	12.2	24.6	7.1	13.9	---	---	---
18	13.8	.1	10.7	---	---	---	21.7	5.5	11.4	---	---	---
19	14.6	11.7	12.6	---	---	---	16.0	3.7	8.3	---	---	---
20	14.0	11.0	12.3	---	---	---	22.5	4.2	11.9	---	---	---
21	13.8	12.4	13.3	15.6	7.7	10.8	21.6	6.4	12.4	---	---	---
22	13.4	11.6	12.5	16.2	6.5	10.2	22.1	5.9	12.6	---	---	---
23	13.8	11.5	12.4	21.9	6.3	11.7	23.0	5.8	12.9	---	---	---
24	14.1	11.5	12.5	23.6	6.5	13.1	24.4	5.4	12.8	---	---	---
25	13.5	10.5	11.9	15.1	8.4	11.3	24.9	4.6	13.1	---	---	---
26	12.5	10.0	11.4	19.1	6.5	11.9	28.1	3.4	13.7	---	---	---
27	12.5	10.6	11.6	23.1	5.5	12.1	26.7	3.0	13.3	---	---	---
28	12.9	10.0	11.1	24.0	5.4	11.9	26.7	2.0	13.7	---	---	---
29	---	---	---	25.1	5.4	12.2	24.0	3.0	12.2	---	---	---
30	---	---	---	26.2	7.5	14.6	23.4	.3	9.8	---	---	---
31	---	---	---	28.4	6.4	13.3	---	---	---	---	---	---
MONTH	15.6	.1	11.3	28.4	5.4	12.3	28.1	.3	11.3	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN

040871473 WILSON PARK CREEK AT GMIA INFALL AT MILWAUKEE, WI

LOCATION.--Lat 42°56'33", long 87°53'10", in SW 1/4 SW 1/4 sec.27, T.6 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, at Milwaukee.

DRAINAGE AREA.--0.89 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Nov. 12, 1996 to May 21, 1997.

GAGE.--Water-stage recorder. Elevation of gage is 670 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 13-15 and May 10. Records good except those for discharges greater than 1 cfs, which are fair (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	.20	.31	.26	5.8	.37	2.7	---	---	---	---
2	---	---	.10	.82	.35	1.8	.35	3.4	---	---	---	---
3	---	---	.15	.35	.19	1.0	.37	2.6	---	---	---	---
4	---	---	.11	2.2	.63	.94	.36	1.7	---	---	---	---
5	---	---	.45	.70	.46	.75	.86	1.8	---	---	---	---
6	---	---	.36	.32	.24	.52	.55	1.6	---	---	---	---
7	---	---	.24	.15	.17	.49	.39	1.7	---	---	---	---
8	---	---	.15	.20	.15	.52	.36	2.4	---	---	---	---
9	---	---	.13	.09	.14	1.4	.35	1.5	---	---	---	---
10	---	---	.13	.10	.10	.83	.41	.80	---	---	---	---
11	---	---	.30	.06	.08	.74	.48	1.5	---	---	---	---
12	---	.06	.18	.07	.06	.57	1.6	1.5	---	---	---	---
13	---	.06	.19	.06	.05	.52	1.4	1.5	---	---	---	---
14	---	.06	.28	.05	.10	.98	.90	2.0	---	---	---	---
15	---	.09	.86	.04	.11	.43	.79	1.6	---	---	---	---
16	---	.07	.24	.02	.09	.32	.64	1.6	---	---	---	---
17	---	.19	.17	.03	.44	.42	.69	1.7	---	---	---	---
18	---	.08	.11	.03	4.2	.38	.59	1.8	---	---	---	---
19	---	.08	.07	.02	2.0	.34	.80	1.5	---	---	---	---
20	---	.07	.09	.02	1.3	.39	.53	1.4	---	---	---	---
21	---	.11	.11	.10	25	.48	.66	1.2	---	---	---	---
22	---	.07	.09	1.8	1.8	.43	.51	---	---	---	---	---
23	---	.07	1.9	.20	.93	.38	.49	---	---	---	---	---
24	---	.15	.34	.14	.50	.45	.50	---	---	---	---	---
25	---	.08	.09	.11	.44	.84	.51	---	---	---	---	---
26	---	.03	.09	.04	1.4	.44	.46	---	---	---	---	---
27	---	.03	.14	.04	1.2	.44	.47	---	---	---	---	---
28	---	.03	.55	.04	1.1	.45	.48	---	---	---	---	---
29	---	.30	.26	.03	---	.44	.48	---	---	---	---	---
30	---	.61	.14	.03	---	.48	3.6	---	---	---	---	---
31	---	---	.14	.32	---	.40	---	---	---	---	---	---
TOTAL	---	2.24	8.36	8.49	43.49	24.37	20.95	37.50	---	---	---	---
MEAN	---	.12	.27	.27	1.55	.79	.70	1.79	---	---	---	---
MAX	---	.61	1.9	2.2	.25	5.8	3.6	3.4	---	---	---	---
MIN	---	.03	.07	.02	.05	.32	.35	.80	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1997	.27	.27	1997	.27	1997
1997	.27	.27	1997	.27	1997
1997	.27	.27	1997	.27	1997
1997	.27	.27	1997	.27	1997

SUMMARY STATISTICS

FOR 1997 WATER YEAR
(NOV. 12 THROUGH MAY 21)

HIGHEST DAILY MEAN	25	Feb 21
LOWEST DAILY MEAN	.02	Jan 16, 19, 20
ANNUAL SEVEN-DAY MINIMUM	.03	Jan 14
INSTANTANEOUS PEAK FLOW	53	Feb 21
INSTANTANEOUS PEAK STAGE	12.88	Feb 21
10 PERCENT EXCEEDS	1.7	
50 PERCENT EXCEEDS	.38	
90 PERCENT EXCEEDS	.06	

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1996 to May 1997.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Nov. 12, 1996 to May 15, 1997.

INSTRUMENTATION.--Stage-activated water-quality sampler since November 1996. Continuous water-temperature recorder since November 1996.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 12.0°C, May 8, 11; minimum observed, 0.0°C, many days during winter.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

		DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	BOD OXYGEN DEMAND, BIOCHEM. CARBON, 5 DAY (MG/L) (80082)	ALKA-LINITY WAT WH TOT FET LAB MG/L AS CACO3 (00417)	
NOV 1996								
*06...	1155	0.02	7.9	--	1.2	1.2	277	
FEB 1997								
*14...	0735	0.08	--	--	10	--	--	
APR								
12...	0030	0.63	7.8	14	<12	--	--	
28...	0910	0.45	7.7	--	E2.9	--	--	
DATE		CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	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) (00671)	1,2 ETH-ANEDIOL UNFIL-TERED, TOTAL RECOV (MG/L) (99918)	1,2 PRO-PANEDIOL UNFIL-TERED, TOTAL RECOV (MG/L) (99919)
NOV 1996								
*06...	68		0.384	0.277	1.1	0.006	<6.4	<4.0
FEB 1997								
*14...	--		0.384	2.42	3.7	--	--	--
APR								
12...	140		0.666	0.740	1.7	0.006	--	--
28...	160		0.063	0.026	0.60	<0.002	--	--

COMPOSITE SAMPLES

					PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	
BEGIN- NING DATE	BEGIN- NING TIME	ENDING DATE	ENDING TIME	RUNOFF VOLUME MILLIONS OF CUBIC FEET (99905)			
11-24-96	0335	11-24-96	1855	0.009	8.0	3.5	
12-05-96	1005	12-05-96	2055	0.028	7.7	5.0	
01-24-97	0545	01-25-97	2035	0.017	8.0	47	
04-11-97	1415	04-12-97	0820	0.063	8.0	<6.0	
DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	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) (00671)	1,2 ETH- ANEDIOL UNFIL- TERED, TOTAL RECOV (MG/L) (99918)	1,2 PRO- PANEDIOL UNFIL- TERED, TOTAL RECOV (MG/L) (99919)
11-24-96	110	0.604	0.167	0.60	0.002	<6.4	<4.0
12-05-96	2300	0.807	0.636	1.1	0.016	--	--
01-24-97	220	0.843	0.999	2.4	0.006	--	--
04-11-97	250	0.815	0.500	1.6	0.007	--	--

* Equal-width increment (EWI) sample
E Estimated

STREAMS TRIBUTARY TO LAKE MICHIGAN
040871473 WILSON PARK CREEK AT GMIA INFALL AT MILWAUKEE, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	2.0	1.0	1.5	.0	.0	.0
2	---	---	---	---	---	---	1.5	.5	1.0	.0	.0	.0
3	---	---	---	---	---	---	1.5	1.0	1.0	.0	.0	.0
4	---	---	---	---	---	---	1.5	1.0	1.0	.5	.0	.0
5	---	---	---	---	---	---	1.5	1.0	1.5	1.0	.5	.5
6	---	---	---	---	---	---	2.0	1.5	2.0	.5	.5	.5
7	---	---	---	---	---	---	2.0	1.0	1.5	.5	.0	.5
8	---	---	---	---	---	---	1.5	1.0	1.0	.0	.0	.0
9	---	---	---	---	---	---	1.5	1.0	1.0	.0	.0	.0
10	---	---	---	---	---	---	2.0	1.0	1.5	.0	.0	.0
11	---	---	---	---	---	---	2.0	1.5	1.5	.0	.0	.0
12	---	---	---	2.5	1.0	2.0	2.5	2.0	2.0	.0	.0	.0
13	---	---	---	2.0	.5	1.5	2.5	1.5	2.0	.0	.0	.0
14	---	---	---	5.0	1.0	2.0	3.0	2.0	2.5	.0	.0	.0
15	---	---	---	6.0	.5	3.0	3.5	2.0	3.0	.0	.0	.0
16	---	---	---	4.5	1.0	2.0	2.0	1.5	1.5	.0	.0	.0
17	---	---	---	5.0	2.0	3.5	2.0	1.0	1.5	.0	.0	.0
18	---	---	---	3.0	2.0	2.5	1.0	.5	1.0	.0	.0	.0
19	---	---	---	2.0	1.5	2.0	.5	.0	.5	.0	.0	.0
20	---	---	---	2.0	1.0	1.5	.0	.0	.0	.0	.0	.0
21	---	---	---	2.5	1.5	2.0	.0	.0	.0	.0	.0	.0
22	---	---	---	2.5	1.5	2.0	.0	.0	.0	.0	.0	.0
23	---	---	---	2.5	2.0	2.0	.0	.0	.0	.0	.0	.0
24	---	---	---	2.5	2.0	2.0	.0	.0	.0	.0	.0	.0
25	---	---	---	2.0	1.5	1.5	.0	.0	.0	.0	.0	.0
26	---	---	---	1.5	1.0	1.0	.0	.0	.0	.0	.0	.0
27	---	---	---	1.0	.5	1.0	.0	.0	.0	.0	.0	.0
28	---	---	---	1.0	.5	1.0	.0	.0	.0	.0	.0	.0
29	---	---	---	1.0	.5	.5	.0	.0	.0	.0	.0	.0
30	---	---	---	2.0	.5	1.5	.0	.0	.0	.0	.0	.0
31	---	---	---	---	---	---	.0	.0	.0	.0	.0	.0
MONTH	---	---	---	6.0	.5	1.8	3.5	.0	.9	1.0	.0	.0
	FEBRUARY			MARCH			APRIL			MAY		
1	.0	.0	.0	1.0	.5	.5	5.5	3.0	4.5	10.0	6.5	8.0
2	.0	.0	.0	1.0	.0	.5	7.5	4.0	6.0	9.5	7.5	8.0
3	.0	.0	.0	1.5	.5	1.0	8.5	6.5	7.0	9.0	7.0	7.5
4	.0	.0	.0	1.5	1.0	1.0	9.5	6.5	8.0	10.0	7.0	8.5
5	.0	.0	.0	1.5	.5	1.0	8.5	8.0	8.0	11.0	8.0	9.5
6	.0	.0	.0	1.5	.5	.5	8.0	4.5	7.5	11.0	9.0	10.0
7	.0	.0	.0	1.5	.0	.5	5.0	3.0	4.0	10.0	8.5	9.5
8	.0	.0	.0	2.0	.5	1.0	3.5	2.0	2.5	12.0	9.0	10.0
9	.0	.0	.0	1.5	1.0	1.0	3.5	1.5	2.5	11.0	8.5	9.5
10	.0	.0	.0	2.0	.5	1.5	3.5	2.0	3.0	11.0	7.5	9.0
11	.0	.0	.0	3.0	1.5	2.0	3.5	2.5	3.0	12.0	9.0	10.0
12	.0	.0	.0	2.5	1.0	2.0	2.5	1.5	2.0	11.5	9.0	10.0
13	.0	.0	.0	2.0	1.0	1.5	5.0	1.5	3.0	11.0	8.0	9.5
14	.0	.0	.0	1.5	.5	1.0	5.5	3.0	4.5	9.5	8.5	9.0
15	.0	.0	.0	1.0	.5	.5	7.5	3.5	5.5	9.0	8.0	8.0
16	.0	.0	.0	1.0	.0	.5	7.0	5.0	6.0	---	---	---
17	.0	.0	.0	2.0	.5	1.0	6.5	3.5	5.0	---	---	---
18	.0	.0	.0	2.0	1.0	1.5	5.5	4.0	5.0	---	---	---
19	.0	.0	.0	3.0	1.0	2.0	6.0	4.5	5.5	---	---	---
20	.0	.0	.0	4.0	2.0	3.0	7.0	5.0	6.0	---	---	---
21	.0	.0	.0	4.5	2.5	4.0	7.5	5.5	6.5	---	---	---
22	.0	.0	.0	4.5	3.0	3.5	8.0	5.0	6.0	---	---	---
23	.0	.0	.0	3.5	2.0	2.5	8.0	5.0	6.5	---	---	---
24	.0	.0	.0	2.5	1.5	2.0	8.5	6.0	7.0	---	---	---
25	.0	.0	.0	3.0	1.5	2.5	9.0	5.5	7.0	---	---	---
26	.5	.0	.0	5.0	2.5	3.5	9.0	6.0	7.5	---	---	---
27	.5	.0	.5	7.0	4.0	5.5	8.0	7.0	7.5	---	---	---
28	1.5	.5	1.0	6.5	6.0	6.5	10.0	6.0	8.0	---	---	---
29	---	---	---	6.0	5.0	6.0	11.5	7.5	9.5	---	---	---
30	---	---	---	5.0	4.0	4.5	10.5	7.5	9.0	---	---	---
31	---	---	---	5.0	3.5	4.0	---	---	---	---	---	---
MONTH	1.5	.0	.1	7.0	.0	2.2	11.5	1.5	5.8	12.0	6.5	9.1

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040871475 WILSON PARK CREEK AT GMIA OUTFALL #7 AT MILWAUKEE, WI

LOCATION.--Lat 42°57'24", long 87°54'25", in NW 1/4 NW 1/4 sec.28, T.6 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, at Milwaukee.

DRAINAGE AREA.--2.25 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Nov. 13, 1996 to May 13, 1997.

GAGE.--Water-stage recorder. Elevation of gage is 670 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: May 9-10. Records are good (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	.53	.98	2.4	23	.63	7.3	---	---	---	---
2	---	---	.28	3.9	2.1	4.0	.61	10	---	---	---	---
3	---	---	.34	1.4	.82	1.8	.62	5.0	---	---	---	---
4	---	---	.24	13	3.2	1.5	.60	2.3	---	---	---	---
5	---	---	1.3	2.9	2.1	1.1	2.9	2.4	---	---	---	---
6	---	---	.92	1.1	.60	.85	1.3	1.7	---	---	---	---
7	---	---	.55	.67	.36	.75	.69	2.5	---	---	---	---
8	---	---	.32	.49	.41	.76	.54	4.3	---	---	---	---
9	---	---	.25	.36	.29	4.1	.45	1.0	---	---	---	---
10	---	---	.26	.36	.25	1.7	.51	.80	---	---	---	---
11	---	---	1.2	.27	.23	1.5	1.2	1.2	---	---	---	---
12	---	---	.64	.21	.25	1.1	6.5	1.0	---	---	---	---
13	---	---	.17	.83	.19	1.0	5.1	.90	---	---	---	---
14	---	---	.16	.92	.19	.22	3.1	2.6	---	---	---	---
15	---	---	.17	3.8	.21	.21	1.0	1.8	---	---	---	---
16	---	.17	.73	.22	.24	.70	1.3	---	---	---	---	---
17	---	.56	.46	.19	.71	.84	1.1	---	---	---	---	---
18	---	.19	.35	.19	22	.67	1.0	---	---	---	---	---
19	---	.18	.28	.18	5.5	.69	1.9	---	---	---	---	---
20	---	.17	.25	.20	4.2	.81	1.0	---	---	---	---	---
21	---	.26	.22	1.1	49	1.0	1.4	---	---	---	---	---
22	---	.19	.27	12	4.2	.89	.90	---	---	---	---	---
23	---	.18	11	.83	1.9	.73	.79	---	---	---	---	---
24	---	.52	1.2	.47	1.0	1.1	.73	---	---	---	---	---
25	---	.23	.35	.41	.89	2.4	.62	---	---	---	---	---
26	---	.18	.31	.25	5.5	1.0	.59	---	---	---	---	---
27	---	.16	.33	.27	3.9	1.0	.59	---	---	---	---	---
28	---	.16	1.5	.21	3.8	1.0	.59	---	---	---	---	---
29	---	1.5	.72	.19	---	.84	.49	---	---	---	---	---
30	---	2.0	.30	.20	---	.98	13	---	---	---	---	---
31	---	---	.28	2.3	---	.71	---	---	---	---	---	---
TOTAL	---	7.15	30.93	45.44	116.48	62.62	52.05	40.40	---	---	---	---
MEAN	---	.40	1.00	1.47	4.16	2.02	1.74	3.11	---	---	---	---
MAX	---	2.0	11	13	49	23	13	10	---	---	---	---
MIN	---	.16	.22	.18	.20	.67	.45	.80	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

MEAN	---	.40	1.00	1.47	4.16	2.02	1.74	3.11	---	---	---	---
MAX	---	.40	1.00	1.47	4.16	2.02	1.74	3.11	---	---	---	---
(WY)	---	1997	1997	1997	1997	1997	1997	1997	---	---	---	---
MIN	---	.40	1.00	1.47	4.16	2.02	1.74	3.11	---	---	---	---
(WY)	---	1997	1997	1997	1997	1997	1997	1997	---	---	---	---

SUMMARY STATISTICS

FOR 1997 WATER YEAR
(NOV. 13 THROUGH MAY 13)

ANNUAL TOTAL	355.07
ANNUAL MEAN	1.95
HIGHEST DAILY MEAN	49 Feb 21
LOWEST DAILY MEAN	.16 Nov 14
ANNUAL SEVEN-DAY MINIMUM	.20 Jan 13
INSTANTANEOUS PEAK FLOW	102 Feb 21
INSTANTANEOUS PEAK STAGE	12.80 Feb 21
10 PERCENT EXCEEDS	4.1
50 PERCENT EXCEEDS	.75
90 PERCENT EXCEEDS	.19

STREAMS TRIBUTARY TO LAKE MICHIGAN
040871475 WILSON PARK CREEK AT GMIA OUTFALL #7 AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1996 to May 1997.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Nov. 14, 1996 to May 13, 1997.

INSTRUMENTATION.--Stage-activated water-quality sampler since November 1996. Continuous water-temperature recorder since November 1996.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 10.0°C, May7; minimum observed, 0.5°C, Feb. 18, 21.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L) (00310)	CHLORIDE, DIS-SOLVED (MG/L) (00940)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) (00608)	NITRO-GEN, AMMONIA + ORGANIC TOTAL SOLVED (MG/L) (00625)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L) (00671)	1,2 ETH-ANEDIOL UNFIL-TERED TOTAL RECOV (99918)	1,2 PRO-PANEDIOL UNFIL-TERED TOTAL RECOV (99919)
NOV 1996												
*06...	1225	0.37	8.1	--	17	130	2.86	1.35	2.1	0.002	<6.4	<4.0
24...	0010	0.22	--	420	280	--	2.02	4.56	20	--	<6.4	61.0
24...	0410	0.62	--	490	>420	--	2.71	2.91	20	--	<10.0	110.0
24...	1310	0.77	8.1	--	>420	240	3.29	5.22	45	<0.002	100.0	2700.0
24...	2310	0.33	--	1800	230	--	3.71	6.17	10	--	80.0	900.0
25...	0700	0.16	--	--	--	--	--	--	--	--	<6.4	<4.0
DEC												
05...	0830	0.36	--	--	960	--	1.88	11.0	32	--	41.0	290.0
05...	0935	0.36	--	--	740	--	2.10	8.97	26	--	62.0	680.0
05...	1035	0.84	--	--	680	--	1.87	8.95	26	--	58.0	690.0
05...	1135	1.6	7.9	--	1100	8800	1.58	6.61	32	<0.002	57.0	610.0
05...	1335	2.8	--	34000	>1100	--	1.15	4.27	57	--	280.0	5900.0
05...	1535	2.4	8.1	--	1100	950	1.78	5.84	61	<0.002	300.0	4700.0
05...	1540	2.4	8.0	5100	980	910	1.81	6.09	64	<0.002	270.0	3000.0
05...	1840	2.4	--	--	950	--	1.82	5.43	66	--	170.0	1300.0
05...	2140	1.8	--	--	870	--	2.40	7.48	74	--	110.0	770.0
06...	1105	0.70	--	1500	900	--	3.23	12.7	56	--	69.0	540.0
JAN 1997												
24...	1545	0.42	8.0	--	520	450	1.21	3.95	8.1	0.002	30.0	430.0
24...	1715	0.42	--	--	500	--	1.16	3.89	8.2	--	50.0	410.0
24...	1845	0.42	--	--	540	--	1.14	3.95	7.8	--	20.0	380.0
24...	2045	0.48	--	--	500	--	1.13	4.06	7.7	--	<40.0	400.0
24...	2245	0.59	--	--	--	--	1.12	5.65	10	--	54.0	420.0
25...	0040	0.59	7.8	--	>2100	3900	1.13	4.38	9.3	0.008	380.0	4500.0
25...	0045	0.59	7.8	--	>2100	4200	1.17	4.32	11	0.010	<50.0	5600.0
25...	0445	0.48	--	--	>2100	--	1.10	4.17	11	--	410.0	3200.0
25...	0645	0.42	7.8	--	>2100	7200	1.04	3.68	10	0.008	59.0	3000.0
25...	0815	0.42	--	--	2100	--	1.01	3.80	9.0	--	65.0	2500.0
25...	0945	0.42	--	--	1600	--	0.999	3.67	8.6	--	10.0	1700.0
25...	1330	0.39	--	--	1200	--	1.07	3.48	7.4	--	83.0	890.0
25...	2015	0.33	--	--	>2100	--	0.987	3.44	11	--	<20.0	3700.0
FEB												
14...	0825	0.20	--	--	--	--	0.360	14.8	20	--	81.0	960.0
MAR												
24...	2205	4.9	--	14000	5800	--	1.81	15.3	65	--	2000.0	6100.0
APR												
11...	1445	0.42	--	--	280	--	1.19	16.2	18	--	<10.0	73.0
11...	1645	1.3	--	--	230	--	1.24	15.9	18	--	49.0	120.0
11...	1845	3.7	--	--	5000	--	1.32	11.7	28	--	710.0	5100.0
11...	2045	2.3	--	--	2500	--	2.24	17.8	560	--	2900.0	5000.0
11...	2305	2.0	8.0	--	1900	2000	3.20	18.7	110	<0.002	600.0	1700.0
12...	0130	4.0	--	--	5600	--	2.40	22.6	100	--	1400.0	5800.0
12...	0330	5.6	--	--	1300	--	3.85	20.1	55	--	540.0	2000.0
12...	0530	6.4	--	--	780	--	5.63	25.4	62	--	230.0	560.0
12...	0730	6.7	8.0	--	890	260	10.4	23.0	60	<0.002	200.0	700.0
12...	1015	6.1	--	--	630	--	10.7	24.6	57	--	250.0	450.0
12...	1445	4.9	--	--	660	--	7.44	23.4	63	--	<10.0	35.0
28...	1030	0.59	--	--	E320	--	E0.500	E16.0	E19	<0.002	<10.0	110.0

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BOD OXYGEN DEMAND, BIOCHEM CARBON, 5 DAY (MG/L) (80082)	ALKALINITY, WAT WH TOT FET LAB MG/L AS CACO3 (00417)
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NOV 1996

*06... 1225 0.37 14 338

* Equal-width increment (EWI) sample
E Estimated

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040871475 WILSON PARK CREEK AT GMIA OUTFALL #7 AT MILWAUKEE, WI-CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	6.5	6.0	6.5	5.5	3.5	4.0
2	---	---	---	---	---	---	6.5	6.0	6.0	4.0	2.0	3.0
3	---	---	---	---	---	---	6.5	6.0	6.0	4.0	2.5	3.5
4	---	---	---	---	---	---	6.5	6.0	6.0	5.0	2.0	3.5
5	---	---	---	---	---	---	6.5	4.0	5.5	3.5	3.0	3.5
6	---	---	---	---	---	---	6.0	5.0	5.5	3.5	3.0	3.0
7	---	---	---	---	---	---	6.0	6.0	6.0	3.5	3.0	3.0
8	---	---	---	---	---	---	6.0	5.0	5.0	3.5	3.5	3.5
9	---	---	---	---	---	---	6.0	5.0	5.5	4.0	3.5	3.5
10	---	---	---	---	---	---	6.0	6.0	6.0	4.0	3.5	3.5
11	---	---	---	---	---	---	6.5	5.0	5.5	3.5	2.5	3.0
12	---	---	---	---	---	---	6.0	5.0	5.5	3.0	2.0	2.5
13	---	---	---	---	---	---	6.0	5.0	6.0	3.5	2.5	3.0
14	---	---	---	7.5	6.5	7.0	6.0	5.0	5.5	3.5	3.0	3.5
15	---	---	---	---	---	---	6.5	4.5	5.0	4.0	3.5	4.0
16	---	---	---	---	---	---	5.5	5.0	5.5	4.0	3.0	3.5
17	---	---	---	---	---	---	5.5	5.0	5.0	3.0	3.0	3.0
18	---	---	---	---	---	---	5.5	4.5	5.0	3.0	2.0	2.5
19	---	---	---	---	---	---	5.0	4.5	5.0	3.0	2.5	3.0
20	---	---	---	---	---	---	5.0	4.5	5.0	3.5	3.0	3.5
21	---	---	---	8.0	7.0	7.5	5.0	5.0	5.0	4.0	2.5	3.5
22	---	---	---	7.5	7.0	7.5	6.0	5.0	5.5	2.5	1.0	1.5
23	---	---	---	---	---	---	6.0	1.5	3.5	2.5	1.5	2.0
24	---	---	---	8.0	7.0	7.5	3.0	2.5	3.0	3.0	2.5	2.5
25	---	---	---	7.0	5.5	6.5	3.5	2.5	3.0	3.0	2.5	2.5
26	---	---	---	5.5	4.0	5.0	4.0	3.0	4.0	3.0	2.5	2.5
27	---	---	---	6.5	4.0	5.5	4.5	4.0	4.5	3.5	3.0	3.0
28	---	---	---	6.5	6.0	6.5	4.5	3.0	4.0	3.0	2.5	2.5
29	---	---	---	---	---	---	3.5	3.5	3.5	3.0	2.5	2.5
30	---	---	---	6.5	4.0	5.5	4.0	3.5	4.0	3.0	2.5	3.0
31	---	---	---	---	---	---	4.5	3.5	4.0	3.5	1.5	3.0
MONTH	---	---	---	8.0	4.0	6.5	6.5	1.5	5.0	5.5	1.0	3.0
FEBRUARY			MARCH			APRIL			MAY			
1	2.5	1.5	2.0	1.5	1.0	1.0	5.0	4.5	5.0	8.0	6.5	7.0
2	2.5	1.5	2.0	2.5	1.0	1.5	5.5	5.0	5.0	9.5	7.5	8.0
3	2.5	1.5	2.0	2.5	2.0	2.0	6.0	5.5	5.5	8.5	7.5	7.5
4	3.0	1.0	2.0	2.5	2.5	2.5	6.5	6.0	6.0	8.5	7.0	7.5
5	2.0	1.5	1.5	2.5	2.5	2.5	8.0	6.5	7.5	9.0	8.0	8.5
6	2.5	2.0	2.0	2.5	2.0	2.0	---	---	---	9.0	8.5	8.5
7	2.5	2.5	2.5	2.5	2.0	2.5	6.0	5.0	5.5	10.0	8.5	8.5
8	3.0	2.5	3.0	3.0	2.5	2.5	5.0	4.0	4.5	9.5	8.5	9.0
9	3.0	2.5	3.0	3.5	2.0	2.5	5.5	4.5	5.0	9.5	8.5	8.5
10	3.0	3.0	3.0	3.5	2.0	2.5	5.5	5.0	5.0	8.5	8.0	8.5
11	3.0	3.0	3.0	3.5	2.5	3.0	6.0	4.0	5.0	9.0	8.5	8.5
12	3.0	3.0	3.0	3.0	3.0	3.0	4.5	2.5	3.5	9.0	8.5	8.5
13	3.0	3.0	3.0	3.5	3.0	3.0	6.0	3.5	4.5	9.0	8.5	9.0
14	3.5	3.0	3.0	3.0	2.0	2.0	5.5	4.5	5.0	---	---	---
15	3.0	2.0	2.5	2.0	1.5	2.0	6.5	5.0	5.5	---	---	---
16	3.0	2.5	3.0	2.5	2.0	2.5	6.5	5.5	6.0	---	---	---
17	3.5	2.0	3.0	3.5	2.5	3.0	5.5	5.5	5.5	---	---	---
18	2.0	.5	1.0	3.0	2.5	3.0	6.5	5.5	6.0	---	---	---
19	2.0	1.0	1.5	3.5	2.5	3.0	6.5	6.0	6.0	---	---	---
20	2.5	1.5	2.0	4.0	3.0	3.5	6.5	6.0	6.0	---	---	---
21	2.5	.5	1.0	4.5	3.5	4.0	7.0	6.0	6.5	---	---	---
22	2.0	1.0	1.5	4.0	3.5	4.0	6.5	6.0	6.5	---	---	---
23	2.0	1.5	2.0	4.0	3.5	3.5	6.5	6.0	6.5	---	---	---
24	2.0	1.5	2.0	4.0	2.0	3.5	6.5	6.5	6.5	---	---	---
25	2.5	2.0	2.0	3.5	2.5	3.0	6.5	6.5	6.5	---	---	---
26	3.0	1.0	2.0	4.0	3.5	3.5	7.0	6.5	7.0	---	---	---
27	2.5	1.0	1.5	5.0	4.0	4.5	7.0	7.0	7.0	---	---	---
28	2.5	1.5	2.0	5.5	5.0	5.0	7.0	7.0	7.0	---	---	---
29	---	---	---	5.5	5.0	5.5	7.5	7.0	7.5	---	---	---
30	---	---	---	5.0	5.0	5.0	9.0	6.5	7.5	---	---	---
31	---	---	---	5.0	4.5	5.0	---	---	---	---	---	---
MONTH	3.5	.5	2.2	5.5	1.0	3.1	9.0	2.5	5.9	10.0	6.5	8.3

STREAMS TRIBUTARY TO LAKE MICHIGAN

040871476 HOLMES AVENUE CREEK TRIB AT GMIA OUTFALL #1 AT MILWAUKEE, WI

LOCATION.--Lat 42°56'30", long 87°54'37", in NE 1/4 NE 1/4 sec.32, T.6 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, at Milwaukee.

DRAINAGE AREA.--0.03 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Nov. 12, 1996 through May 20, 1997.

GAGE.--Water-stage recorder. Elevation of gage is 700 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 3. Records are fair (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	.02	.04	.04	.39	.01	.12	---	---	---	---
2	---	---	.01	.11	.04	.06	.01	.32	---	---	---	---
3	---	---	.03	.05	.02	.04	.01	.07	---	---	---	---
4	---	---	.01	.44	.14	.04	.01	.01	---	---	---	---
5	---	---	.08	.04	.10	.03	.17	.04	---	---	---	---
6	---	---	.04	.02	.02	.02	.02	.00	---	---	---	---
7	---	---	.02	.01	.02	.02	.01	.08	---	---	---	---
8	---	---	.01	.01	.03	.03	.01	.10	---	---	---	---
9	---	---	.01	.01	.01	.18	.00	.00	---	---	---	---
10	---	---	.01	.02	.01	.05	.00	.00	---	---	---	---
11	---	---	.07	.02	.01	.04	.04	.00	---	---	---	---
12	---	.00	.03	.02	.01	.03	.33	.00	---	---	---	---
13	---	.00	.07	.02	.01	.04	.11	.00	---	---	---	---
14	---	.00	.03	.01	.01	.14	.02	.08	---	---	---	---
15	---	.00	.18	.01	.01	.02	.02	.01	---	---	---	---
16	---	.00	.01	.02	.01	.01	.01	.01	---	---	---	---
17	---	.06	.01	.01	.03	.02	.01	.01	---	---	---	---
18	---	.01	.01	.01	.47	.02	.02	.03	---	---	---	---
19	---	.01	.01	.01	.14	.02	.05	.01	---	---	---	---
20	---	.01	.00	.01	.22	.02	.01	.01	---	---	---	---
21	---	.03	.01	.09	1.0	.02	.02	---	---	---	---	---
22	---	.01	.02	.35	.10	.02	.00	---	---	---	---	---
23	---	.01	.43	.04	.03	.01	.00	---	---	---	---	---
24	---	.06	.02	.02	.02	.07	.00	---	---	---	---	---
25	---	.02	.01	.02	.01	.10	.00	---	---	---	---	---
26	---	.01	.01	.01	.19	.02	.00	---	---	---	---	---
27	---	.00	.01	.01	.11	.01	.00	---	---	---	---	---
28	---	.00	.06	.01	.09	.01	.00	---	---	---	---	---
29	---	.13	.03	.01	---	.01	.00	---	---	---	---	---
30	---	.08	.01	.01	---	.03	.41	---	---	---	---	---
31	---	---	.01	.07	---	.01	---	---	---	---	---	---
TOTAL	---	0.44	1.28	1.53	2.90	1.53	1.30	0.90	---	---	---	---
MEAN	---	.023	.041	.049	.10	.049	.043	.045	---	---	---	---
MAX	---	.13	.43	.44	1.0	.39	.41	.32	---	---	---	---
MIN	---	.00	.00	.01	.01	.01	.00	.00	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

MEAN	---	.023	.041	.049	.10	.049	.043	.045	---	---	---	---
MAX	---	.023	.041	.049	.10	.049	.043	.045	---	---	---	---
(WY)	---	1997	1997	1997	1997	1997	1997	1997	---	---	---	---
MIN	---	.023	.041	.049	.10	.049	.043	.045	---	---	---	---
(WY)	---	1997	1997	1997	1997	1997	1997	1997	---	---	---	---

SUMMARY STATISTICS

FOR 1997 WATER YEAR
(NOV. 12 THROUGH MAY 20)

HIGHEST DAILY MEAN	1.0	Feb 21
LOWEST DAILY MEAN	.00	Many days
ANNUAL SEVEN-DAY MINIMUM	.00	Many days
INSTANTANEOUS PEAK FLOW	3.9	Apr 30
INSTANTANEOUS PEAK STAGE	.92	Apr 30
10 PERCENT EXCEEDS	.12	
50 PERCENT EXCEEDS	.02	
90 PERCENT EXCEEDS	.00	

040871476 HOLMES AVENUE CREEK TRIB AT GMIA OUTFALL #1 AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1996 to May 1997.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Nov. 12, 1996 to May 14, 1997.

INSTRUMENTATION.--Stage-activated water-quality sampler since November 1996. Continuous water-temperature recorder since November 1996.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 18.5°C, Nov. 12; minimum observed, 0.0°C, many days during winter.

WATER-QUALITY DATA, OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	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) (00671)	1,2 ETH- ANEDIOL UNFIL- TERED TOTAL RECOV (MG/L) (99918)	1,2 PRO- PANIDIOL UNFIL- TERED TOTAL RECOV (MG/L) (99919)
NOV 1996												
*06...	1620	E0.02	7.6	--	40	4.9	3.08	2.57	3.7	0.004	7.1	14.0
24...	0110	0.08	--	4200	>1100	--	1.61	5.17	12	--	49.0	2900.0
24...	0330	0.13	--	2600	>1100	--	0.831	2.63	6.6	--	31.0	1500.0
24...	0410	0.10	7.8	--	>1000	33	0.757	2.74	6.5	<0.002	31.0	1300.0
24...	1135	0.07	--	1300	>1100	--	0.238	3.74	6.8	--	32.0	970.0
DEC												
05...	0854	0.01	--	--	5700	--	0.709	23.5	76	--	410.0	8300.0
05...	1110	0.01	--	--	4100	--	0.716	24.3	74	--	--	--
05...	1150	0.01	--	--	--	--	--	--	--	--	360.0	7400.0
05...	1210	0.16	--	--	7300	--	0.459	29.3	95	--	560.0	15000
05...	1310	0.25	--	--	5500	--	0.497	7.03	33	--	210.0	7900.0
05...	1505	0.21	--	--	--	--	--	--	--	--	360.0	6900.0
05...	1510	0.25	--	--	3500	--	0.620	11.1	47	--	380.0	7100.0
05...	1815	0.13	--	16000	7000	--	0.543	24.1	65	--	560.0	10000
06...	1015	0.03	--	23000	>7300	--	0.218	48.8	94	--	800.0	12000
JAN 1997												
24...	1605	0.02	7.4	--	3700	4200	0.271	28.3	68	0.003	250.0	2800.0
24...	1735	0.02	--	--	3900	--	0.257	28.7	66	--	240.0	2600.0
24...	1900	0.02	--	--	4100	--	0.236	29.8	69	--	230.0	2900.0
24...	2100	0.02	--	--	3300	--	0.225	29.8	68	--	230.0	2600.0
24...	2300	0.02	--	--	3400	--	0.212	31.1	69	--	220.0	2800.0
25...	0100	0.02	--	--	3500	--	0.197	30.7	68	--	220.0	3500.0
25...	0400	0.02	--	--	3300	--	0.191	30.2	69	--	220.0	3200.0
25...	0700	0.02	7.6	--	3600	5000	0.163	33.5	69	0.005	180.0	3400.0
25...	0830	0.02	--	--	3900	--	0.144	34.5	73	--	220.0	3700.0
25...	1215	0.02	--	--	4600	--	0.130	34.4	74	--	160.0	3900.0
25...	2030	0.01	--	--	>7100	--	0.276	31.5	72	--	330.0	11000
FEB												
14...	0805	<0.01	--	--	2400	--	0.669	68.6	53	--	740.0	6200.0
MAR												
24...	2135	0.33	--	900	<1200	--	1.29	6.14	24	--	30.0	260.0
APR												
11...	1420	<0.01	--	--	4300	--	<0.010	133	170	--	37.0	540.0
11...	1610	0.18	--	--	3700	--	0.039	126	150	--	42.0	1000.0
11...	1810	0.11	7.7	210	<600	40	0.444	5.77	3.8	0.028	21.0	140.0
11...	2010	0.04	--	--	410	--	0.391	10.4	19	--	34.0	250.0
11...	2250	0.03	--	--	680	--	0.279	23.6	38	--	47.0	400.0
12...	0015	0.21	--	--	7300	--	0.502	6.35	30	--	24.0	12000
12...	0155	0.73	--	--	6900	--	0.660	4.16	50	--	34.0	9500.0
12...	0355	0.64	--	--	--	--	0.815	2.96	23	--	32.0	8400.0
12...	0555	0.38	--	--	5900	--	0.822	3.83	18	--	30.0	9200.0
12...	1020	0.18	--	--	7900	--	1.20	8.73	29	--	<10.0	9100.0
12...	1220	0.16	--	--	6900	--	1.14	9.18	29	--	<10.0	8100.0
12...	1420	0.06	--	--	5800	--	1.11	11.8	29	--	<10.0	6800.0

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) (80082)	ALKA- LINITY WAT WH TOT FET LAB MG/L AS CACO3 (00417)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
NOV 1996					
*06...	1620	E0.02	34	89	0.077

* Equal-width increment (EWI) sample
E Estimated

STREAMS TRIBUTARY TO LAKE MICHIGAN

040871476 HOLMES AVENUE CREEK TRIB AT GMIA OUTFALL #1 AT MILWAUKEE, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	7.5	3.0	6.0	7.0	2.0	3.5
2	---	---	---	---	---	---	7.5	6.5	7.0	5.0	1.0	2.5
3	---	---	---	---	---	---	---	---	---	4.0	2.0	3.5
4	---	---	---	---	---	---	---	---	---	7.0	1.0	3.0
5	---	---	---	---	---	---	8.0	1.0	4.0	4.5	3.5	4.0
6	---	---	---	---	---	---	5.0	2.5	4.0	5.0	4.5	4.5
7	---	---	---	---	---	---	6.5	4.0	6.0	5.0	3.5	4.5
8	---	---	---	---	---	---	7.0	6.5	6.5	5.0	3.0	4.0
9	---	---	---	---	---	---	7.5	6.5	7.0	5.0	2.0	3.5
10	---	---	---	---	---	---	7.5	7.0	7.5	4.0	.0	1.5
11	---	---	---	---	---	---	7.5	2.0	3.5	.5	.0	.0
12	---	---	---	18.5	6.5	12.0	6.0	3.5	5.0	.0	.0	.0
13	---	---	---	11.0	4.5	8.5	7.0	2.5	6.0	.0	.0	.0
14	---	---	---	8.0	5.5	6.5	6.5	3.0	5.5	.0	.0	.0
15	---	---	---	9.5	8.0	9.0	6.5	3.5	5.0	.0	.0	.0
16	---	---	---	10.0	9.5	9.5	7.0	6.0	6.5	1.0	.0	.0
17	---	---	---	10.0	8.0	9.5	7.5	6.5	7.0	2.5	1.0	2.0
18	---	---	---	10.0	9.5	10.0	7.0	6.5	7.0	3.5	1.5	2.5
19	---	---	---	10.0	8.5	9.0	7.0	5.5	6.5	4.0	2.5	3.5
20	---	---	---	9.5	7.5	8.5	6.5	6.0	6.5	3.0	.0	2.0
21	---	---	---	9.0	3.5	7.0	7.0	6.5	7.0	4.0	.0	2.5
22	---	---	---	10.0	8.5	9.5	7.0	1.5	6.5	1.5	.0	.5
23	---	---	---	10.0	6.0	9.0	3.5	1.0	2.0	4.0	1.0	2.0
24	---	---	---	9.0	3.5	5.0	5.0	2.0	4.0	4.5	2.0	3.5
25	---	---	---	9.0	7.5	8.5	5.0	4.5	5.0	4.5	1.5	2.5
26	---	---	---	8.5	8.0	8.0	5.0	4.5	4.5	3.0	1.0	2.0
27	---	---	---	8.5	7.5	8.0	5.0	.5	3.5	3.5	.0	1.5
28	---	---	---	9.0	7.5	8.5	5.0	.5	2.5	2.5	.0	1.5
29	---	---	---	9.5	1.5	7.5	5.0	1.5	3.5	4.0	2.5	3.0
30	---	---	---	7.0	1.5	5.0	---	---	---	4.0	3.0	3.5
31	---	---	---	---	---	---	6.0	5.0	5.5	4.0	.0	2.5
MONTH	---	---	---	18.5	1.5	8.3	8.0	.5	5.4	7.0	.0	2.2
	FEBRUARY			MARCH			APRIL			MAY		
1	4.0	.5	2.5	1.0	.0	.5	5.0	4.0	4.5	6.5	5.0	6.0
2	4.5	1.0	3.5	2.5	.5	1.5	5.0	5.0	5.0	9.5	6.5	7.5
3	4.0	2.5	3.5	3.5	1.5	2.5	5.5	5.0	5.0	11.0	6.0	7.5
4	3.5	.0	1.0	3.5	2.0	3.0	5.5	5.0	5.5	8.0	6.5	7.0
5	2.5	.0	.5	4.0	3.0	3.5	12.5	5.5	10.0	14.0	7.0	8.5
6	3.5	2.5	3.0	3.5	3.0	3.5	---	---	---	8.0	7.0	7.5
7	3.5	3.0	3.0	4.5	2.5	3.0	6.0	5.0	5.5	10.5	7.0	7.5
8	4.0	1.0	2.0	4.5	3.0	3.5	5.0	4.0	4.5	14.0	8.0	9.5
9	4.0	3.0	3.5	4.0	1.0	2.5	4.5	3.5	4.0	8.0	7.5	7.5
10	4.0	3.5	3.5	4.5	2.5	3.5	5.0	3.5	4.5	7.5	7.5	7.5
11	4.0	4.0	4.0	5.5	3.5	4.0	5.5	.5	3.5	7.5	7.0	7.5
12	4.0	.0	1.5	4.5	3.5	4.0	2.0	.0	.5	7.5	7.0	7.5
13	4.5	2.0	3.5	4.0	.0	3.5	9.0	1.0	4.0	7.5	6.5	7.0
14	4.0	3.0	3.5	2.5	.0	1.0	7.0	3.5	5.0	13.0	7.0	8.5
15	3.0	1.5	2.5	3.0	2.5	3.0	6.0	5.5	5.5	---	---	---
16	2.5	.0	1.0	3.5	2.5	3.0	6.0	5.5	5.5	---	---	---
17	3.5	1.0	2.0	4.5	3.5	4.0	5.5	4.5	5.0	---	---	---
18	2.5	.5	1.0	4.0	3.0	3.5	6.0	4.5	5.0	---	---	---
19	2.0	.5	1.0	4.5	3.0	4.0	6.0	4.5	5.5	---	---	---
20	3.5	1.0	2.5	5.0	4.5	4.5	7.0	5.5	5.5	---	---	---
21	2.0	.0	.5	5.5	4.5	5.0	7.0	5.5	6.0	---	---	---
22	2.0	.5	1.0	5.0	4.5	4.5	6.0	5.0	5.5	---	---	---
23	3.5	2.0	3.0	4.5	3.0	4.0	6.0	5.0	5.5	---	---	---
24	3.0	2.5	2.5	4.5	.5	3.5	6.0	5.5	6.0	---	---	---
25	3.5	2.5	3.0	4.0	.5	3.0	6.0	5.5	6.0	---	---	---
26	4.0	.0	2.0	4.5	4.0	4.5	6.0	5.5	6.0	---	---	---
27	2.0	.0	.5	4.5	4.5	4.5	6.0	6.0	6.0	---	---	---
28	2.5	.5	1.5	5.0	4.5	5.0	6.0	6.0	6.0	---	---	---
29	---	---	---	5.0	5.0	5.0	6.5	6.0	6.0	---	---	---
30	---	---	---	5.0	3.0	5.0	11.5	6.0	7.0	---	---	---
31	---	---	---	5.0	4.0	4.5	---	---	---	---	---	---
MONTH	4.5	.0	2.2	5.5	.0	3.5	12.5	.0	5.3	14.0	5.0	7.6

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040871478 WILSON PARK CREEK AT SIXTH STREET AT MILWAUKEE, WI

LOCATION.--Lat 42°57'46", long 87°55'07", in SE 1/4 SW 1/4 sec.20, T.6 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, at Milwaukee.

DRAINAGE AREA.--6.10 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Nov. 12, 1996 through May 15, 1997 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 670 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 3, 21-23, and ice-affected periods, Dec. 18-20, 25, Jan. 6-22, 26-31, and Feb. 8-14. Records are fair except for estimated daily discharges, which are poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	3.3	3.6	6.9	34	2.5	11	---	---	---	---
2	---	---	2.0	8.5	5.3	9.6	2.6	17	---	---	---	---
3	---	---	2.5	4.7	3.3	5.7	2.5	8.5	---	---	---	---
4	---	---	2.1	25	9.9	5.1	2.7	4.2	---	---	---	---
5	---	---	5.8	7.4	7.2	4.3	8.1	5.0	---	---	---	---
6	---	---	4.3	4.0	3.4	4.4	4.0	3.7	---	---	---	---
7	---	---	2.8	3.3	2.5	3.4	3.0	6.0	---	---	---	---
8	---	---	2.3	2.5	2.4	2.8	2.1	8.7	---	---	---	---
9	---	---	2.0	2.4	2.3	8.9	2.2	3.6	---	---	---	---
10	---	---	2.2	2.2	2.0	5.1	2.0	2.7	---	---	---	---
11	---	---	5.0	2.0	1.8	4.4	3.9	2.4	---	---	---	---
12	---	1.8	3.2	1.6	2.2	3.7	12	2.2	---	---	---	---
13	---	1.6	3.9	2.0	1.8	3.9	9.2	1.9	---	---	---	---
14	---	1.3	3.6	2.4	1.6	8.1	4.9	3.7	---	---	---	---
15	---	1.6	9.9	2.1	1.5	5.8	3.2	2.0	---	---	---	---
16	---	1.6	3.0	1.9	1.7	3.7	2.9	---	---	---	---	---
17	---	3.7	2.4	1.6	3.8	3.2	2.6	---	---	---	---	---
18	---	1.6	1.7	1.5	34	2.9	2.5	---	---	---	---	---
19	---	1.5	1.5	1.3	12	3.1	4.5	---	---	---	---	---
20	---	1.5	1.5	1.5	10	3.1	2.8	---	---	---	---	---
21	---	2.0	1.7	7.0	85	3.2	3.9	---	---	---	---	---
22	---	1.6	2.0	27	11	2.9	2.8	---	---	---	---	---
23	---	1.3	27	5.0	6.1	2.6	2.6	---	---	---	---	---
24	---	3.3	4.8	3.2	8.3	3.7	2.6	---	---	---	---	---
25	---	1.7	2.5	3.1	4.0	6.4	2.3	---	---	---	---	---
26	---	1.4	1.7	2.9	10	3.2	1.9	---	---	---	---	---
27	---	1.5	2.4	2.6	9.6	3.1	1.9	---	---	---	---	---
28	---	1.3	7.6	2.4	9.0	3.0	2.2	---	---	---	---	---
29	---	5.7	3.2	2.3	---	2.8	2.2	---	---	---	---	---
30	---	6.3	1.9	2.2	---	3.4	24	---	---	---	---	---
31	---	---	1.8	10	---	2.7	---	---	---	---	---	---
TOTAL	---	42.3	121.6	149.2	258.6	162.2	126.6	82.6	---	---	---	---
MEAN	---	2.23	3.92	4.81	9.24	5.23	4.22	5.51	---	---	---	---
MAX	---	6.3	27	27	85	34	24	17	---	---	---	---
MIN	---	1.3	1.5	1.3	1.5	2.6	1.9	1.9	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

MEAN	---	---	3.92	4.81	9.24	5.23	4.22	---	---	---	---	---
MAX	---	---	3.92	4.81	9.24	5.23	4.22	---	---	---	---	---
(WY)	---	---	1997	1997	1997	1997	1997	---	---	---	---	---
MIN	---	---	3.92	4.81	9.24	5.23	4.22	---	---	---	---	---
(WY)	---	---	1997	1997	1997	1997	1997	---	---	---	---	---

SUMMARY STATISTICS

FOR 1997 WATER YEAR
(NOV. 12 THROUGH MAY 15)

HIGHEST DAILY MEAN	85	Feb 21
LOWEST DAILY MEAN	1.3	(a) Nov 14
ANNUAL SEVEN-DAY MINIMUM	1.7	Nov 22
INSTANTANEOUS PEAK FLOW	196	Feb 21
INSTANTANEOUS PEAK STAGE	5.50	Feb 21
10 PERCENT EXCEEDS	9.6	
50 PERCENT EXCEEDS	3.0	
90 PERCENT EXCEEDS	1.6	

(a) Also occurred Nov. 23, 28, and Jan. 19

STREAMS TRIBUTARY TO LAKE MICHIGAN
040871478 WILSON PARK CREEK AT SIXTH STREET AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1996 to May 1997.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Nov. 12, 1996 to Apr. 30, 1997.

DISSOLVED OXYGEN: Nov. 12, 1996 to May 1, 1997.

INSTRUMENTATION.--Stage-activated water-quality sampler since November 1996. Continuous water-temperature recorder since November 1996. Dissolved-oxygen recorder since November 1996.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated. Dissolved-oxygen concentrations greater than 30 mg/L are out of calibration range of meter. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 18.5°C, Apr. 29; minimum observed, 0.0°C, many days during winter.

DISSOLVED OXYGEN: Maximum observed, 17.6 mg/L, Apr. 27; minimum observed, 1.2 mg/L, Nov. 29.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	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) (00671)
NOV 1996											
06...	1315	--	1.6	7.5	--	29	130	1.56	0.552	1.8	0.123
24...	1229	--	4.9	--	--	650	--	1.65	0.948	3.0	--
DEC											
05...	0850	--	1.6	--	--	380	--	1.09	3.45	12	--
05...	1050	--	3.9	--	--	230	--	1.04	2.41	3.6	--
05...	1250	--	12	7.9	7700	>1100	3300	0.915	2.25	22	0.002
05...	1550	--	12	--	--	910	--	1.10	2.11	21	--
05...	2035	--	6.7	--	--	530	--	1.37	3.23	26	--
06...	1130	--	3.2	--	1200	430	--	1.61	4.19	18	--
JAN 1997											
24...	1720	--	3.2	7.6	--	190	640	1.02	1.66	3.8	0.005
24...	1850	--	3.5	--	--	190	--	0.899	1.78	4.0	--
24...	1955	--	3.5	--	--	180	--	0.933	1.63	3.3	--
24...	2345	--	3.0	7.8	--	220	870	0.988	2.06	4.1	0.043
24...	2346	--	3.0	7.8	--	210	870	0.980	2.10	4.3	0.046
*24...	2347	--	3.1	--	--	220	--	0.973	2.02	4.0	--
25...	0345	--	2.8	--	--	1100	--	0.986	2.01	4.7	--
25...	0645	--	3.3	--	--	820	--	0.999	1.70	4.6	--
25...	0950	--	3.5	--	--	610	--	1.05	1.45	4.1	--
25...	1335	--	3.3	--	--	370	--	1.07	1.44	3.5	--
25...	2020	--	3.0	--	--	730	--	0.937	1.63	4.1	--
FEB											
*14...	0905	1.6	--	--	--	330	--	0.462	4.22	6.9	--
APR											
11...	1425	--	1.7	--	--	73	--	0.678	4.12	5.4	--
11...	1625	--	3.3	--	--	61	--	0.729	1.32	8.6	--
11...	1710	--	8.8	--	--	990	--	0.982	5.08	11	--
11...	1910	--	12	8.0	--	1300	1000	1.31	6.14	140	0.036
11...	2110	--	6.7	--	--	1500	--	1.63	7.69	110	--
11...	2310	--	5.1	--	--	410	--	1.43	4.45	20	--
12...	0110	--	10	--	--	1500	--	1.27	4.21	20	--
12...	0510	--	16	--	--	760	--	4.94	12.8	32	--
12...	1015	--	11	--	--	630	--	4.77	8.77	24	--
12...	1215	--	10	--	--	370	--	4.78	8.41	23	--
28...	0820	--	1.9	--	--	59	--	--	--	--	--
28...	0910	--	2.2	--	--	72	--	--	--	--	--
28...	0940	--	2.2	--	--	550	--	--	--	--	--
28...	0941	--	2.2	8.3	--	580	270	0.362	3.37	5.1	<0.002
*28...	0942	--	2.2	8.3	--	570	260	0.361	3.28	4.7	<0.002
28...	1100	--	2.5	8.4	--	780	290	0.330	2.83	5.0	0.002
28...	1330	--	2.5	--	--	730	--	--	--	--	--
28...	1345	--	2.5	--	--	210	--	--	--	--	--
28...	1515	--	2.4	--	--	61	--	--	--	--	--

* Equal-width increment (EWI) samples
E Estimated

STREAMS TRIBUTARY TO LAKE MICHIGAN

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) (80082)	ALKA- LITY WAT WH TOT FET LAB MG/L AS CACO3 (00417)	1,2 ETH- ANEDIOL UNFIL- TERED TOTAL RECOV (MG/L) (99918)	1,2 PRO- PANEDIOL UNFIL- TERED TOTAL RECOV (MG/L) (99919)
NOV 1996						
06...	1315	E1.6	24	130	<6.4	<4.0
APR 1997						
28...	0820	1.9	--	--	<10.0	23.0
28...	0910	2.2	--	--	<10.0	23.0
28...	0940	2.2	--	--	<10.0	430.0
28...	0941	2.2	--	--	<10.0	540.0
*28...	0942	2.2	--	--	<10.0	470.0
28...	1100	2.5	--	--	<10.0	710.0
28...	1330	2.5	--	--	<10.0	590.0
28...	1345	2.5	--	--	<10.0	200.0
28...	1515	2.4	--	--	<10.0	20.0

* Equal-width increment (EWI) sample
E Estimated

STREAMS TRIBUTARY TO LAKE MICHIGAN
040871478 WILSON PARK CREEK AT SIXTH STREET AT MILWAUKEE, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	4.0	1.0	3.0	3.0	1.0	2.0
2	---	---	---	---	---	---	3.0	.0	1.5	3.5	2.5	3.0
3	---	---	---	---	---	---	4.5	2.0	3.0	4.5	2.5	3.5
4	---	---	---	---	---	---	5.5	1.5	3.0	6.0	2.5	3.5
5	---	---	---	---	---	---	4.0	2.0	3.0	3.5	.0	2.0
6	---	---	---	---	---	---	5.5	3.5	4.5	1.0	.0	.0
7	---	---	---	---	---	---	5.5	2.0	3.0	.0	.0	.0
8	---	---	---	---	---	---	3.0	1.0	2.0	.5	.0	.0
9	---	---	---	---	---	---	4.0	1.0	2.0	.5	.0	.5
10	---	---	---	---	---	---	5.5	1.5	3.5	.5	.0	.0
11	---	---	---	---	---	---	5.0	3.5	4.5	.0	.0	.0
12	---	---	---	5.5	.5	2.0	5.0	4.0	4.5	.0	.0	.0
13	---	---	---	4.0	1.0	2.0	6.5	2.5	4.5	.0	.0	.0
14	---	---	---	---	---	---	5.5	3.5	4.5	.0	.0	.0
15	---	---	---	4.5	1.5	3.0	5.5	3.0	4.5	.0	.0	.0
16	---	---	---	8.5	3.0	5.5	4.5	2.0	2.5	.0	.0	.0
17	---	---	---	8.5	3.0	6.5	3.5	.5	1.5	.0	.0	.0
18	---	---	---	5.5	2.0	3.0	.5	.0	.0	.0	.0	.0
19	---	---	---	4.0	1.0	2.0	.0	.0	.0	.0	.0	.0
20	---	---	---	4.0	1.0	3.0	---	---	---	.0	.0	.0
21	---	---	---	6.5	3.0	4.0	---	---	---	.0	.0	.0
22	---	---	---	6.0	2.0	3.5	---	---	---	1.0	.0	.5
23	---	---	---	4.5	3.5	4.0	---	---	---	1.0	.0	.5
24	---	---	---	5.0	3.0	4.5	1.5	.0	.5	1.5	.0	.5
25	---	---	---	4.5	.0	2.5	---	---	---	.0	.0	.0
26	---	---	---	1.0	.0	.0	.0	.0	.0	.0	.0	.0
27	---	---	---	2.0	.0	.5	.0	.0	.0	.0	.0	.0
28	---	---	---	3.5	.0	1.5	2.0	.0	.5	.0	.0	.0
29	---	---	---	4.0	1.0	2.5	2.0	.0	1.0	.0	.0	.0
30	---	---	---	5.5	4.0	4.5	1.5	.5	.5	.0	.0	.0
31	---	---	---	---	---	---	1.0	.0	.5	---	---	---
MONTH	---	---	---	8.5	.0	3.0	6.5	.0	2.2	6.0	.0	.5
FEBRUARY			MARCH			APRIL			MAY			
1	2.5	.5	1.5	2.0	1.5	2.0	11.5	2.0	6.0	---	---	---
2	4.5	1.0	1.5	4.0	.5	2.0	14.0	4.5	8.0	---	---	---
3	2.5	1.0	1.5	4.5	1.0	2.5	13.0	7.0	9.0	---	---	---
4	1.5	.0	1.0	4.0	2.0	2.5	15.0	6.5	10.0	---	---	---
5	2.5	.5	1.5	3.5	.5	2.0	10.5	8.0	9.0	---	---	---
6	3.0	.0	1.0	3.5	.0	1.0	9.5	1.5	6.5	---	---	---
7	2.0	.0	.5	4.5	.0	1.5	9.0	.5	4.0	---	---	---
8	3.5	.0	1.0	6.5	1.0	2.5	7.0	.5	2.5	---	---	---
9	1.5	.0	.5	3.5	1.0	2.0	10.5	.5	4.5	---	---	---
10	2.0	.0	.5	6.5	1.0	3.5	10.0	2.0	4.5	---	---	---
11	2.5	.0	.5	7.5	2.5	4.0	6.0	2.0	4.0	---	---	---
12	1.0	.0	.0	7.0	2.0	3.5	3.5	2.5	3.0	---	---	---
13	1.0	.0	.0	3.0	1.5	2.0	8.0	2.5	5.0	---	---	---
14	2.5	.0	.5	3.5	.0	1.5	---	---	---	---	---	---
15	1.5	.0	.5	2.0	.0	.5	12.5	4.0	7.5	---	---	---
16	.5	.0	.0	1.5	.0	.5	8.5	4.5	6.5	---	---	---
17	1.5	.0	.5	6.5	.5	3.0	12.0	4.0	6.5	---	---	---
18	2.0	1.0	1.5	5.5	1.0	3.0	10.0	4.0	6.0	---	---	---
19	4.0	1.0	2.0	7.5	.5	3.5	10.5	5.5	7.0	---	---	---
20	3.5	.5	2.0	---	---	---	11.5	5.0	7.5	---	---	---
21	2.5	.5	1.0	8.5	3.0	5.5	13.5	5.5	8.5	---	---	---
22	3.0	.0	1.0	6.0	3.0	4.0	14.0	4.5	8.0	---	---	---
23	4.0	.0	1.5	7.5	1.5	3.5	15.5	5.0	8.5	---	---	---
24	2.0	.0	.5	---	---	---	14.5	6.0	9.0	---	---	---
25	2.5	.0	.5	---	---	---	16.5	5.5	9.5	---	---	---
26	2.5	.5	1.5	10.0	2.5	5.5	15.0	6.0	9.5	---	---	---
27	2.5	.0	1.5	12.5	4.0	7.5	11.5	7.0	8.5	---	---	---
28	3.5	1.5	2.5	10.5	6.0	7.5	17.5	6.5	10.5	---	---	---
29	---	---	---	8.0	5.0	6.5	18.5	7.5	11.5	---	---	---
30	---	---	---	8.5	4.0	5.5	13.5	7.0	9.5	---	---	---
31	---	---	---	10.5	2.0	5.5	---	---	---	---	---	---
MONTH	4.5	.0	1.0	12.5	.0	3.4	18.5	.5	7.2	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040871478 WILSON PARK CREEK AT SIXTH STREET AT MILWAUKEE, WI--CONTINUED

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	13.3	11.4	12.2	12.6	10.2	11.7
2	---	---	---	---	---	---	13.0	10.9	12.0	12.7	10.9	11.8
3	---	---	---	---	---	---	---	---	---	12.5	10.7	11.5
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	12.0	10.0	10.8	---	---	---
6	---	---	---	---	---	---	11.1	9.7	10.2	---	---	---
7	---	---	---	---	---	---	11.5	9.8	10.5	---	---	---
8	---	---	---	---	---	---	12.1	10.2	11.1	12.0	10.2	11.1
9	---	---	---	---	---	---	12.2	10.3	11.2	11.1	9.4	10.2
10	---	---	---	---	---	---	12.6	10.3	11.0	10.3	7.9	9.4
11	---	---	---	---	---	---	11.5	10.0	10.7	10.3	6.6	9.5
12	---	---	---	13.7	10.9	11.9	11.5	9.9	10.4	---	---	---
13	---	---	---	14.0	11.1	12.1	12.4	10.0	11.1	---	---	---
14	---	---	---	---	---	---	11.9	7.7	10.2	---	---	---
15	---	---	---	13.2	9.0	11.4	12.2	10.3	11.0	---	---	---
16	---	---	---	13.8	11.2	12.2	12.7	10.5	11.5	---	---	---
17	---	---	---	---	---	---	13.0	10.9	11.7	11.2	9.9	10.6
18	---	---	---	---	---	---	13.8	10.9	12.2	10.8	9.6	10.3
19	---	---	---	---	---	---	13.6	10.8	11.9	10.6	8.9	9.5
20	---	---	---	---	---	---	---	---	---	10.4	8.8	9.5
21	---	---	---	---	---	---	---	---	---	11.0	8.8	9.4
22	---	---	---	---	---	---	---	---	---	11.2	10.2	10.8
23	---	---	---	---	---	---	---	---	---	10.6	9.8	10.2
24	---	---	---	---	---	---	13.2	11.2	12.1	10.9	10.0	10.4
25	---	---	---	---	---	---	---	---	---	11.5	10.2	11.0
26	---	---	---	---	---	---	11.6	9.7	10.6	11.3	10.2	10.7
27	---	---	---	---	---	---	12.2	10.5	11.1	10.8	9.8	10.3
28	---	---	---	16.5	13.7	15.4	12.5	11.4	11.7	11.1	10.2	10.6
29	---	---	---	15.1	1.2	13.8	12.5	11.1	11.6	11.4	10.2	10.6
30	---	---	---	14.3	11.7	12.6	---	---	---	11.3	10.0	10.8
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	16.5	1.2	12.8	13.8	7.7	11.2	12.7	6.6	10.5
FEBRUARY			MARCH			APRIL			MAY			
1	11.6	10.3	11.0	13.1	11.3	12.3	---	---	---	11.3	9.7	10.2
2	11.4	9.5	10.3	12.0	11.0	11.5	14.9	7.4	11.4	---	---	---
3	10.3	9.4	9.9	11.4	10.5	11.0	---	---	---	---	---	---
4	12.4	9.9	11.0	11.1	10.0	10.5	---	---	---	---	---	---
5	11.6	9.8	10.7	11.1	9.5	10.3	---	---	---	---	---	---
6	12.1	9.9	10.7	11.5	10.1	10.7	---	---	---	---	---	---
7	11.7	10.2	10.9	11.5	9.8	10.7	---	---	---	---	---	---
8	11.8	10.3	10.8	11.3	9.8	10.5	---	---	---	---	---	---
9	12.5	8.8	10.8	12.6	9.6	10.8	12.0	8.7	10.6	---	---	---
10	12.9	8.1	11.1	11.3	9.9	10.6	11.8	8.4	10.1	---	---	---
11	12.5	5.2	11.5	11.1	9.7	10.2	12.9	8.4	10.5	---	---	---
12	13.1	4.3	10.1	11.4	9.3	10.3	12.3	10.0	11.1	---	---	---
13	10.9	4.5	9.3	11.1	9.6	10.3	11.9	9.6	10.5	---	---	---
14	10.5	8.9	9.5	11.5	9.9	10.7	---	---	---	---	---	---
15	10.9	7.8	9.4	11.7	7.8	10.7	12.6	7.7	10.0	---	---	---
16	11.5	8.7	10.0	---	---	---	13.5	7.6	10.5	---	---	---
17	11.6	9.0	10.3	---	---	---	14.5	8.0	11.3	---	---	---
18	12.9	10.9	12.1	---	---	---	15.0	7.7	11.0	---	---	---
19	12.4	11.2	11.9	---	---	---	14.8	7.8	11.4	---	---	---
20	12.9	10.9	11.8	---	---	---	14.5	6.2	9.8	---	---	---
21	13.3	11.9	12.8	10.4	7.8	9.1	---	---	---	---	---	---
22	12.1	11.3	11.7	11.4	7.9	10.0	---	---	---	---	---	---
23	12.1	11.3	11.6	14.1	10.2	12.1	---	---	---	---	---	---
24	12.4	11.7	12.0	---	---	---	---	---	---	---	---	---
25	12.2	11.1	11.5	---	---	---	15.3	7.4	11.0	---	---	---
26	12.0	11.1	11.5	11.8	8.2	10.1	16.6	6.8	11.5	---	---	---
27	12.0	10.9	11.3	11.5	7.3	9.4	17.6	6.7	11.6	---	---	---
28	11.6	10.4	11.1	---	---	---	15.3	7.1	10.9	---	---	---
29	---	---	---	---	---	---	15.4	5.9	10.2	---	---	---
30	---	---	---	---	---	---	13.7	4.8	9.2	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	13.3	4.3	10.9	14.1	7.3	10.6	17.6	4.8	10.7	11.3	9.7	10.2

STREAMS TRIBUTARY TO LAKE MICHIGAN

040871482 WILSON PARK CREEK AT WILSON PARK AND 20TH PLACE AT MILWAUKEE, WI

LOCATION.--Lat 42°58'35", long 87°56'20", in NW 1/4 NE 1/4 sec.19, T.6 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, at Milwaukee.

DRAINAGE AREA.--8.51 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Nov. 18, 1996 through May 9, 1997 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 650 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 29 to Dec. 1, Dec. 3, 27, Jan. 13, 14, 21, 22, Feb. 4, 5, 24, Mar. 15, and ice-affected periods, Dec. 18-20, 25, 26, Jan. 6-12, 15-20, 25, 28-30, and Feb. 12, 14. Records are fair except for estimated daily discharges, which are poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	4.0	4.4	9.8	56	3.6	22	---	---	---	---
2	---	---	2.2	10	7.8	14	3.7	31	---	---	---	---
3	---	---	3.5	6.2	5.5	8.4	4.0	16	---	---	---	---
4	---	---	2.3	35	12	7.3	4.3	8.2	---	---	---	---
5	---	---	7.3	9.8	10	6.2	11	9.0	---	---	---	---
6	---	---	5.7	4.6	4.6	5.1	5.4	5.9	---	---	---	---
7	---	---	3.9	3.5	3.6	4.7	3.9	8.1	---	---	---	---
8	---	---	2.9	2.6	3.7	4.4	4.1	14	---	---	---	---
9	---	---	3.0	2.9	2.8	13	3.5	5.3	---	---	---	---
10	---	---	2.9	3.0	2.7	7.6	3.4	---	---	---	---	---
11	---	---	6.9	2.3	2.5	7.4	6.3	---	---	---	---	---
12	---	---	4.6	1.8	2.5	6.0	21	---	---	---	---	---
13	---	---	5.2	2.4	2.4	5.5	17	---	---	---	---	---
14	---	---	5.2	3.0	2.3	13	9.4	---	---	---	---	---
15	---	---	13	2.6	2.1	6.4	6.9	---	---	---	---	---
16	---	---	4.3	2.3	2.7	4.2	6.0	---	---	---	---	---
17	---	---	3.3	1.8	5.3	4.7	5.1	---	---	---	---	---
18	---	1.9	2.3	1.5	58	4.4	4.4	---	---	---	---	---
19	---	1.9	1.7	1.7	19	4.5	7.9	---	---	---	---	---
20	---	1.9	1.8	2.0	16	4.7	4.4	---	---	---	---	---
21	---	2.4	2.1	7.0	163	5.0	6.1	---	---	---	---	---
22	---	2.0	2.6	38	17	4.8	4.4	---	---	---	---	---
23	---	1.8	38	5.0	9.7	4.2	3.7	---	---	---	---	---
24	---	4.2	5.3	3.7	8.4	5.1	3.9	---	---	---	---	---
25	---	2.0	2.7	3.4	5.6	10	3.5	---	---	---	---	---
26	---	1.8	1.9	3.1	14	5.0	3.6	---	---	---	---	---
27	---	1.8	2.6	3.2	14	4.7	3.0	---	---	---	---	---
28	---	1.8	9.5	3.0	12	4.4	3.3	---	---	---	---	---
29	---	7.0	4.4	3.0	---	4.0	3.2	---	---	---	---	---
30	---	10	2.3	2.8	---	4.7	42	---	---	---	---	---
31	---	---	2.1	14	---	4.1	---	---	---	---	---	---
TOTAL	---	40.5	159.5	189.6	419.0	243.5	212.0	119.5	---	---	---	---
MEAN	---	3.12	5.15	6.12	15.0	7.85	7.07	13.3	---	---	---	---
MAX	---	10	38	38	163	56	42	31	---	---	---	---
MIN	---	1.8	1.7	1.5	2.1	4.0	3.0	5.3	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

MEAN	---	---	5.15	6.12	15.0	7.85	7.07	---	---	---	---	---
MAX	---	---	5.15	6.12	15.0	7.85	7.07	---	---	---	---	---
(WY)	---	---	1997	1997	1997	1997	1997	---	---	---	---	---
MIN	---	---	5.15	6.12	15.0	7.85	7.07	---	---	---	---	---
(WY)	---	---	1997	1997	1997	1997	1997	---	---	---	---	---

SUMMARY STATISTICS

FOR 1997 WATER YEAR
(NOV. 18 THROUGH MAY 9)

HIGHEST DAILY MEAN	163	Feb 21
LOWEST DAILY MEAN	1.5	Jan 18
ANNUAL SEVEN-DAY MINIMUM	2.1	Jan 14
INSTANTANEOUS PEAK FLOW	378	Feb 21
INSTANTANEOUS PEAK STAGE	13.56	Feb 21
10 PERCENT EXCEEDS	14	
50 PERCENT EXCEEDS	4.4	
90 PERCENT EXCEEDS	2.0	

040871482 WILSON PARK CREEK AT WILSON PARK AND 20TH PLACE AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1996 to April 1997.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Nov. 19, 1996 to Apr. 30, 1997.

DISSOLVED OXYGEN: Nov. 19, 1996 to Apr. 30, 1997.

INSTRUMENTATION.--Stage-activated water-quality sampler since November 1996. Continuous water-temperature recorder since November 1996. Dissolved-oxygen recorder since November 1996.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated.

Dissolved-oxygen concentrations greater than 30 mg/L are out of calibration range of meter. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 18.0°C, Apr. 29, 30; minimum observed, 0.0°C, many days during winter.

DISSOLVED OXYGEN: Maximum observed, 15.3 mg/L, Dec. 9; minimum observed, 0.4 mg/L, Mar. 27.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	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 P) (00625)	PHOS- PHORUS ORTHO, SOLVED (MG/L AS P) (00671)
NOV 1996											
*06...	1340	--	7.9	7.6	--	16	110	1.02	0.341	1.3	0.087
24...	0240	--	3.7	--	--	49	--	0.649	0.137	0.80	--
24...	0440	--	4.9	--	--	41	--	0.685	0.172	0.90	--
24...	1140	--	4.1	7.8	--	74	890	1.13	0.698	4.4	<0.002
24...	1440	--	5.1	--	--	230	--	1.01	0.851	2.8	--
24...	2040	--	3.7	--	720	>430	--	1.30	0.634	2.4	--
DEC											
05...	0905	--	4.9	--	--	300	--	0.608	2.23	8.4	--
05...	1205	--	6.9	--	--	250	--	0.758	1.94	5.8	--
05...	1405	--	11	7.7	--	240	4900	0.867	2.36	3.4	<0.002
05...	1505	--	11	--	--	380	--	0.981	2.03	2.9	--
05...	1855	--	9.3	--	1600	>700	--	0.974	1.57	13	--
05...	2240	--	7.5	--	--	510	--	1.28	2.45	18	--
06...	1245	--	4.4	--	--	350	--	1.26	3.86	18	--
JAN 1997											
24...	1605	--	3.5	8.2	--	180	760	0.650	1.14	2.5	<0.002
24...	2130	--	2.9	--	--	130	--	0.719	0.968	2.4	--
24...	2315	--	3.2	8.1	--	140	1000	0.657	0.917	2.3	0.002
24...	2316	--	3.2	8.0	--	120	970	0.651	0.933	2.0	0.002
24...	2317	--	3.2	--	--	110	--	0.648	0.945	2.1	--
25...	0315	--	3.5	--	--	160	--	0.585	1.10	2.2	--
25...	0615	--	3.5	8.0	--	130	1400	0.557	0.987	2.1	0.002
25...	0915	--	4.0	--	--	160	--	0.514	1.41	2.8	--
25...	1300	--	3.7	--	--	690	--	0.543	1.27	3.1	--
25...	2115	--	3.1	--	--	260	--	0.479	1.02	2.2	--
FEB											
14...	0925	2.3	--	--	--	100	--	0.266	1.78	3.0	--
APR											
11...	1430	--	3.7	--	--	28	--	0.317	2.23	3.4	--
11...	1630	--	3.9	--	--	28	--	0.334	2.06	3.0	--
11...	1745	--	10	--	--	23	--	0.741	1.44	2.8	--
11...	1945	--	19	--	--	31	--	0.575	1.50	3.9	--
11...	2145	--	12	--	--	200	--	0.759	3.81	6.3	--
11...	2345	--	9.3	--	--	1100	--	0.787	2.93	6.7	--
12...	0145	--	14	--	--	880	--	0.945	5.10	75	--
12...	0345	--	25	7.8	--	330	2300	1.15	4.92	18	<0.002
12...	0545	--	24	--	--	850	--	1.28	3.99	14	--
12...	0640	--	24	7.8	--	570	1300	1.76	4.38	13	<0.002
12...	1005	--	20	--	--	450	--	2.99	6.18	16	--
12...	1205	--	19	--	--	610	--	3.40	6.89	16	--
12...	1405	--	18	--	--	330	--	3.74	6.50	18	--
12...	1605	--	24	7.9	--	210	1400	3.01	5.57	15	<0.002
12...	1805	--	34	--	--	230	--	2.77	5.82	14	--
12...	2205	--	18	--	--	350	--	4.06	7.31	20	--
28...	1525	--	3.9	--	--	26	--	--	--	--	--
28...	1625	--	3.7	--	--	23	--	--	--	--	--
28...	1825	--	3.2	--	--	230	--	--	--	--	--
28...	1905	--	3.2	8.1	--	370	320	0.186	1.41	2.9	<0.002
28...	1906	--	3.2	7.9	--	390	320	0.183	1.42	3.6	<0.002
28...	1915	--	3.2	8.1	--	420	320	0.175	1.38	2.9	<0.002
28...	2115	--	3.2	--	--	490	--	--	--	--	--
29...	0015	--	3.5	--	--	110	--	--	--	--	--
29...	0215	--	3.5	--	--	61	--	--	--	--	--

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

040871482 WILSON PARK CREEK AT WILSON PARK AND 20TH PLACE AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) (80082)	ALKA- LITY WAT WH TOT FET LAB MG/L AS CACO3 (00417)	1,2 ETH- ANEDIOL UNFIL- TERED TOTAL RECOV (MG/L) (99918)	1,2 PRO- PANEDIOL UNFIL- TERED TOTAL RECOV (MG/L) (99919)
NOV 1996						
*06...	1340	7.9	13	145	<6.4	<4.0
APR 1997						
12...	0640	24	--	--	34.0	550.0
28...	1525	3.9	--	--	<10.0	<10.0
28...	1625	3.7	--	--	<10.0	<10.0
28...	1825	3.2	--	--	<10.0	160.0
28...	1905	3.2	--	--	<10.0	320.0
28...	1906	3.2	--	--	<10.0	250.0
28...	1915	3.2	--	--	<10.0	320.0
28...	2115	3.2	--	--	<10.0	400.0
29...	0015	3.5	--	--	<10.0	60.0
29...	0215	3.5	--	--	<10.0	15.0

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040871482 WILSON PARK CREEK AT WILSON PARK AND 20TH PLACE AT MILWAUKEE, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	4.5	1.0	2.5	2.5	1.0	2.0
2	---	---	---	---	---	---	2.0	1.0	1.5	4.0	2.5	3.0
3	---	---	---	---	---	---	3.5	1.0	2.0	4.5	2.5	3.5
4	---	---	---	---	---	---	3.5	.5	2.0	5.5	3.0	4.0
5	---	---	---	---	---	---	4.0	1.0	2.5	4.0	.0	2.0
6	---	---	---	---	---	---	4.5	3.0	3.5	.5	.0	.0
7	---	---	---	---	---	---	3.5	1.0	2.5	.5	.0	.5
8	---	---	---	---	---	---	2.0	.5	1.5	.5	.0	.5
9	---	---	---	---	---	---	3.5	.5	1.5	.5	.0	.0
10	---	---	---	---	---	---	3.5	1.0	2.5	.0	.0	.0
11	---	---	---	---	---	---	4.5	3.0	4.0	.0	.0	.0
12	---	---	---	---	---	---	4.5	3.5	4.0	.5	.0	.0
13	---	---	---	---	---	---	5.0	2.0	3.5	.5	.0	.5
14	---	---	---	---	---	---	5.0	3.5	4.5	.5	.0	.0
15	---	---	---	---	---	---	5.0	3.0	4.5	.0	.0	.0
16	---	---	---	---	---	---	3.0	1.5	2.5	.0	.0	.0
17	---	---	---	---	---	---	2.5	.5	1.5	.0	.0	.0
18	---	---	---	---	---	---	1.0	.5	.5	.0	.0	.0
19	---	---	---	2.0	.5	1.5	1.0	.5	.5	.0	.0	.0
20	---	---	---	3.5	.5	1.5	.5	.0	.5	.0	.0	.0
21	---	---	---	5.0	2.0	3.5	.5	.0	.5	.0	.0	.0
22	---	---	---	3.0	1.0	2.5	.5	.0	.5	.0	.0	.0
23	---	---	---	3.5	3.0	3.0	2.5	.0	1.0	.0	.0	.0
24	---	---	---	4.0	3.0	3.5	2.0	.5	.5	.0	.0	.0
25	---	---	---	3.0	.5	1.5	1.5	.5	1.0	.0	.0	.0
26	---	---	---	1.5	.5	.5	1.5	.5	1.0	.0	.0	.0
27	---	---	---	1.0	.5	.5	1.0	.0	.5	.0	.0	.0
28	---	---	---	1.0	.0	.5	.0	.0	.0	.5	.0	.0
29	---	---	---	3.5	.0	1.0	1.5	.0	.5	.0	.0	.0
30	---	---	---	5.5	3.5	4.5	2.5	1.5	2.0	.0	.0	.0
31	---	---	---	---	---	---	3.0	.5	2.0	.0	.0	.0
MONTH	---	---	---	5.5	.0	2.0	5.0	.0	1.9	5.5	.0	.5
FEBRUARY			MARCH			APRIL			MAY			
1	.0	.0	.0	2.5	1.5	2.0	12.5	2.5	7.5	---	---	---
2	.0	.0	.0	4.5	.5	2.0	14.5	4.5	9.5	---	---	---
3	.0	.0	.0	5.0	.5	2.5	14.5	8.5	11.0	---	---	---
4	.5	.0	.0	4.0	2.0	2.5	14.5	8.0	11.0	---	---	---
5	2.0	.0	1.0	3.0	1.0	2.0	11.0	9.0	10.0	---	---	---
6	2.5	.0	1.0	5.5	.0	2.0	---	---	---	---	---	---
7	1.0	.0	.5	5.0	.5	2.5	9.0	.5	4.5	---	---	---
8	3.5	.0	1.0	6.0	2.0	4.0	6.0	.5	3.5	---	---	---
9	1.5	.0	.5	3.0	1.5	2.0	10.0	.5	5.0	---	---	---
10	1.5	.0	.5	7.5	.5	3.5	8.5	2.5	6.0	---	---	---
11	2.0	.0	.5	9.0	2.5	5.0	5.5	2.0	4.0	---	---	---
12	1.0	.0	.5	7.0	1.5	3.5	3.5	2.0	2.5	---	---	---
13	1.0	.0	.5	3.0	1.5	2.5	10.0	2.0	5.5	---	---	---
14	2.0	.0	.5	4.0	.0	2.0	---	---	---	---	---	---
15	1.5	.0	.5	2.5	.0	.5	14.5	4.0	8.5	---	---	---
16	1.5	.0	.5	1.5	.0	.5	9.5	5.5	7.5	---	---	---
17	---	---	---	7.0	.5	3.5	13.5	3.5	7.5	---	---	---
18	2.0	1.5	1.5	6.0	2.0	3.5	9.5	3.5	6.5	---	---	---
19	5.0	1.0	2.5	8.0	.0	4.0	10.5	5.5	7.5	---	---	---
20	4.0	.0	2.0	10.0	2.5	6.0	11.5	6.0	8.5	---	---	---
21	3.0	.5	1.5	10.0	3.5	6.5	14.5	6.0	9.5	---	---	---
22	3.5	.0	1.0	6.5	3.5	5.0	16.0	5.0	10.0	---	---	---
23	4.5	.0	1.5	7.0	2.0	4.0	15.0	5.5	10.0	---	---	---
24	1.5	.0	.5	---	---	---	14.0	6.5	10.0	---	---	---
25	2.0	.0	.5	5.5	2.5	4.0	17.0	6.0	11.5	---	---	---
26	2.5	.5	1.5	---	---	---	15.0	4.5	10.5	---	---	---
27	3.0	.0	1.5	15.0	5.0	9.5	11.5	8.0	10.0	---	---	---
28	4.0	1.5	2.5	11.5	7.5	9.5	18.0	6.5	12.0	---	---	---
29	---	---	---	8.5	6.0	7.5	18.0	8.5	13.0	---	---	---
30	---	---	---	9.0	4.5	6.0	14.5	7.0	11.0	---	---	---
31	---	---	---	11.0	2.5	6.5	---	---	---	---	---	---
MONTH	5.0	.0	.9	15.0	.0	3.9	18.0	.5	8.3	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN

040871482 WILSON PARK CREEK AT WILSON PARK AND 20TH PLACE AT MILWAUKEE, WI--CONTINUED

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	11.9	8.2	10.0	7.6	6.6	7.0
2	---	---	---	---	---	---	11.1	8.5	9.7	8.9	5.8	7.2
3	---	---	---	---	---	---	9.4	7.5	8.6	9.3	4.9	6.2
4	---	---	---	---	---	---	9.1	6.8	7.9	10.6	4.7	8.2
5	---	---	---	---	---	---	11.0	6.7	8.5	---	---	---
6	---	---	---	---	---	---	8.9	7.7	8.3	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	9.6	8.1	8.9	5.8	5.1	5.4
9	---	---	---	---	---	---	15.3	7.1	9.0	---	---	---
10	---	---	---	---	---	---	7.9	6.4	7.3	---	---	---
11	---	---	---	---	---	---	7.8	6.4	6.9	---	---	---
12	---	---	---	---	---	---	6.7	5.7	6.2	---	---	---
13	---	---	---	---	---	---	8.0	5.3	5.9	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	12.5	8.7	10.9	---	---	---	---	---	---
20	---	---	---	13.1	10.0	11.7	5.8	3.6	5.0	---	---	---
21	---	---	---	12.2	8.1	10.2	4.9	3.8	4.5	10.2	1.9	3.8
22	---	---	---	11.0	7.6	9.3	8.2	4.6	5.3	10.9	8.6	10.2
23	---	---	---	9.4	7.4	8.0	12.5	7.4	9.8	---	---	---
24	---	---	---	9.6	7.7	8.7	10.8	9.2	10.1	---	---	---
25	---	---	---	11.4	7.6	9.3	9.2	6.2	7.3	---	---	---
26	---	---	---	12.1	8.1	10.3	7.3	5.5	6.3	---	---	---
27	---	---	---	12.1	8.0	10.5	8.1	5.4	5.9	---	---	---
28	---	---	---	12.1	8.9	10.4	12.3	8.1	10.7	---	---	---
29	---	---	---	14.5	8.0	10.5	13.6	8.7	9.9	---	---	---
30	---	---	---	14.4	8.2	10.9	8.7	7.8	8.3	---	---	---
31	---	---	---	---	---	---	7.8	5.7	7.3	---	---	---
MONTH	---	---	---	14.5	7.4	10.1	15.3	3.6	7.8	10.9	1.9	6.9
FEBRUARY			MARCH			APRIL			MAY			
1	9.9	7.7	8.6	13.0	7.8	11.4	---	---	---	---	---	---
2	9.2	5.6	7.3	---	---	---	---	---	---	---	---	---
3	7.7	6.2	6.7	---	---	---	---	---	---	---	---	---
4	10.7	6.3	8.4	---	---	---	---	---	---	---	---	---
5	9.3	5.7	7.4	---	---	---	---	---	---	---	---	---
6	7.8	5.8	6.8	7.7	1.6	6.1	---	---	---	---	---	---
7	10.1	5.5	8.0	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	9.8	4.7	6.4	8.9	5.2	7.5	---	---	---
10	---	---	---	---	---	---	8.2	4.8	6.4	---	---	---
11	---	---	---	---	---	---	7.7	3.1	5.1	---	---	---
12	---	---	---	---	---	---	10.1	7.1	9.0	---	---	---
13	---	---	---	7.9	5.4	6.4	---	---	---	---	---	---
14	6.1	4.1	5.0	8.8	7.1	8.1	---	---	---	---	---	---
15	5.5	4.3	4.8	8.4	5.9	7.2	9.3	6.2	8.0	---	---	---
16	5.5	3.0	4.4	8.8	5.3	7.1	7.5	6.0	6.8	---	---	---
17	---	---	---	9.8	3.7	7.2	7.4	4.6	6.4	---	---	---
18	13.4	6.7	11.0	8.2	4.4	6.0	6.6	4.3	5.3	---	---	---
19	12.2	8.9	10.3	11.7	4.4	8.4	6.8	4.5	5.8	---	---	---
20	11.5	6.4	8.0	13.7	3.5	5.8	6.7	4.9	5.4	---	---	---
21	12.7	11.3	12.2	6.6	2.4	5.0	---	---	---	---	---	---
22	11.3	9.3	10.6	6.5	3.8	4.9	7.6	5.0	5.8	---	---	---
23	9.3	8.2	8.8	8.1	3.9	6.1	8.3	4.2	6.2	---	---	---
24	10.0	5.4	8.2	---	---	---	6.7	4.1	5.4	---	---	---
25	8.6	7.3	7.8	8.9	5.6	7.1	10.1	4.3	6.0	---	---	---
26	11.2	5.8	8.3	---	---	---	---	---	---	---	---	---
27	10.1	7.9	9.3	4.4	.4	2.4	10.2	4.7	7.0	---	---	---
28	9.2	6.2	7.6	---	---	---	10.2	2.3	6.7	---	---	---
29	---	---	---	---	---	---	6.9	1.7	3.9	---	---	---
30	---	---	---	---	---	---	11.8	1.4	4.8	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	13.4	3.0	8.1	13.7	.4	6.6	11.8	1.4	6.2	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040871488 WILSON PARK CREEK AT ST. LUKES HOSPITAL AT MILWAUKEE, WI

LOCATION.--Lat 42°59'16", long 87°57'07", in SE 1/4 SE 1/4 sec.12, T.6 N., R.21 E., Milwaukee County, Hydrologic Unit 04040003, at Milwaukee.

DRAINAGE AREA.--11.34 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Nov. 18, 1996 to May 13, 1997.

GAGE.--Water-stage recorder. Elevation of gage is 640 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 15-21 and ice-affected periods, Dec. 20, Jan. 7, 8, 10, and Feb. 2-20. Records are fair except those for estimated daily discharges, which are poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	5.4	4.9	14	83	4.4	29	---	---	---	---
2	---	---	3.0	13	9.0	21	4.5	41	---	---	---	---
3	---	---	4.3	7.3	5.9	12	4.7	19	---	---	---	---
4	---	---	3.1	51	14	9.7	4.8	8.6	---	---	---	---
5	---	---	8.0	12	11	8.2	13	9.6	---	---	---	---
6	---	---	6.6	5.1	5.4	6.9	6.3	6.7	---	---	---	---
7	---	---	4.5	4.6	4.2	6.4	4.5	9.5	---	---	---	---
8	---	---	3.1	4.1	4.1	6.1	4.9	20	---	---	---	---
9	---	---	3.1	3.5	3.7	19	4.2	6.7	---	---	---	---
10	---	---	2.9	3.3	3.5	10	3.8	5.6	---	---	---	---
11	---	---	7.3	2.6	3.6	9.3	7.3	5.4	---	---	---	---
12	---	---	5.0	2.2	4.4	7.8	27	5.3	---	---	---	---
13	---	---	5.4	2.7	4.0	7.7	20	5.1	---	---	---	---
14	---	---	5.9	3.5	3.5	18	11	---	---	---	---	---
15	---	---	17	3.5	3.3	6.8	7.7	---	---	---	---	---
16	---	---	4.4	2.7	3.6	5.0	6.6	---	---	---	---	---
17	---	---	3.4	2.3	7.0	5.8	5.8	---	---	---	---	---
18	---	2.2	2.6	2.2	87	5.4	5.1	---	---	---	---	---
19	---	2.2	2.0	1.8	25	4.9	9.2	---	---	---	---	---
20	---	2.3	2.0	2.1	17	5.4	5.1	---	---	---	---	---
21	---	3.4	2.3	8.1	218	6.0	7.1	---	---	---	---	---
22	---	2.4	2.8	49	23	5.7	5.0	---	---	---	---	---
23	---	2.1	49	5.9	11	5.0	4.3	---	---	---	---	---
24	---	4.6	6.3	4.4	8.5	6.0	4.4	---	---	---	---	---
25	---	2.4	2.7	4.3	7.0	13	4.2	---	---	---	---	---
26	---	2.0	2.2	4.2	19	6.0	4.2	---	---	---	---	---
27	---	2.1	2.8	4.2	19	5.8	3.6	---	---	---	---	---
28	---	2.3	11	3.5	16	5.6	3.9	---	---	---	---	---
29	---	8.8	5.5	3.3	---	5.0	3.9	---	---	---	---	---
30	---	13	2.7	3.2	---	5.9	56	---	---	---	---	---
31	---	---	2.5	15	---	5.1	---	---	---	---	---	---
TOTAL	---	49.8	188.8	239.5	554.7	327.5	256.5	171.5	---	---	---	---
MEAN	---	3.83	6.09	7.73	19.8	10.6	8.55	13.2	---	---	---	---
MAX	---	13	49	51	218	83	56	41	---	---	---	---
MIN	---	2.0	2.0	1.8	3.3	4.9	3.6	5.1	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1997	6.09	6.09	1997	6.09	1997
1997	7.73	7.73	1997	7.73	1997
1997	19.8	19.8	1997	19.8	1997
1997	10.6	10.6	1997	10.6	1997
1997	8.55	8.55	1997	8.55	1997

SUMMARY STATISTICS

FOR 1997 WATER YEAR
(NOV. 18 THROUGH MAY 13)

HIGHEST DAILY MEAN	218	Feb 21
LOWEST DAILY MEAN	1.8	Jan 19
ANNUAL SEVEN-DAY MINIMUM	2.6	Nov 22
INSTANTANEOUS PEAK FLOW	468	Feb 21
INSTANTANEOUS PEAK STAGE	15.83	Feb 21
10 PERCENT EXCEEDS	19	
50 PERCENT EXCEEDS	5.3	
90 PERCENT EXCEEDS	2.4	

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1996 to April 1997.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Nov. 19, 1996 to Apr. 30, 1997.

DISSOLVED OXYGEN: Nov. 19, 1996 to Apr. 29, 1997.

INSTRUMENTATION.--Stage-activated water-quality sampler since November 1996. Continuous water-temperature recorder since November 1996. Dissolved-oxygen recorder since November 1996.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated.

Dissolved-oxygen concentrations greater than 30 mg/L are out of calibration range of meter. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 16.5°C, Apr. 29; minimum observed, 0.0°C, many days during winter.

DISSOLVED OXYGEN: Maximum observed, 18.8 mg/L, Nov. 27; minimum observed, 0.0 mg/L, Feb. 24.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	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) (00671)
NOV 1996											
*06...	1400	--	8.6	7.8	--	12	100	0.813	0.090	0.80	0.041
24...	0305	--	2.7	--	--	35	--	0.597	<0.013	0.70	--
24...	0605	--	6.4	--	--	30	--	0.809	<0.013	0.80	--
24...	1105	--	5.1	--	--	31	--	1.10	0.407	2.4	--
24...	1605	--	6.1	7.8	--	130	980	0.967	0.450	2.6	<0.002
24...	2005	--	4.0	--	--	210	--	1.00	0.558	1.8	--
DEC											
05...	1008	--	3.3	--	--	250	--	0.401	1.34	6.0	--
05...	1308	--	8.2	--	--	210	--	0.639	1.26	4.9	--
05...	1508	--	15	7.6	--	170	3800	0.767	1.63	2.4	<0.002
05...	1648	--	18	--	--	630	--	0.934	1.64	5.4	--
06...	1300	--	5.3	--	--	280	--	1.04	2.66	13	--
JAN 1997											
24...	1525	--	4.4	7.8	--	78	750	0.546	0.799	1.8	0.002
24...	2005	--	4.0	--	--	130	--	0.533	0.734	1.8	--
24...	2125	--	3.9	7.8	--	110	960	0.503	0.732	1.7	0.002
24...	2126	--	3.9	7.7	--	110	970	0.525	0.738	1.8	0.002
*24...	2127	--	3.9	--	--	120	--	0.528	0.774	1.8	--
24...	2325	--	3.7	--	--	110	--	0.500	0.748	1.7	--
25...	0325	--	3.9	--	--	78	--	0.542	0.657	1.5	--
25...	0625	--	3.6	--	--	93	--	0.515	0.749	1.5	--
25...	1230	--	5.4	--	--	94	--	0.451	0.836	1.8	--
25...	1615	--	4.6	--	--	460	--	0.466	0.995	2.4	--
25...	2130	--	5.5	--	--	390	--	0.461	0.883	2.2	--
FEB											
*14...	0955	3.5	--	--	--	150	--	0.235	1.50	3.0	--
APR											
11...	1445	--	4.0	--	--	17	--	0.289	1.37	2.8	--
11...	1645	--	6.7	--	--	22	--	0.568	0.896	3.2	--
11...	1850	--	16	--	--	21	--	0.381	0.882	3.0	--
11...	2050	--	20	--	--	28	--	0.469	1.29	3.5	--
11...	2250	--	13	--	--	48	--	0.709	1.72	3.5	--
12...	0050	--	13	--	--	480	--	0.651	2.22	5.0	--
12...	0225	--	19	--	--	530	--	0.809	1.88	7.4	--
12...	0330	--	25	7.7	1100	>750	2100	0.857	4.22	62	0.002
12...	0455	--	33	--	--	260	--	1.00	3.96	16	--
12...	0820	--	28	--	--	370	--	1.65	3.47	9.7	--
12...	1210	--	23	--	--	350	--	2.63	4.97	11	--
12...	1410	--	22	7.9	630	>450	910	2.90	5.06	13	<0.002
12...	1720	--	38	--	--	160	--	2.23	4.04	11	--
12...	1920	--	36	--	--	300	--	2.25	4.93	15	--
12...	2320	--	19	--	--	220	--	3.27	5.76	17	--
28...	1800	--	4.4	--	--	12	--	--	--	--	--
28...	2100	--	3.9	--	--	95	--	--	--	--	--
28...	2135	--	3.7	7.9	--	170	360	0.116	0.729	1.8	<0.002
*28...	2136	--	3.8	7.9	--	200	340	0.117	0.646	1.8	0.002
28...	2140	--	3.9	7.9	--	190	350	0.115	0.728	1.8	<0.002
28...	2340	--	3.9	--	--	300	--	--	--	--	--
29...	0140	--	4.1	--	--	240	--	--	--	--	--
29...	0340	--	4.1	--	--	66	--	--	--	--	--
29...	0640	--	3.7	--	--	21	--	--	--	--	--

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040871488 WILSON PARK CREEK AT ST. LUKES HOSPITAL AT MILWAUKEE, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) (80082)	ALKA- LINITY WAT WH TOT FET LAB MG/L AS CACO3 (00417)	1,2 ETH- ANEDIOL UNFIL- TERED TOTAL RECOV (MG/L) (99918)	1,2 PRO- PANEDIOL UNFIL- TERED TOTAL RECOV (MG/L) (99919)
NOV 1996						
*06...	1400	8.6	10	164	<6.4	<4.0
APR 1997						
28...	1800	4.4	--	--	<10.0	16.0
28...	2100	3.9	--	--	<10.0	59.0
28...	2135	3.7	--	--	<11.0	130.0
*28...	2136	3.8	--	--	<10.0	140.0
28...	2140	3.9	--	--	<10.0	150.0
28...	2340	3.9	--	--	<10.0	240.0
29...	0140	4.1	--	--	<10.0	150.0
29...	0340	4.1	--	--	<10.0	20.0
29...	0640	3.7	--	--	<10.0	<10.0

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

040871488 WILSON PARK CREEK AT ST. LUKES HOSPITAL AT MILWAUKEE, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	4.0	1.0	3.0	2.0	1.0	1.5
2	---	---	---	---	---	---	2.5	.0	1.0	3.5	2.0	3.0
3	---	---	---	---	---	---	---	---	---	4.0	2.5	3.0
4	---	---	---	---	---	---	3.5	1.5	2.5	5.5	3.0	3.5
5	---	---	---	---	---	---	---	---	---	4.0	.0	2.0
6	---	---	---	---	---	---	4.0	3.0	3.5	.0	.0	.0
7	---	---	---	---	---	---	4.0	1.5	2.5	---	---	---
8	---	---	---	---	---	---	2.0	1.0	1.5	.0	.0	.0
9	---	---	---	---	---	---	2.5	1.0	1.5	.5	.0	.0
10	---	---	---	---	---	---	3.5	1.5	2.5	.0	.0	.0
11	---	---	---	---	---	---	4.5	3.0	3.5	.0	.0	.0
12	---	---	---	---	---	---	4.0	3.5	4.0	.0	.0	.0
13	---	---	---	---	---	---	5.0	2.5	4.0	.0	.0	.0
14	---	---	---	---	---	---	4.5	3.5	4.0	.5	.0	.0
15	---	---	---	---	---	---	5.0	3.0	4.5	1.0	.0	.0
16	---	---	---	---	---	---	3.0	1.5	2.0	1.0	.0	.0
17	---	---	---	---	---	---	2.5	.0	1.5	.5	.0	.0
18	---	---	---	---	---	---	.0	.0	.0	.5	.0	.0
19	---	---	---	3.5	1.0	2.0	1.0	.0	.0	1.0	.0	.5
20	---	---	---	---	---	---	---	---	---	1.5	.0	.5
21	---	---	---	---	---	---	.0	.0	.0	.0	.0	.0
22	---	---	---	---	---	---	.5	.0	.0	.0	.0	.0
23	---	---	---	5.0	3.0	4.0	2.0	.0	1.0	.0	.0	.0
24	---	---	---	4.0	2.5	3.5	2.0	.0	.5	.0	.0	.0
25	---	---	---	3.0	.0	2.0	.0	.0	.0	.0	.0	.0
26	---	---	---	1.5	.0	.5	.0	.0	.0	.0	.0	.0
27	---	---	---	1.5	.5	1.0	.0	.0	.0	.0	.0	.0
28	---	---	---	2.0	1.0	1.5	.0	.0	.0	.0	.0	.0
29	---	---	---	3.5	1.0	2.0	.5	.0	.0	.0	.0	.0
30	---	---	---	5.0	3.5	4.5	1.0	.0	.5	---	---	---
31	---	---	---	---	---	---	1.0	.0	.5	---	---	---
MONTH	---	---	---	5.0	.0	2.3	5.0	.0	1.6	5.5	.0	.5
FEBRUARY			MARCH			APRIL			MAY			
1	.0	.0	.0	2.5	2.0	2.0	11.0	3.5	7.0	---	---	---
2	.0	.0	.0	4.5	.5	2.0	12.5	5.5	9.0	---	---	---
3	.0	.0	.0	4.5	1.0	2.5	14.0	9.0	10.5	---	---	---
4	.0	.0	.0	4.0	2.0	3.0	14.5	8.5	11.5	---	---	---
5	.0	.0	.0	3.0	1.0	2.0	11.5	9.5	10.5	---	---	---
6	1.0	.0	.5	3.0	.0	1.0	---	---	---	---	---	---
7	1.0	.0	.0	3.5	.0	1.5	8.5	1.0	4.5	---	---	---
8	2.5	.0	.5	6.0	1.5	3.0	5.5	1.0	3.0	---	---	---
9	2.0	.0	.5	3.5	1.5	2.5	8.5	.5	4.0	---	---	---
10	2.0	.0	.5	7.0	1.0	3.5	7.0	2.5	5.0	---	---	---
11	1.5	.0	.5	7.5	3.0	5.0	5.5	2.0	4.0	---	---	---
12	.5	.0	.0	6.0	1.5	3.5	3.5	2.5	3.0	---	---	---
13	.5	.0	.0	3.0	1.5	2.5	10.0	2.0	5.5	---	---	---
14	2.0	.0	.5	3.5	.0	2.0	11.0	3.0	6.5	---	---	---
15	1.0	.0	.0	3.0	.0	.5	13.0	4.0	8.5	---	---	---
16	1.0	.0	.0	2.0	.0	.5	10.0	5.5	7.5	---	---	---
17	3.0	.0	.5	6.5	.5	3.5	11.5	4.0	7.0	---	---	---
18	2.0	1.0	1.5	5.0	2.0	3.0	9.0	4.5	7.0	---	---	---
19	4.5	1.0	2.5	6.5	.5	3.5	9.5	6.0	7.5	---	---	---
20	3.5	.0	2.0	9.0	3.0	6.0	11.0	6.5	8.5	---	---	---
21	2.5	.5	1.5	---	---	---	13.0	6.5	9.0	---	---	---
22	3.0	.0	1.0	6.0	4.0	5.0	13.5	5.5	9.0	---	---	---
23	---	---	---	6.0	2.5	3.5	13.5	6.0	9.5	---	---	---
24	4.0	.0	1.5	---	---	---	13.5	7.0	9.5	---	---	---
25	2.5	.0	.5	5.0	2.5	4.0	14.5	7.0	10.0	---	---	---
26	2.5	.5	1.5	10.0	3.0	6.0	13.5	6.5	10.0	---	---	---
27	3.5	.0	1.5	13.0	5.0	9.0	11.0	9.0	10.0	---	---	---
28	3.5	1.5	2.5	11.0	8.0	9.5	15.5	7.5	11.0	---	---	---
29	---	---	---	9.0	6.5	8.0	16.5	9.0	12.5	---	---	---
30	---	---	---	8.5	4.5	6.0	13.5	7.5	11.0	---	---	---
31	---	---	---	10.0	2.5	6.0	---	---	---	---	---	---
MONTH	4.5	.0	.7	13.0	.0	3.8	16.5	.5	8.0	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040871488 WILSON PARK CREEK AT ST. LUKES HOSPITAL AT MILWAUKEE, WI--CONTINUED

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	12.5	8.4	10.5	---	---	---
2	---	---	---	---	---	---	13.5	10.0	11.0	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	12.4	8.6	10.1	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	10.6	8.4	9.2	---	---	---
7	---	---	---	---	---	---	11.0	8.4	9.6	---	---	---
8	---	---	---	---	---	---	11.7	8.8	10.0	---	---	---
9	---	---	---	---	---	---	11.6	8.9	10.5	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	8.8	7.5	8.1	---	---	---
12	---	---	---	---	---	---	8.8	7.4	8.0	---	---	---
13	---	---	---	---	---	---	9.8	7.6	8.4	---	---	---
14	---	---	---	---	---	---	8.7	7.4	8.1	---	---	---
15	---	---	---	---	---	---	9.8	7.4	8.9	---	---	---
16	---	---	---	---	---	---	9.8	8.6	9.2	7.5	5.6	6.4
17	---	---	---	---	---	---	10.4	8.7	9.4	8.3	6.1	6.7
18	---	---	---	---	---	---	10.5	8.7	9.5	8.3	7.2	7.7
19	---	---	---	17.3	12.4	14.1	11.8	8.2	9.6	8.3	7.7	8.0
20	---	---	---	---	---	---	---	---	---	8.5	7.3	7.9
21	---	---	---	---	---	---	8.4	7.1	7.8	9.8	7.1	8.1
22	---	---	---	---	---	---	---	---	---	11.1	9.3	10.5
23	---	---	---	---	---	---	---	---	---	9.5	7.0	7.7
24	---	---	---	12.4	10.7	11.2	---	---	---	8.3	7.0	7.6
25	---	---	---	14.4	11.4	12.8	---	---	---	9.1	6.8	7.9
26	---	---	---	18.3	12.4	14.4	---	---	---	9.2	7.4	8.1
27	---	---	---	18.8	12.2	14.4	---	---	---	9.9	7.5	8.5
28	---	---	---	16.5	11.8	13.5	---	---	---	9.6	4.9	7.7
29	---	---	---	14.5	11.2	12.7	---	---	---	8.5	6.5	7.9
30	---	---	---	13.1	5.1	9.6	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	18.8	5.1	12.8	13.5	7.1	9.3	11.1	4.9	7.9
FEBRUARY			MARCH			APRIL			MAY			
1	10.4	8.0	8.9	---	---	---	9.5	5.4	6.9	---	---	---
2	9.3	2.9	7.6	---	---	---	8.7	1.6	5.0	---	---	---
3	8.5	1.5	5.9	---	---	---	6.6	2.6	4.2	---	---	---
4	10.1	3.9	8.2	---	---	---	4.9	1.2	3.4	---	---	---
5	9.3	7.3	8.1	---	---	---	6.0	.1	2.8	---	---	---
6	7.9	6.9	7.3	10.1	7.5	9.0	---	---	---	---	---	---
7	8.2	6.8	7.5	10.6	7.2	8.7	13.0	1.1	9.3	---	---	---
8	7.6	5.3	6.9	7.9	7.1	7.5	15.1	1.1	9.2	---	---	---
9	8.0	5.6	6.7	13.0	7.1	9.9	9.1	6.5	7.8	---	---	---
10	7.8	6.1	7.1	12.7	8.0	11.1	8.0	5.5	6.7	---	---	---
11	8.2	5.4	7.2	10.9	6.3	9.1	---	---	---	---	---	---
12	9.0	5.8	7.5	---	---	---	---	---	---	---	---	---
13	7.8	5.7	6.9	9.2	6.8	8.1	---	---	---	---	---	---
14	9.4	7.4	8.4	9.5	8.2	8.9	---	---	---	---	---	---
15	18.1	8.9	11.5	11.2	8.5	9.5	---	---	---	---	---	---
16	13.9	10.4	11.9	11.5	8.4	9.7	---	---	---	---	---	---
17	14.1	11.1	12.7	9.3	6.0	7.6	---	---	---	---	---	---
18	16.9	11.8	14.6	8.4	6.4	7.2	---	---	---	---	---	---
19	14.6	10.4	11.9	9.7	4.1	6.7	---	---	---	---	---	---
20	12.5	8.2	9.9	---	---	---	---	---	---	---	---	---
21	13.3	11.7	12.7	---	---	---	---	---	---	---	---	---
22	11.8	10.5	11.4	6.7	5.6	6.3	---	---	---	---	---	---
23	---	---	---	8.9	6.7	7.8	---	---	---	---	---	---
24	14.3	.0	8.2	---	---	---	---	---	---	---	---	---
25	14.3	11.5	13.1	9.5	7.9	8.6	---	---	---	---	---	---
26	14.3	7.3	12.2	10.2	6.4	8.5	---	---	---	---	---	---
27	---	---	---	9.8	1.4	6.5	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	4.5	2.3	3.4	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	18.1	.0	9.4	13.0	1.4	8.4	15.1	.1	5.9	---	---	---

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.--18.8 mi², revised based on storm sewer maps.

WATER-DISCHARGE RECORDS

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 above sea level, from river-profile map.

REMARKS.--Estimated daily discharges: Dec. 10, 11, Apr. 20, and ice-affected periods, Nov. 26-28, Dec. 17-22, Dec. 24 to Jan. 3, Jan. 6-22, 27-31, and Feb. 8-10. Records good except those for estimated daily discharges, which are poor, and those for discharges greater than 500 ft³/s, which are fair (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	8.4	11	20	19	115	7.6	46	6.1	24	7.7	6.7
2	5.6	7.4	7.2	45	14	30	7.7	65	6.2	452	8.1	7.1
3	5.4	6.8	9.5	28	9.0	17	8.0	30	6.5	24	18	6.4
4	5.9	8.0	7.5	91	28	14	7.7	13	6.5	16	16	7.0
5	5.6	7.1	18	22	21	12	22	16	6.5	14	6.9	6.4
6	5.3	14	15	11	9.5	10	9.5	11	31	58	6.8	6.3
7	59	9.1	9.9	8.0	7.4	9.7	7.3	13	6.7	14	6.8	5.9
8	6.2	6.9	7.0	7.0	7.0	9.2	7.5	36	5.9	206	7.1	7.5
9	6.1	6.4	7.2	6.4	6.6	28	6.9	9.8	6.1	21	17	10
10	6.3	5.8	7.8	6.0	6.0	14	6.5	8.0	6.6	16	12	9.2
11	5.6	5.8	15	5.4	6.2	13	13	7.7	10	13	15	6.4
12	5.4	5.9	9.8	5.0	12	11	46	7.8	7.3	12	84	6.2
13	5.2	5.9	9.7	5.4	7.1	11	34	7.5	7.0	11	11	5.7
14	5.3	6.2	12	5.8	6.1	30	17	16	6.8	37	7.6	6.0
15	5.5	6.2	30	5.8	5.5	9.9	12	9.1	17	11	43	6.7
16	5.8	5.7	8.5	5.2	6.3	8.3	10	7.8	271	28	9.1	52
17	53	14	6.8	5.0	13	9.2	9.0	6.9	12	21	30	87
18	8.9	6.9	5.4	4.9	138	8.7	8.5	9.0	9.4	10	11	8.3
19	5.7	7.1	5.2	4.8	37	8.7	16	7.4	9.2	8.6	7.0	43
20	5.9	6.1	5.0	5.8	26	9.6	10	7.0	135	9.8	20	12
21	5.8	9.6	6.0	25	410	9.4	12	7.0	1170	28	8.2	6.7
22	38	6.5	6.4	80	35	8.9	8.0	7.0	73	11	6.6	18
23	31	5.8	85	9.6	18	7.8	7.4	6.5	24	9.9	8.0	22
24	7.1	9.9	11	7.4	12	9.5	7.4	6.4	40	8.9	434	8.9
25	6.3	6.6	8.0	6.9	12	23	7.2	6.4	32	12	13	7.9
26	5.9	6.0	7.6	5.8	30	10	6.9	6.3	14	33	10	7.9
27	5.4	5.6	6.8	6.6	31	9.1	6.2	6.1	13	15	11	6.7
28	5.5	5.4	25	6.4	27	8.7	6.5	17	11	9.9	10	5.9
29	246	17	9.0	7.0	---	7.7	6.3	84	10	7.7	7.8	6.7
30	26	28	6.0	7.2	---	9.5	109	8.6	289	7.2	17	6.3
31	9.6	---	9.0	25	---	8.1	---	6.6	---	7.1	9.2	---
TOTAL	604.3	250.1	387.3	484.4	959.7	490.0	443.1	495.9	2248.8	1156.1	878.9	402.8
MEAN	19.5	8.34	12.5	15.6	34.3	15.8	14.8	16.0	75.0	37.3	28.4	13.4
MAX	246	28	85	91	410	115	109	84	1170	452	434	87
MIN	5.2	5.4	5.0	4.8	5.5	7.7	6.2	6.1	5.9	7.1	6.6	5.7
CFSM	.97	.41	.62	.77	1.70	.78	.73	.79	3.71	1.85	1.40	.66
IN.	1.11	.46	.71	.89	1.77	.90	.82	.91	4.14	2.13	1.62	.74

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1997, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1983	21.4	60.5	1992	6.81	1995
1984	27.6	67.8	1986	8.34	1997
1985	20.1	48.9	1983	3.96	1990
1986	13.7	43.7	1988	4.72	1994
1987	19.5	41.9	1994	5.27	1995
1988	26.0	44.9	1993	8.87	1996
1989	32.7	104	1993	14.1	1989
1990	23.1	72.9	1990	9.07	1992
1991	27.4	75.0	1997	11.4	1985
1992	27.3	49.9	1986	12.6	1996
1993	35.2	82.3	1986	13.9	1996
1994	24.0	68.4	1986	8.41	1995

SUMMARY STATISTICS

	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1983 - 1997
ANNUAL TOTAL	6528.3	8801.4	
ANNUAL MEAN	17.8	24.1	24.8
HIGHEST ANNUAL MEAN			39.8
LOWEST ANNUAL MEAN			18.9
HIGHEST DAILY MEAN	480	1170	1630
LOWEST DAILY MEAN	(a) 4.1	(a) 4.8	(a) 2.9
ANNUAL SEVEN-DAY MINIMUM	(a) 4.2	(a) 5.3	(a) 3.0
INSTANTANEOUS PEAK FLOW		4420	(b) 10600
INSTANTANEOUS PEAK STAGE		12.46	(c) 14.41
ANNUAL RUNOFF (CFSM)	.88	1.19	1.23
ANNUAL RUNOFF (INCHES)	12.02	16.21	16.71
10 PERCENT EXCEEDS	35	33	48
50 PERCENT EXCEEDS	7.6	8.9	9.6
90 PERCENT EXCEEDS	5.4	5.9	6.0

(a) Ice affected

(b) From rating curve extended above 600 ft³/s on basis of step-backwater analysis at peak gage height

(c) From inside gage, 16.01 ft, from floodmarks

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1996 to April 1997.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Nov. 2, 1996 to Apr. 30, 1997.

DISSOLVED OXYGEN: Nov. 2, 1996 to Apr. 29, 1997.

INSTRUMENTATION.--Stage-activated water-quality sampler since November 1996. Continuous water-temperature recorder since November 1996. Dissolved-oxygen recorder since November 1996.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated.

Dissolved-oxygen concentrations greater than 30 mg/L are out of calibration range of meter. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 21.0°C, Apr. 29; minimum observed, 0.0°C, many days during winter.

DISSOLVED OXYGEN: Maximum observed, 25.2 mg/L, Nov. 28; minimum observed, 0.0 mg/L, Apr. 11-12, 25-28.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	NITRO- GEN, NO2+NO3 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, SOLVED (MG/L AS P) (00671)	1,2 ETH- ANEDIOL UNFIL- TERED TOTAL (MG/L) (99918)	1,2 PRO- PANEDIOL UNFIL- TERED TOTAL (MG/L) (99919)
NOV 1996												
*06...	1445	32	7.7	--	14	90	0.711	0.156	1.1	0.044	<6.4	<4.0
24...	0605	11	--	--	55	--	0.255	0.322	1.4	--	<6.4	<4.0
24...	0805	12	--	--	41	--	0.400	0.214	1.1	--	<6.4	<4.0
24...	1105	11	--	--	42	--	0.398	0.235	1.2	--	<6.4	<4.0
24...	1305	13	7.7	--	41	920	0.436	0.220	1.0	0.005	<6.4	<4.0
24...	1705	13	--	--	36	--	0.491	0.195	1.1	--	<6.4	<4.0
DEC												
05...	1010	8.0	--	--	130	--	0.655	0.664	3.1	--	<6.4	81.0
05...	1215	16	--	--	120	--	0.699	0.828	3.0	--	<6.4	90.0
05...	1515	35	--	--	110	--	0.702	0.898	3.2	--	<6.4	64.0
05...	1645	40	7.6	--	120	3800	0.768	1.26	4.3	<0.002	<6.4	100.0
05...	1900	36	7.7	2600	>220	2900	0.808	1.19	7.2	<0.002	34.0	610.0
05...	1905	36	7.7	2200	>220	2900	0.841	1.18	7.7	<0.002	55.0	1000.0
06...	1215	11	--	--	210	--	0.997	1.85	9.0	--	16.0	170.0
JAN 1997												
24...	1600	7.5	7.8	--	72	620	0.586	0.320	1.1	0.004	<10.0	<10.0
24...	2035	8.3	--	--	63	--	0.530	0.285	1.1	--	<10.0	<10.0
24...	2215	7.4	7.8	--	62	710	0.581	0.280	1.0	0.012	<10.0	<10.0
24...	2216	7.3	7.8	--	62	710	0.561	0.306	1.1	0.023	<10.0	<10.0
*24...	2217	7.3	--	--	66	--	0.598	0.319	1.1	--	<10.0	<10.0
24...	2305	6.7	--	--	56	--	0.570	0.262	1.0	--	<10.0	<10.0
25...	0045	6.6	--	--	61	--	0.587	0.214	1.0	--	<10.0	<10.0
25...	0315	6.5	--	--	44	--	0.616	0.230	0.80	--	<10.0	<10.0
25...	0635	6.1	8.1	--	41	1400	0.598	0.286	0.90	0.015	<10.0	<10.0
25...	1030	6.7	--	--	42	--	0.588	0.095	0.80	--	<10.0	<10.0
25...	1335	7.8	--	--	42	--	0.579	0.100	0.80	--	<10.0	<10.0
25...	1805	7.4	--	--	270	--	0.550	0.345	1.3	--	<10.0	<10.0
25...	2235	8.4	--	--	300	--	0.554	0.410	1.4	--	<10.0	<10.0
FEB												
*14...	1030	6.7	--	--	78	--	0.313	0.452	1.4	--	<10.0	<10.0
APR												
11...	1440	6.6	--	--	10	--	0.326	0.249	2.1	--	<10.0	13.0
11...	1640	9.0	--	--	12	--	0.359	0.328	2.1	--	<10.0	<10.0
11...	1805	19	--	--	25	--	0.254	0.259	6.3	--	<10.0	<10.0
11...	1925	32	--	--	23	--	0.137	0.348	5.2	--	42.0	22.0
11...	2125	38	--	--	81	--	0.384	0.798	14	--	<10.0	<10.0
11...	2325	28	--	--	28	--	0.667	0.800	4.4	--	<10.0	<10.0
12...	0125	28	--	--	190	--	0.569	1.68	6.2	--	<10.0	<10.0
12...	0325	42	--	570	>220	--	0.489	1.35	14	--	<10.0	41.0
12...	0525	54	7.5	540	>220	1400	0.695	3.88	19	0.003	24.0	83.0
12...	0725	57	--	860	>220	--	0.999	2.44	10	--	20.0	180.0
12...	0925	50	--	460	>220	--	1.29	2.47	6.9	--	27.0	350.0
12...	1325	40	7.7	--	190	990	1.60	3.31	8.2	<0.002	12.0	64.0
12...	1525	39	--	--	>220	--	2.01	3.68	8.0	--	<10.0	99.0
12...	1925	68	--	--	130	--	1.81	3.40	9.5	--	<10.0	<10.0
13...	0325	21	--	--	140	--	2.50	4.80	12	--	15.0	110.0

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	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) (00671)	1,2 ETH- ANEDIOL (MG/L) (99918)	1,2 PRO- PANEDIOL (MG/L) (99919)
APR 1997												
28...	1925	6.9	--	--	11	--	--	--	--	--	<15.0	<10.0
28...	2120	6.6	--	--	4.9	--	--	--	--	--	<10.0	<10.0
28...	2245	6.3	8.0	--	11	340	0.142	0.023	1.1	0.003	<10.0	<10.0
*28...	2246	6.3	7.8	--	13	350	0.150	0.015	1.2	0.003	<10.0	<10.0
28...	2255	6.2	8.0	--	14	350	0.143	0.016	1.1	0.004	<10.0	<10.0
29...	0105	6.2	--	--	150	--	--	--	--	--	<10.0	81.0
29...	0220	6.3	--	--	170	--	--	--	--	--	<10.0	140.0
29...	0335	6.4	--	--	190	--	--	--	--	--	<10.0	140.0
29...	0605	6.3	--	--	<120	--	--	--	--	--	<10.0	50.0
29...	0720	6.2	--	--	14	--	--	--	--	--	<10.0	12.0
29...	0950	6.1	--	--	8.4	--	--	--	--	--	<10.0	<10.0

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) (80082)	ALKA- LINITY WAT WH TOT FET LAB MG/L AS CACO3 (00417)
NOV 1996				
*06...	1445	32	11	130

* Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN

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

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	8.5	5.0	7.0	3.0	2.0	2.5
2	---	---	---	7.5	2.0	4.0	10.5	6.0	7.5	4.5	2.5	3.5
3	---	---	---	8.0	2.5	5.0	9.5	4.0	6.5	---	---	---
4	---	---	---	7.5	4.0	6.0	---	---	---	5.0	3.5	4.0
5	---	---	---	11.0	7.0	9.0	10.5	4.0	7.0	4.5	.0	2.5
6	---	---	---	13.0	9.0	11.0	7.5	5.5	6.5	---	---	---
7	---	---	---	11.5	6.5	9.0	15.5	5.5	9.0	---	---	---
8	---	---	---	10.0	5.5	7.0	10.5	7.5	9.0	---	---	---
9	---	---	---	8.0	4.0	5.5	9.5	6.0	8.5	---	---	---
10	---	---	---	6.0	2.0	3.5	---	---	---	---	---	---
11	---	---	---	4.5	.5	2.5	---	---	---	---	---	---
12	---	---	---	5.0	.0	1.5	---	---	---	---	---	---
13	---	---	---	3.5	.0	1.5	---	---	---	---	---	---
14	---	---	---	4.0	.5	2.0	---	---	---	---	---	---
15	---	---	---	5.5	2.5	3.5	---	---	---	---	---	---
16	---	---	---	9.0	3.5	6.0	---	---	---	---	---	---
17	---	---	---	10.5	6.0	8.0	---	---	---	---	---	---
18	---	---	---	8.0	5.5	6.5	---	---	---	---	---	---
19	---	---	---	8.0	4.0	6.0	---	---	---	---	---	---
20	---	---	---	8.0	5.0	6.5	---	---	---	---	---	---
21	---	---	---	8.0	4.5	5.5	---	---	---	---	---	---
22	---	---	---	8.0	3.0	5.5	---	---	---	---	---	---
23	---	---	---	7.0	5.0	6.0	---	---	---	---	---	---
24	---	---	---	6.0	4.5	5.0	---	---	---	---	---	---
25	---	---	---	6.5	3.0	4.5	---	---	---	---	---	---
26	---	---	---	4.0	2.5	3.0	---	---	---	---	---	---
27	---	---	---	5.0	2.0	3.0	---	---	---	---	---	---
28	---	---	---	5.0	1.5	3.0	---	---	---	---	---	---
29	---	---	---	6.0	2.5	4.5	---	---	---	---	---	---
30	---	---	---	9.5	4.5	8.5	---	---	---	---	---	---
31	---	---	---	---	---	---	2.0	.0	1.0	---	---	---
MONTH	---	---	---	13.0	.0	5.3	15.5	.0	6.9	5.0	.0	3.1
	FEBRUARY			MARCH			APRIL			MAY		
1	1.0	.0	.0	3.5	2.0	2.5	14.5	3.5	8.0	---	---	---
2	4.0	.5	1.5	5.5	.5	2.5	17.0	6.0	10.5	---	---	---
3	2.5	.0	1.0	5.5	1.0	3.0	17.5	9.5	12.0	---	---	---
4	2.0	.0	1.0	4.5	2.5	3.0	17.0	9.0	12.5	---	---	---
5	2.5	.5	1.0	4.0	1.0	2.5	12.5	10.5	11.0	---	---	---
6	3.0	.0	1.0	4.5	.0	1.5	---	---	---	---	---	---
7	2.0	.0	.5	5.0	.0	2.0	9.5	4.0	6.5	---	---	---
8	4.5	.0	1.0	7.5	1.5	3.5	7.0	2.0	4.5	---	---	---
9	3.0	.0	1.0	4.0	1.5	3.0	12.0	.5	5.0	---	---	---
10	3.0	.0	1.0	8.0	1.0	4.0	10.5	2.5	5.5	---	---	---
11	3.5	.0	1.0	9.5	3.5	5.5	7.0	3.0	5.0	---	---	---
12	1.5	.0	.0	8.0	2.0	4.0	3.5	2.5	3.0	---	---	---
13	1.5	.0	.0	3.5	2.0	2.5	10.5	2.5	6.0	---	---	---
14	4.0	.0	1.0	4.5	.0	2.0	12.0	3.5	7.0	---	---	---
15	2.5	.0	.5	5.0	.0	1.0	15.5	4.5	9.5	---	---	---
16	2.5	.0	.5	3.5	.0	1.0	11.0	6.0	8.5	---	---	---
17	4.0	.0	1.5	8.5	.5	4.0	15.0	4.5	8.5	---	---	---
18	2.5	1.5	2.0	6.5	2.0	4.0	11.5	4.5	7.5	---	---	---
19	5.5	1.5	3.0	9.0	.5	4.5	11.5	6.5	8.0	---	---	---
20	---	---	---	11.5	3.5	6.5	---	---	---	---	---	---
21	---	---	---	11.0	4.5	7.5	16.0	7.0	10.0	---	---	---
22	---	---	---	7.5	4.0	6.0	17.5	6.0	10.5	---	---	---
23	---	---	---	8.0	2.0	4.0	18.0	6.5	11.0	---	---	---
24	---	---	---	---	---	---	17.0	7.5	11.0	---	---	---
25	---	---	---	6.5	3.0	4.5	19.0	7.0	12.0	---	---	---
26	---	---	---	13.0	3.5	7.5	17.0	8.0	11.5	---	---	---
27	---	---	---	16.5	6.0	10.5	13.5	9.0	10.5	---	---	---
28	4.0	2.0	3.0	19.5	9.0	11.0	20.5	7.5	13.0	---	---	---
29	---	---	---	10.0	6.5	8.5	21.0	9.5	14.0	---	---	---
30	---	---	---	9.0	4.5	6.5	15.5	8.0	11.5	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	5.5	.0	1.1	19.5	.0	4.4	21.0	.5	9.1	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN
04087159 KINNICKINNIC RIVER AT SOUTH 11TH STREET AT MILWAUKEE, WI--CONTINUED

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	16.1	7.4	11.1	10.6	7.6	8.7
2	---	---	---	18.0	11.9	14.0	16.3	9.6	12.1	10.5	6.5	8.6
3	---	---	---	18.9	11.7	14.1	16.4	9.5	11.6	---	---	---
4	---	---	---	15.6	10.4	12.6	---	---	---	13.0	5.3	9.4
5	---	---	---	20.6	9.2	12.3	13.1	8.5	10.4	10.3	7.3	8.2
6	---	---	---	19.2	7.4	10.0	14.6	9.8	11.0	11.3	2.9	8.9
7	---	---	---	14.5	7.4	10.2	15.4	6.0	10.1	---	---	---
8	---	---	---	20.5	9.5	13.1	11.1	3.5	6.3	---	---	---
9	---	---	---	21.6	10.0	14.2	16.3	8.5	11.2	---	---	---
10	---	---	---	21.8	12.0	15.4	---	---	---	---	---	---
11	---	---	---	23.3	13.3	16.6	---	---	---	---	---	---
12	---	---	---	22.9	14.1	16.5	---	---	---	---	---	---
13	---	---	---	23.3	13.5	16.8	---	---	---	---	---	---
14	---	---	---	22.3	12.6	16.1	---	---	---	---	---	---
15	---	---	---	21.6	12.0	15.4	---	---	---	---	---	---
16	---	---	---	22.7	11.3	15.1	---	---	---	---	---	---
17	---	---	---	13.7	8.5	10.5	---	---	---	---	---	---
18	---	---	---	21.0	8.8	13.2	---	---	---	---	---	---
19	---	---	---	21.2	10.5	14.1	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	16.4	9.4	12.5	---	---	---	---	---	---
22	---	---	---	18.3	9.5	11.9	---	---	---	---	---	---
23	---	---	---	14.0	9.7	10.9	---	---	---	---	---	---
24	---	---	---	12.3	9.8	11.0	---	---	---	---	---	---
25	---	---	---	15.2	11.3	13.0	---	---	---	9.6	7.2	8.3
26	---	---	---	21.1	12.9	16.4	---	---	---	8.1	6.1	7.2
27	---	---	---	24.3	13.9	17.4	---	---	---	7.2	4.8	6.4
28	---	---	---	25.2	13.5	17.1	---	---	---	6.5	4.1	5.5
29	---	---	---	22.0	6.0	15.5	---	---	---	5.1	3.7	4.2
30	---	---	---	15.1	7.9	11.6	---	---	---	5.8	3.7	4.5
31	---	---	---	---	---	---	---	---	---	10.1	3.3	6.4
MONTH	---	---	---	25.2	6.0	13.8	16.4	3.5	10.5	13.0	2.9	7.2
	FEBRUARY			MARCH			APRIL			MAY		
1	9.7	7.9	8.5	13.3	9.6	12.1	14.8	5.5	9.9	---	---	---
2	9.5	6.6	7.8	13.1	10.5	11.7	12.3	2.8	6.9	---	---	---
3	8.4	6.1	7.0	13.2	9.2	10.6	---	---	---	---	---	---
4	11.2	5.7	8.3	10.8	8.3	9.7	---	---	---	---	---	---
5	---	---	---	10.6	7.7	9.2	---	---	---	---	---	---
6	---	---	---	11.2	9.0	10.0	---	---	---	---	---	---
7	---	---	---	12.0	7.7	10.3	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	14.9	8.9	12.3	---	---	---
10	---	---	---	---	---	---	14.6	7.6	10.8	---	---	---
11	---	---	---	---	---	---	15.6	.0	8.6	---	---	---
12	---	---	---	---	---	---	12.4	.0	9.2	---	---	---
13	---	---	---	---	---	---	12.5	.8	10.2	---	---	---
14	---	---	---	---	---	---	13.8	7.3	10.2	---	---	---
15	---	---	---	---	---	---	12.9	5.5	9.4	---	---	---
16	---	---	---	---	---	---	12.4	5.7	8.8	---	---	---
17	---	---	---	---	---	---	12.1	2.4	7.9	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	10.5	7.0	8.5	---	---	---	---	---	---
22	---	---	---	14.1	6.3	9.4	---	---	---	---	---	---
23	---	---	---	14.0	9.0	11.1	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	13.2	4.1	11.7	14.1	.0	3.8	---	---	---
26	---	---	---	---	---	---	8.2	.0	2.7	---	---	---
27	---	---	---	---	---	---	15.6	.0	4.7	---	---	---
28	11.1	4.2	8.1	---	---	---	22.2	.0	9.8	---	---	---
29	---	---	---	10.5	3.2	6.1	18.3	1.5	9.3	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	11.2	4.2	7.9	14.1	3.2	10.0	22.2	.0	8.4	---	---	---

STREAMS TRIBUTARY TO LAKE MICHIGAN

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040871602 KINNICKINNIC RIVER AT SIXTH STREET AT MILWAUKEE, WI

LOCATION.--Lat 42°59'42", long 87°55'07", in SE 1/4 NW 1/4 sec.8, T.6 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, at Milwaukee.

DRAINAGE AREA.--20.0 mi².

PERIOD OF RECORD.--November 1996 to January 1997.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Nov. 13, 1996 to Jan. 31, 1997.

DISSOLVED OXYGEN: Nov. 15, 1996 to Jan. 31, 1997.

INSTRUMENTATION.--Stage-activated water-quality sampler since November 1996. Continuous water-temperature recorder since November 1996. Dissolved-oxygen recorder since November 1996.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated. Dissolved-oxygen concentrations greater than 30 mg/L are out of calibration range of meter. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 9.0°C, Nov. 17; minimum observed, 0.0°C, many days during winter.

DISSOLVED OXYGEN: Maximum observed, 26.1 mg/L, Nov. 28; minimum observed, 1.5 mg/L, Jan. 30.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L) (00310)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	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 TOTAL (MG/L AS N) (00625)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
NOV 1996									
*06...	1505	E32	7.7	14	91	0.698	0.151	1.1	0.042
DEC									
05...	1040	9.4	--	150	--	0.641	0.658	3.1	--
05...	1340	24	--	100	--	0.674	0.799	1.7	--
05...	1540	42	--	110	--	0.715	0.957	2.3	--
05...	1715	44	7.6	120	4100	0.801	1.28	2.0	0.004
05...	1845	41	--	670	--	0.875	1.23	2.7	--
06...	1155	12	--	210	--	0.981	1.76	11	--
JAN 1997									
24...	1730	10	7.9	69	620	0.564	0.155	1.2	0.003
24...	2105	10	--	63	--	0.561	0.216	1.2	--
24...	2255	7.7	7.8	64	710	0.578	0.289	1.2	0.019
24...	2256	7.7	7.8	62	720	0.575	0.292	1.1	0.019
24...	2355	7.4	--	66	--	0.579	0.251	1.1	--
25...	0055	7.3	--	57	--	0.588	0.210	1.1	--
25...	0455	7.1	--	46	--	0.619	0.218	1.0	--
25...	0655	6.8	--	41	--	0.616	0.230	0.90	--
25...	1430	8.4	--	40	--	0.585	0.135	0.80	--
25...	1815	7.8	--	190	--	0.591	0.268	1.0	--
FEB									
*14...	1050	7.1	--	84	--	0.269	0.375	1.5	--

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BOD OXYGEN DEMAND, BIOCHEM CARBON. 5 DAY (MG/L) (80082)	ALKA-LINITY WAT WH TOT FET LAB MG/L AS CACO3 (00417)	1,2 ETH-ANEDIOL UNFIL-TERED TOTAL RECOV (MG/L) (99918)	1,2 PRO-PANEDIOL UNFIL-TERED TOTAL RECOV (MG/L) (99919)
NOV 1996						
*06...	1505	E32	11	130	<6.4	<4.0

* Equal-width increment (EWI) sample
E Estimated

STREAMS TRIBUTARY TO LAKE MICHIGAN
040871602 KINNICKINNIC RIVER AT SIXTH STREET AT MILWAUKEE, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	4.0	.5	2.5	3.5	2.5	2.5
2	---	---	---	---	---	---	2.5	.0	1.0	4.5	2.5	3.5
3	---	---	---	---	---	---	4.0	1.0	2.5	5.0	3.0	4.0
4	---	---	---	---	---	---	5.0	1.0	3.0	5.5	3.5	4.5
5	---	---	---	---	---	---	4.0	1.5	3.0	5.0	.5	3.0
6	---	---	---	---	---	---	4.5	3.5	4.0	---	---	---
7	---	---	---	---	---	---	4.5	1.5	2.5	---	---	---
8	---	---	---	---	---	---	3.0	1.0	1.5	---	---	---
9	---	---	---	---	---	---	4.0	1.0	2.0	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	3.0	.0	1.0	---	---	---	---	---	---
14	---	---	---	3.0	.0	1.0	---	---	---	---	---	---
15	---	---	---	4.5	1.5	3.0	---	---	---	---	---	---
16	---	---	---	8.5	3.0	5.5	---	---	---	---	---	---
17	---	---	---	9.0	3.0	6.5	---	---	---	---	---	---
18	---	---	---	5.5	2.0	3.5	---	---	---	---	---	---
19	---	---	---	4.5	1.0	2.5	---	---	---	---	---	---
20	---	---	---	4.0	1.0	2.5	---	---	---	---	---	---
21	---	---	---	6.0	2.5	4.0	1.5	.5	1.0	---	---	---
22	---	---	---	5.5	1.5	3.5	1.0	.0	.5	.5	.0	.0
23	---	---	---	---	---	---	2.5	.0	1.0	.5	.0	.0
24	---	---	---	4.0	3.0	3.5	2.0	.0	1.0	.5	.0	.0
25	---	---	---	3.5	.5	2.0	3.0	.0	1.0	.0	.0	.0
26	---	---	---	---	---	---	2.5	.5	1.5	.0	.0	.0
27	---	---	---	---	---	---	2.0	.0	1.5	.0	.0	.0
28	---	---	---	3.0	.0	1.0	1.5	.0	.5	1.5	.0	.0
29	---	---	---	4.0	.0	2.0	1.5	.5	1.0	1.5	.0	.5
30	---	---	---	5.5	3.0	4.5	---	---	---	2.0	.0	.5
31	---	---	---	---	---	---	3.0	1.0	2.0	1.5	.0	.0
MONTH	---	---	---	9.0	.0	3.1	5.0	.0	1.7	5.5	.0	1.2

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	17.3	11.0	13.1	12.0	8.8	10.0
2	---	---	---	---	---	---	19.5	11.1	13.9	11.0	8.1	9.7
3	---	---	---	---	---	---	17.6	10.8	12.4	12.5	7.5	9.6
4	---	---	---	---	---	---	18.1	9.9	12.5	13.0	7.3	10.5
5	---	---	---	---	---	---	13.3	9.7	10.8	12.3	9.5	10.5
6	---	---	---	---	---	---	14.1	9.5	10.7	12.3	5.0	9.8
7	---	---	---	---	---	---	16.5	9.6	11.7	12.5	2.7	8.4
8	---	---	---	---	---	---	17.5	10.1	12.1	14.4	8.4	11.0
9	---	---	---	---	---	---	18.5	9.6	12.3	11.6	8.9	9.9
10	---	---	---	---	---	---	18.7	8.8	11.9	10.3	7.9	9.1
11	---	---	---	---	---	---	11.7	8.7	10.0	8.8	1.8	6.0
12	---	---	---	---	---	---	11.9	8.4	9.6	9.4	3.6	5.3
13	---	---	---	---	---	---	---	---	---	12.5	2.2	7.1
14	---	---	---	---	---	---	---	---	---	14.5	7.3	10.8
15	---	---	---	18.8	10.6	13.8	---	---	---	13.4	8.9	11.2
16	---	---	---	20.4	9.9	13.4	---	---	---	---	---	---
17	---	---	---	12.2	5.2	9.6	---	---	---	---	---	---
18	---	---	---	19.3	8.7	12.4	---	---	---	---	---	---
19	---	---	---	19.6	10.3	13.5	---	---	---	---	---	---
20	---	---	---	19.3	9.1	12.9	---	---	---	---	---	---
21	---	---	---	15.8	9.2	11.4	19.9	12.1	14.2	11.8	10.1	10.9
22	---	---	---	13.7	4.2	7.6	19.2	11.9	14.4	12.6	10.9	12.1
23	---	---	---	---	---	---	16.1	11.9	14.0	11.8	8.9	10.6
24	---	---	---	9.7	5.2	8.5	20.0	14.0	16.1	10.5	8.5	9.3
25	---	---	---	12.0	9.2	10.5	19.2	11.0	14.8	11.3	8.5	9.5
26	---	---	---	---	---	---	14.2	9.2	11.0	8.8	6.4	7.8
27	---	---	---	---	---	---	16.1	9.1	11.7	8.3	5.8	7.1
28	---	---	---	26.1	13.9	17.7	15.7	11.6	13.5	6.1	2.9	4.9
29	---	---	---	22.9	10.5	16.3	16.7	11.6	13.3	3.6	1.6	2.6
30	---	---	---	14.7	11.1	13.1	---	---	---	6.5	1.5	3.8
31	---	---	---	---	---	---	14.0	9.1	10.8	11.2	3.6	7.0
MONTH	---	---	---	26.1	4.2	12.4	20.0	8.4	12.5	14.5	1.5	8.6

STREAMS TRIBUTARY TO LAKE MICHIGAN

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04087161 KINNICKINNIC RIVER AT AT FIRST STREET AT MILWAUKEE, WI

LOCATION.--Lat 43°00'30", long 87°54'00", in SW 1/4 NW 1/4 sec.4, T.6 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, at Milwaukee.

DRAINAGE AREA.--24.7 mi².

PERIOD OF RECORD.--March to May 1997.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Mar. 21 to May 12, 1997.

DISSOLVED OXYGEN: Apr. 1 to May 13, 1997.

INSTRUMENTATION.--Remote-activated water-quality sampler since March 1997. Continuous water-temperature recorder since March 1997. Dissolved-oxygen recorder since April 1997.

REMARKS.--Chemical analyses are by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated. Dissolved-oxygen concentrations greater than 30 mg/L are out of calibration range of meter. Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 14.5°C, May 12; minimum observed, 3.0°C, Mar. 31.

DISSOLVED OXYGEN: Maximum observed, 11.2 mg/L, May 1; minimum observed, 0.0 mg/L, May 9.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	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) (00671)	1,2 ETH- ANEDIOL UNFIL- TERED TOTAL RECOV (MG/L) (99918)	1,2 PRO- PANEDIOL UNFIL- TERED TOTAL RECOV (MG/L) (99919)
APR 1997											
11...	1145	7.9	29	<12	200	0.482	0.943	2.0	0.033	<10.0	<10.0
11...	1945	--	20	<12	--	0.461	1.09	2.1	--	<10.0	<10.0
12...	0745	--	24	<12	--	0.550	0.828	1.7	--	<10.0	<10.0
12...	1645	--	--	6.2	--	0.505	0.848	1.8	--	<10.0	11.0
12...	2245	--	--	63	--	0.635	1.05	3.0	--	11.0	34.0
13...	0445	--	--	85	--	0.792	1.13	3.5	--	<10.0	38.0
13...	1000	--	--	71	--	0.882	1.12	4.2	--	<10.0	36.0
13...	1600	--	140	>27	--	1.10	1.39	4.2	--	--	--
13...	2200	--	140	>27	--	1.11	1.22	3.8	--	<10.0	16.0
14...	0400	--	88	>27	--	1.06	0.935	3.1	--	--	--
14...	1000	--	110	>27	--	1.15	1.14	3.6	--	<10.0	18.0
14...	1600	--	100	>28	--	1.08	1.40	3.8	--	--	--
14...	2215	--	86	>29	--	1.04	1.07	3.1	--	<10.0	<10.0
15...	0415	--	76	>29	--	1.04	1.05	3.1	--	--	--
15...	1101	--	77	>29	--	1.05	1.12	2.8	--	<10.0	10.0
*15...	1115	--	81	>29	--	1.02	1.13	2.1	--	<10.0	19.0
15...	1615	--	68	>30	--	1.02	1.07	2.4	--	<10.0	<10.0
15...	2215	7.8	87	>30	410	1.09	1.39	3.0	0.002	<10.0	16.0
16...	0415	--	88	>30	--	1.11	1.57	3.2	--	<10.0	18.0
16...	1015	7.9	73	>30	380	1.04	1.28	2.6	0.002	<10.0	13.0
16...	1615	--	75	>30	--	1.18	1.73	3.0	--	<10.0	14.0
17...	0415	--	--	25	--	--	--	--	--	<10.0	<10.0
17...	1615	--	--	13	--	--	--	--	--	--	--
18...	0415	--	--	7.3	--	--	--	--	--	<10.0	<10.0
30...	2230	--	--	20	--	--	--	--	--	10.0	<10.0
MAY											
01...	0430	--	--	10	--	--	--	--	--	<10.0	<10.0
01...	1030	--	--	6.8	--	--	--	--	--	<10.0	<10.0
01...	1630	7.6	--	5.8	94	1.60	0.949	2.0	<0.002	<10.0	<10.0
01...	2230	--	--	5.4	--	--	--	--	--	<10.0	<10.0
02...	0430	--	--	4.6	--	--	--	--	--	<10.0	<10.0
02...	1030	--	--	5.3	--	--	--	--	--	<10.0	<10.0
02...	1630	--	--	4.9	--	--	--	--	--	<10.0	<10.0
02...	2230	--	--	10	--	--	--	--	--	<10.0	<10.0
03...	0430	--	--	10	--	--	--	--	--	<10.0	<10.0
03...	1030	--	--	9.3	--	--	--	--	--	<10.0	<10.0
03...	1630	--	--	5.0	--	--	--	--	--	<10.0	<10.0
03...	2230	--	--	4.1	--	--	--	--	--	<10.0	<10.0
04...	0430	--	--	4.0	--	--	--	--	--	<10.0	<10.0
04...	1030	--	--	4.0	--	--	--	--	--	<10.0	<10.0
04...	1630	--	--	4.1	--	--	--	--	--	<10.0	<10.0
04...	2230	--	--	4.4	--	--	--	--	--	<10.0	<10.0
05...	0430	--	--	4.1	--	--	--	--	--	--	--
05...	1030	--	--	4.7	--	--	--	--	--	<10.0	<10.0

*Equal-width increment (EWI) sample

STREAMS TRIBUTARY TO LAKE MICHIGAN
04087161 KINNICKINNIC RIVER AT FIRST STREET AT MILWAUKEE, WI

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	9.0	7.5	8.0	10.0	8.0	8.5
2	---	---	---	---	---	---	9.5	8.0	9.0	10.5	9.0	9.5
3	---	---	---	---	---	---	10.5	9.0	9.5	10.0	9.0	9.5
4	---	---	---	---	---	---	11.0	10.0	10.5	11.0	9.0	10.0
5	---	---	---	---	---	---	12.0	11.0	11.5	12.5	10.5	11.0
6	---	---	---	---	---	---	11.5	10.0	11.0	13.5	11.5	12.5
7	---	---	---	---	---	---	10.0	8.5	9.0	13.0	12.5	13.0
8	---	---	---	---	---	---	8.5	7.5	8.0	13.5	12.5	13.0
9	---	---	---	---	---	---	8.5	7.0	7.5	13.0	12.0	12.5
10	---	---	---	---	---	---	8.0	7.5	7.5	14.0	11.5	12.5
11	---	---	---	---	---	---	7.5	6.5	7.0	14.0	13.0	13.5
12	---	---	---	---	---	---	6.5	4.0	5.5	14.5	13.0	13.5
13	---	---	---	---	---	---	7.5	3.5	5.5	---	---	---
14	---	---	---	---	---	---	7.5	6.0	7.0	---	---	---
15	---	---	---	---	---	---	8.5	6.5	7.5	---	---	---
16	---	---	---	---	---	---	8.5	7.5	8.0	---	---	---
17	---	---	---	---	---	---	8.5	7.0	8.0	---	---	---
18	---	---	---	---	---	---	9.0	8.0	8.5	---	---	---
19	---	---	---	---	---	---	9.0	8.5	9.0	---	---	---
20	---	---	---	---	---	---	10.0	9.0	9.0	---	---	---
21	---	---	---	5.0	3.5	4.0	10.0	9.0	9.5	---	---	---
22	---	---	---	5.0	4.0	4.5	10.5	9.5	10.0	---	---	---
23	---	---	---	4.5	3.5	4.0	11.0	10.0	10.5	---	---	---
24	---	---	---	---	---	---	12.0	10.5	11.0	---	---	---
25	---	---	---	4.5	4.0	4.0	13.0	11.5	12.0	---	---	---
26	---	---	---	5.5	4.0	4.5	13.0	12.0	12.5	---	---	---
27	---	---	---	6.5	4.5	5.5	13.0	12.5	12.5	---	---	---
28	---	---	---	7.5	6.0	7.0	13.5	12.0	13.0	---	---	---
29	---	---	---	8.0	7.0	7.5	14.0	13.0	13.5	---	---	---
30	---	---	---	8.0	7.5	7.5	14.0	9.0	13.0	---	---	---
31	---	---	---	8.5	3.0	8.0	---	---	---	---	---	---
MONTH	---	---	---	8.5	3.0	5.7	14.0	3.5	9.5	14.5	8.0	11.6

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	4.1	1.8	2.9	11.2	6.5	8.8
2	---	---	---	---	---	---	3.9	2.4	3.0	7.7	5.3	6.1
3	---	---	---	---	---	---	---	---	---	7.7	5.6	6.7
4	---	---	---	---	---	---	---	---	---	5.7	3.2	4.7
5	---	---	---	---	---	---	---	---	---	3.8	2.4	2.9
6	---	---	---	---	---	---	---	---	---	2.6	1.3	1.9
7	---	---	---	---	---	---	---	---	---	1.9	.8	1.2
8	---	---	---	---	---	---	---	---	---	5.8	.7	3.3
9	---	---	---	---	---	---	5.2	1.7	3.2	4.2	.0	1.3
10	---	---	---	---	---	---	5.5	3.4	4.1	6.1	.1	1.2
11	---	---	---	---	---	---	5.4	3.7	4.4	2.7	.1	.8
12	---	---	---	---	---	---	6.7	4.2	5.4	2.3	.1	.5
13	---	---	---	---	---	---	8.5	6.5	7.4	.7	.2	.6
14	---	---	---	---	---	---	8.2	6.5	7.6	---	---	---
15	---	---	---	---	---	---	7.6	3.2	5.7	---	---	---
16	---	---	---	---	---	---	3.3	.9	1.8	---	---	---
17	---	---	---	---	---	---	5.9	1.1	3.6	---	---	---
18	---	---	---	---	---	---	6.2	2.0	3.6	---	---	---
19	---	---	---	---	---	---	6.1	.8	2.9	---	---	---
20	---	---	---	---	---	---	5.3	1.5	3.9	---	---	---
21	---	---	---	---	---	---	4.8	.4	2.2	---	---	---
22	---	---	---	---	---	---	5.4	.9	2.7	---	---	---
23	---	---	---	---	---	---	6.9	.3	3.3	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	3.5	.1	1.4	---	---	---
30	---	---	---	---	---	---	9.3	.3	3.2	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	9.3	.1	3.8	11.2	.0	3.1

STREAMS TRIBUTARY TO LAKE MICHIGAN
04087204 OAK CREEK AT SOUTH MILWAUKEE, WI

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LOCATION.--Lat 42°55'30", long 87°52'12", in SW 1/4 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 sea level.

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 19, 20, 25-27, Jan. 6-19, 25-30, Feb. 7-17, 24, and 25. Records good except those for ice-affected periods and periods of flow less than 4.0 cfs, which are fair (see page 11). Low flows may occasionally be affected by construction and activity at gravel pit upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	7.6	9.8	5.4	16	142	8.1	91	6.3	66	3.3	6.0
2	2.4	5.3	5.0	11	18	125	8.3	47	5.3	99	3.3	4.7
3	2.0	4.5	4.9	23	18	60	8.6	79	4.4	34	12	4.0
4	2.9	4.1	4.4	57	20	41	8.6	35	4.1	17	26	3.5
5	1.8	3.9	5.2	54	26	32	12	22	4.6	13	6.7	3.2
6	2.2	6.2	6.7	16	17	23	13	19	14	27	4.2	3.3
7	11	10	7.1	10	11	18	6.6	13	7.4	15	3.6	3.2
8	8.6	5.4	5.6	7.8	9.4	18	5.5	22	4.5	83	3.4	3.1
9	3.5	3.6	3.9	7.4	8.0	29	5.4	16	3.8	41	3.6	3.3
10	2.7	2.7	3.3	6.6	6.4	36	5.3	9.7	3.6	18	3.4	3.6
11	1.6	2.3	4.1	4.8	6.0	33	6.4	7.7	4.1	12	3.7	3.9
12	1.8	2.1	8.7	3.3	5.4	24	18	7.6	5.7	9.0	27	2.9
13	2.1	1.7	8.4	2.9	4.5	19	29	7.0	3.8	7.3	14	2.6
14	2.4	1.7	9.1	2.7	4.3	26	38	7.4	2.8	6.4	5.0	2.5
15	1.9	2.2	19	2.5	4.1	16	22	8.1	6.5	6.1	34	2.5
16	2.0	2.4	12	2.3	4.0	10	15	7.7	196	6.1	11	15
17	9.6	4.6	7.6	2.3	4.4	11	12	7.7	50	7.2	9.6	90
18	11	3.6	4.2	2.2	82	12	12	7.3	18	6.1	15	11
19	5.4	2.8	2.5	4.0	112	11	13	8.6	11	5.0	6.0	12
20	2.6	2.3	2.2	4.4	50	12	12	7.5	38	4.9	5.3	17
21	2.3	2.8	2.4	7.3	359	12	13	6.8	660	13	5.3	5.2
22	4.8	3.2	3.3	102	149	13	12	6.5	498	10	4.8	4.6
23	17	3.4	20	41	73	11	10	6.4	165	6.1	4.6	11
24	7.8	3.7	32	17	37	8.6	11	7.0	61	5.0	191	5.2
25	3.6	3.7	8.8	9.0	26	15	10	6.6	42	4.8	40	3.7
26	3.0	2.6	4.0	6.8	32	15	7.9	6.3	28	5.7	15	3.2
27	2.6	2.0	3.7	6.0	54	15	7.3	5.6	21	6.9	9.9	2.9
28	1.9	2.3	8.0	4.4	42	15	7.8	5.7	16	6.2	7.0	2.8
29	63	3.0	10	4.1	---	15	7.9	19	13	4.4	5.9	2.3
30	74	13	7.0	4.0	---	12	26	14	54	3.7	7.3	2.1
31	14	---	5.0	9.8	---	9.7	---	8.2	---	3.3	13	---
TOTAL	274.3	118.7	237.9	441.0	1198.5	839.3	371.7	522.4	1951.9	552.2	503.9	240.3
MEAN	8.85	3.96	7.67	14.2	42.8	27.1	12.4	16.9	65.1	17.8	16.3	8.01
MAX	74	13	32	102	359	142	38	91	660	99	191	90
MIN	1.6	1.7	2.2	2.2	4.0	8.6	5.3	5.6	2.8	3.3	3.3	2.1
CFSM	.35	.16	.31	.57	1.71	1.08	.50	.67	2.60	.71	.65	.32
IN.	.41	.18	.35	.66	1.78	1.25	.55	.78	2.90	.82	.75	.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1997, BY WATER YEAR (WY)

	MEAN	11.9	18.4	20.4	14.1	23.2	50.1	47.6	23.6	22.1	14.8	13.8	17.1
MAX	48.4	85.3	65.3	77.3	84.4	149	151	96.1	85.8	95.8	52.7	110	
(WY)	1992	1986	1983	1974	1971	1979	1993	1990	1968	1969	1986	1972	
MIN	1.86	1.83	.79	.021	1.91	2.24	9.14	2.15	2.15	3.34	1.89	1.78	
(WY)	1976	1977	1977	1977	1964	1968	1968	1977	1988	1988	1970	1982	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1964 - 1997

ANNUAL TOTAL	7338.62	7252.1	23.1
ANNUAL MEAN	20.1	19.9	41.7
HIGHEST ANNUAL MEAN			6.67
LOWEST ANNUAL MEAN			1974
HIGHEST DAILY MEAN	446	660	855
LOWEST DAILY MEAN	.87	1.6	.00
ANNUAL SEVEN-DAY MINIMUM	1.0	2.1	.00
INSTANTANEOUS PEAK FLOW		1110	1140
INSTANTANEOUS PEAK STAGE		9.71	9.88
INSTANTANEOUS LOW FLOW		1.4	.00
ANNUAL RUNOFF (CFSM)	.80	.79	.92
ANNUAL RUNOFF (INCHES)	10.92	10.79	12.53
10 PERCENT EXCEEDS	49	39	49
50 PERCENT EXCEEDS	7.0	7.4	7.8
90 PERCENT EXCEEDS	1.8	2.7	1.9

(a) Several days during 1977

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 sea level.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 12-15, 26-29, Dec. 2, 18-28, Jan. 6 to Feb. 4, Feb. 8-26, and Mar. 7, 14-16. Records good except those for ice-affected periods, which are poor (see page 11). Flow affected by urbanization in the drainage basin. Gage-height telemeter at station.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	16	17	9.9	30	144	20	138	13	153	5.9	12
2	4.1	11	11	15	33	281	18	83	11	170	5.6	10
3	3.8	8.2	9.1	34	36	118	18	131	11	264	5.8	8.1
4	4.6	7.9	8.9	64	40	79	16	89	8.9	51	26	6.7
5	4.2	7.8	8.6	101	54	58	19	58	8.2	34	12	5.8
6	3.8	7.7	11	35	38	46	29	48	22	46	6.6	5.9
7	21	8.4	11	25	21	34	20	36	16	40	5.7	5.5
8	13	7.8	9.2	18	16	32	16	50	10	76	5.6	5.1
9	5.2	7.0	7.3	15	15	34	15	45	7.7	120	5.4	5.3
10	4.4	5.7	6.8	14	13	58	14	31	7.6	41	13	20
11	4.7	5.4	7.8	11	11	50	14	25	6.8	27	7.7	6.7
12	5.2	5.0	15	8.0	10	44	24	22	6.5	20	26	4.9
13	4.6	4.8	15	7.0	9.0	36	43	21	6.3	18	34	4.2
14	3.9	4.6	16	6.4	8.4	35	63	20	6.0	19	13	4.1
15	4.1	4.5	24	6.0	8.0	30	49	24	5.4	18	28	4.0
16	4.5	4.7	28	5.8	7.8	27	39	21	195	14	34	4.4
17	19	5.0	18	5.6	8.6	25	31	20	122	24	11	90
18	32	5.7	11	5.6	50	25	23	17	36	15	38	37
19	7.1	5.4	6.4	9.0	150	23	27	20	21	12	14	9.6
20	4.8	5.4	5.2	13	90	22	28	17	35	10	10	40
21	4.4	5.8	5.4	15	400	22	27	16	719	15	10	10
22	4.7	5.8	6.4	90	500	26	27	14	1250	20	6.9	5.6
23	45	5.5	11	100	140	24	21	13	298	12	6.6	19
24	20	5.4	60	41	96	22	19	12	81	10	219	9.1
25	7.9	5.4	30	23	58	27	17	13	90	8.1	211	5.4
26	5.2	5.0	10	16	49	31	16	13	55	11	49	4.4
27	4.6	4.8	9.4	14	70	28	15	12	35	22	25	3.9
28	4.4	4.8	13	12	59	28	15	12	26	13	18	3.6
29	30	5.0	16	10	---	27	15	32	20	9.5	14	3.5
30	193	19	12	11	---	25	17	36	52	7.2	12	3.3
31	48	---	10	20	---	24	---	16	---	6.0	30	---
TOTAL	525.2	204.5	429.5	760.3	2020.8	1485	715	1105	3181.4	1305.8	908.8	357.1
MEAN	16.9	6.82	13.9	24.5	72.2	47.9	23.8	35.6	106	42.1	29.3	11.9
MAX	193	19	60	101	500	281	63	138	1250	264	219	90
MIN	3.8	4.5	5.2	5.6	7.8	22	14	12	5.4	6.0	5.4	3.3
CFSM	.34	.14	.28	.50	1.47	.97	.48	.72	2.16	.86	.60	.24
IN.	.40	.15	.32	.57	1.53	1.12	.54	.84	2.41	.99	.69	.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1997, BY WATER YEAR (WY)

	MEAN	24.0	32.3	38.1	29.8	44.7	97.6	87.7	42.7	41.4	26.7	24.4	30.5
MAX	95.5	151	118	190	161	315	316	138	137	142	72.3	214	
(WY)	1992	1986	1983	1974	1971	1979	1973	1990	1969	1969	1987	1972	
MIN	2.38	4.26	2.02	2.47	2.75	13.6	21.5	5.32	3.55	3.09	3.82	3.05	
(WY)	1964	1964	1964	1977	1977	1968	1977	1977	1988	1988	1971	1971	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1964 - 1997

ANNUAL TOTAL	12459.3	12998.4	43.3
ANNUAL MEAN	34.0	35.6	84.0
HIGHEST ANNUAL MEAN			12.7
LOWEST ANNUAL MEAN			1974
HIGHEST DAILY MEAN	892	Jun 18	2390
LOWEST DAILY MEAN	2.3	Sep 19	4.4
ANNUAL SEVEN-DAY MINIMUM	2.7	Sep 13	Aug 9, 10 1971
INSTANTANEOUS PEAK FLOW			1.1
INSTANTANEOUS PEAK STAGE			Aug 4 1971
INSTANTANEOUS LOW FLOW			3700
ANNUAL RUNOFF (CFSM)	.69		9.31
ANNUAL RUNOFF (INCHES)	9.42		.38
10 PERCENT EXCEEDS	82		.88
50 PERCENT EXCEEDS	11		11.95
90 PERCENT EXCEEDS	4.1		90
			15
			16
			4.5

STREAMS TRIBUTARY TO LAKE MICHIGAN
04087233 ROOT RIVER CANAL NEAR FRANKLIN, WI

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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 above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1-21, 24-29, Nov. 8 to Dec. 17, Sept. 3-15, and ice-affected periods, Dec. 25-27, Jan. 6 to Feb. 19, Mar. 14 and 15. Records are good except those for periods where there was backwater caused by debris, Oct. 1 to Dec. 17 and Sept. 3-30, and ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	4.8	7.0	4.7	20	285	24	99	15	50	2.4	4.6
2	2.2	3.8	6.0	9.4	25	359	23	82	13	38	2.5	4.2
3	1.6	3.2	5.4	41	35	188	22	152	11	25	2.5	3.6
4	1.6	2.7	4.8	56	45	141	21	121	11	20	3.2	3.4
5	1.6	2.5	4.5	113	60	118	23	86	9.7	18	3.0	3.3
6	1.5	2.5	5.0	54	43	94	26	67	16	15	2.6	3.1
7	3.4	4.3	5.0	30	25	71	22	50	17	14	2.7	3.0
8	2.8	3.5	4.5	16	18	61	19	58	14	20	2.8	2.9
9	1.9	2.9	3.8	12	15	59	17	50	11	23	2.9	2.9
10	1.6	2.5	3.7	11	13	72	16	40	9.9	16	3.2	3.2
11	1.9	2.2	4.0	10	11	74	17	35	9.1	12	3.2	2.9
12	2.3	2.0	10	8.0	10	68	22	31	10	10	3.9	2.7
13	2.0	2.0	11	5.6	9.0	60	29	27	12	9.1	4.9	2.6
14	1.6	1.9	10	5.2	8.6	56	70	25	11	7.5	3.9	2.5
15	1.6	1.9	12	6.0	8.2	49	61	26	8.5	5.9	6.1	2.4
16	1.7	2.1	17	5.4	7.8	45	46	23	192	4.8	8.3	7.6
17	3.5	2.2	13	5.0	8.6	38	35	22	221	4.7	4.1	116
18	6.0	2.3	13	5.0	130	35	29	21	116	4.3	3.6	79
19	3.7	2.3	7.7	6.4	280	32	30	28	68	4.9	3.4	51
20	2.5	2.4	5.6	7.0	154	33	28	23	70	4.8	3.3	194
21	2.1	2.5	4.7	13	524	34	34	20	477	4.5	3.2	129
22	2.2	2.5	4.8	60	568	36	33	19	453	5.5	2.6	67
23	8.1	2.5	6.1	90	255	34	28	18	223	5.3	2.7	50
24	9.0	2.5	16	60	155	30	25	17	143	4.5	65	38
25	4.0	2.4	7.0	35	124	35	22	20	110	4.1	38	25
26	3.3	2.3	5.6	25	110	35	20	18	82	4.1	15	17
27	2.7	2.2	5.6	17	133	34	20	16	60	4.1	9.4	12
28	2.5	2.2	6.4	14	114	33	20	15	45	4.2	6.4	10
29	8.0	2.2	7.0	11	---	32	19	18	35	3.6	4.7	8.5
30	24	5.0	5.8	10	---	29	19	19	38	3.0	4.3	8.2
31	8.7	---	4.9	11	---	26	---	16	---	2.3	4.7	---
TOTAL	122.6	80.3	226.9	756.7	2909.2	2296	820	1262	2511.2	352.2	228.5	859.6
MEAN	3.95	2.68	7.32	24.4	104	74.1	27.3	40.7	83.7	11.4	7.37	28.7
MAX	24	5.0	17	113	568	359	70	152	477	50	65	194
MIN	1.5	1.9	3.7	4.7	7.8	26	16	15	8.5	2.3	2.4	2.4
CFSM	.07	.05	.13	.43	1.82	1.30	.48	.71	1.47	.20	.13	.50
IN.	.08	.05	.15	.49	1.90	1.50	.54	.82	1.64	.23	.15	.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1997, BY WATER YEAR (WY)												
MEAN	22.2	36.6	45.5	32.7	57.1	114	105	50.3	42.1	24.4	22.0	32.2
MAX	113	154	200	219	190	352	312	211	156	141	138	212
(WY)	1973	1993	1983	1974	1971	1979	1993	1990	1996	1978	1978	1972
MIN	1.05	1.27	.86	.56	.69	6.03	10.9	2.47	2.51	2.18	2.20	1.28
(WY)	1964	1964	1964	1977	1977	1968	1977	1977	1977	1991	1985	1971

SUMMARY STATISTICS				FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1964 - 1997	
ANNUAL TOTAL				14867.9		12425.2			
ANNUAL MEAN				40.6		34.0		48.5	
HIGHEST ANNUAL MEAN								98.4	1974
LOWEST ANNUAL MEAN								4.57	1977
HIGHEST DAILY MEAN				663	May 21	568	Feb 22	1410	Mar 4 1974
LOWEST DAILY MEAN				1.5	(a) Sep 19	(b) 1.5	Oct 6	(c) .40	Dec 19 1963
ANNUAL SEVEN-DAY MINIMUM				1.7	Aug 31	(b) 1.8	Oct 10	(d) .45	Feb 8 1977
INSTANTANEOUS PEAK FLOW						704	Feb 21	(e) 1440	Mar 4 1974
INSTANTANEOUS PEAK STAGE						9.27	Feb 21	(f) 11.26	Feb 21 1994
ANNUAL RUNOFF (CFSM)				.71		.60		.85	
ANNUAL RUNOFF (INCHES)				9.70		8.11		11.56	
10 PERCENT EXCEEDS				120		80		120	
50 PERCENT EXCEEDS				10		11		15	
90 PERCENT EXCEEDS				2.1		2.5		2.3	

- (a) Also occurred Oct. 6, estimated
(b) Estimated
(c) Result of freezeup
(d) Ice affected
(e) Gage height, 9.88 ft
(f) Backwater from ice

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

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 19-21, Jan. 8, 9, 12-20, Jan. 26 to Feb. 1, and Feb. 14-17. Records good except those for ice-affected periods, which are fair (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	90	14	24	39	505	87	173	99	186	16	38
2	11	40	22	25	48	797	78	299	75	274	13	32
3	7.6	25	28	45	71	880	74	342	61	238	9.1	23
4	5.8	21	23	120	87	593	73	376	53	278	12	20
5	4.6	18	21	210	105	385	71	319	48	156	26	17
6	4.0	16	21	203	108	290	77	230	52	93	24	16
7	4.1	16	19	82	97	222	81	185	59	94	16	14
8	4.1	16	20	80	73	186	68	169	64	103	13	15
9	12	16	21	68	61	172	59	176	47	157	12	15
10	15	16	20	51	51	191	55	158	37	182	12	15
11	12	15	19	45	47	217	54	132	30	101	11	16
12	9.8	13	20	40	41	204	61	114	28	69	18	19
13	8.2	12	29	36	38	184	80	104	31	55	29	16
14	6.7	9.8	42	29	34	173	138	99	33	46	49	15
15	5.5	9.6	44	25	33	161	178	99	31	42	36	14
16	5.5	9.6	55	23	31	132	158	112	221	40	32	15
17	5.5	10	64	22	29	136	131	113	446	32	43	159
18	4.5	10	35	21	100	122	112	106	488	35	25	218
19	8.9	10	26	20	357	117	100	107	272	35	27	146
20	17	10	24	19	500	109	97	107	157	26	27	160
21	16	11	23	20	1060	108	102	100	944	28	20	260
22	14	11	22	41	1040	107	100	90	1470	29	17	176
23	13	11	22	103	1350	108	96	88	1740	35	16	110
24	15	11	28	176	1100	100	85	88	1280	29	140	90
25	35	11	58	126	576	98	75	91	638	25	251	74
26	33	11	53	94	357	108	70	93	336	23	242	52
27	24	9.6	30	62	330	113	65	91	212	22	98	39
28	17	9.6	26	52	336	106	63	87	149	25	53	31
29	17	9.8	26	45	---	102	61	93	117	27	38	26
30	45	11	27	41	---	98	69	117	105	22	33	22
31	167	---	28	38	---	93	---	131	---	19	31	---
TOTAL	563.8	489.0	910	1986	8099	6917	2618	4589	9323	2526	1389.1	1863
MEAN	18.2	16.3	29.4	64.1	289	223	87.3	148	311	81.5	44.8	62.1
MAX	167	90	64	210	1350	880	178	376	1740	278	251	260
MIN	4.0	9.6	14	19	29	93	54	87	28	19	9.1	14
CFSM	.10	.09	.16	.34	1.53	1.18	.46	.78	1.65	.43	.24	.33
IN.	.11	.10	.18	.39	1.60	1.36	.52	.90	1.84	.50	.27	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1997, BY WATER YEAR (WY)

	MEAN	67.8	111	134	95.0	159	352	345	173	130	85.3	67.0	90.1
MAX	335	454	568	401	457	1149	1071	649	493	485	237	683	
(WY)	1987	1986	1983	1974	1971	1979	1993	1990	1996	1969	1987	1972	
MIN	2.79	8.90	3.08	2.21	3.98	30.6	61.8	8.73	7.75	5.18	6.60	2.58	
(WY)	1964	1964	1964	1977	1977	1968	1977	1977	1988	1988	1971	1963	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1963 - 1997		
ANNUAL TOTAL	45612.8			41272.9					
ANNUAL MEAN	125			113			151		
HIGHEST ANNUAL MEAN							268		
LOWEST ANNUAL MEAN							23.3		
HIGHEST DAILY MEAN	1750			1740			4010		
LOWEST DAILY MEAN	1.7			4.0			.00		
ANNUAL SEVEN-DAY MINIMUM	2.1			5.9			.00		
INSTANTANEOUS PEAK FLOW				1800			4500		
INSTANTANEOUS PEAK STAGE				5.55			8.54		
INSTANTANEOUS LOW FLOW				3.7			.00		
ANNUAL RUNOFF (CFSM)	.66			.60			.80		
ANNUAL RUNOFF (INCHES)	8.99			8.13			10.85		
10 PERCENT EXCEEDS	380			225			395		
50 PERCENT EXCEEDS	35			48			54		
90 PERCENT EXCEEDS	5.8			12			9.2		

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 sea level (Southeastern Wisconsin Regional Planning Commission).

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 26-28, Dec. 2-4, 18-22, 24-28, Jan. 7-22, Jan. 25 to Feb. 3, Feb. 9-18, 24, 25, Mar. 7, 15, and 16. Records good except those for ice-affected periods, which are fair (see page 11). Low flows considerably affected by effluent discharge in upper portion of basin, and by occasional regulation of small recreation dam 1.1 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	12	11	8.2	14	243	19	156	18	16	10	9.7
2	9.3	10	9.0	17	20	190	18	87	18	16	9.4	10
3	9.1	8.3	8.8	28	26	115	18	133	18	14	10	9.5
4	9.0	8.9	8.0	84	49	85	18	80	17	10	15	8.5
5	8.4	9.1	10	99	66	69	19	63	17	9.0	9.5	8.9
6	8.3	9.0	11	52	42	56	19	49	36	9.7	9.4	9.2
7	13	9.2	9.7	25	28	42	17	40	22	10	10	8.8
8	13	8.4	8.4	17	22	40	16	59	18	14	9.2	9.0
9	11	9.8	7.8	12	17	43	16	42	17	13	9.1	9.4
10	13	8.6	8.6	10	14	48	16	34	16	11	9.0	9.6
11	11	6.8	31	9.4	12	46	17	31	17	11	10	9.5
12	12	7.5	44	8.8	11	42	31	28	19	10	23	9.4
13	12	7.5	22	8.4	11	39	46	25	21	9.2	15	8.7
14	17	7.5	17	8.0	10	43	70	26	15	9.6	10	8.7
15	19	7.2	27	7.8	10	30	51	26	14	9.0	27	9.0
16	19	7.1	23	7.6	9.4	26	38	22	249	9.2	14	11
17	27	8.4	16	7.6	9.0	26	30	20	128	9.6	12	137
18	30	7.7	11	7.4	100	25	26	24	68	9.6	13	29
19	23	8.4	9.0	7.4	161	23	26	66	47	8.9	12	188
20	22	8.9	7.6	7.4	83	24	22	37	38	8.6	11	239
21	24	9.2	7.4	10	630	24	35	28	115	70	11	84
22	24	9.4	7.6	110	254	22	29	23	89	51	9.9	50
23	35	7.5	15	96	155	21	24	22	53	26	9.5	47
24	21	12	18	55	100	20	22	21	40	18	137	34
25	18	11	10	30	62	33	20	40	30	16	32	27
26	16	9.0	8.6	20	68	29	19	31	24	16	19	20
27	15	8.0	7.8	13	92	26	18	23	21	17	15	17
28	16	5.0	9.0	11	82	26	19	21	19	13	14	14
29	42	4.9	10	10	---	23	18	29	17	11	12	14
30	48	16	8.4	9.4	---	21	39	22	17	11	11	14
31	16	---	8.0	9.4	---	20	---	20	---	10	13	---
TOTAL	570.2	262.3	409.7	805.8	2157.4	1520	776	1328	1238	476.4	531.0	1062.9
MEAN	18.4	8.74	13.2	26.0	77.0	49.0	25.9	42.8	41.3	15.4	17.1	35.4
MAX	48	16	44	110	630	243	70	156	249	70	137	239
MIN	8.3	4.9	7.4	7.4	9.0	20	16	20	14	8.6	9.0	8.5
CFSM	.48	.23	.34	.68	2.00	1.27	.67	1.11	1.07	.40	.44	.92
IN.	.55	.25	.40	.78	2.08	1.47	.75	1.28	1.20	.46	.51	1.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1997, BY WATER YEAR (WY)

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	18.3	31.4	35.4	24.9	34.9	74.6	71.3	42.2	32.4	21.2	21.1	27.0														
MAX	61.2	126	101	97.1	77.1	258	185	146	92.3	129	92.5	131														
(WY)	1987	1986	1983	1974	1977	1979	1993	1990	1996	1978	1978	1986														
MIN	4.40	3.62	2.35	2.05	3.74	14.3	12.1	4.57	8.32	4.93	4.35	3.25														
(WY)	1972	1972	1977	1977	1977	1996	1977	1977	1988	1976	1976	1976														

SUMMARY STATISTICS

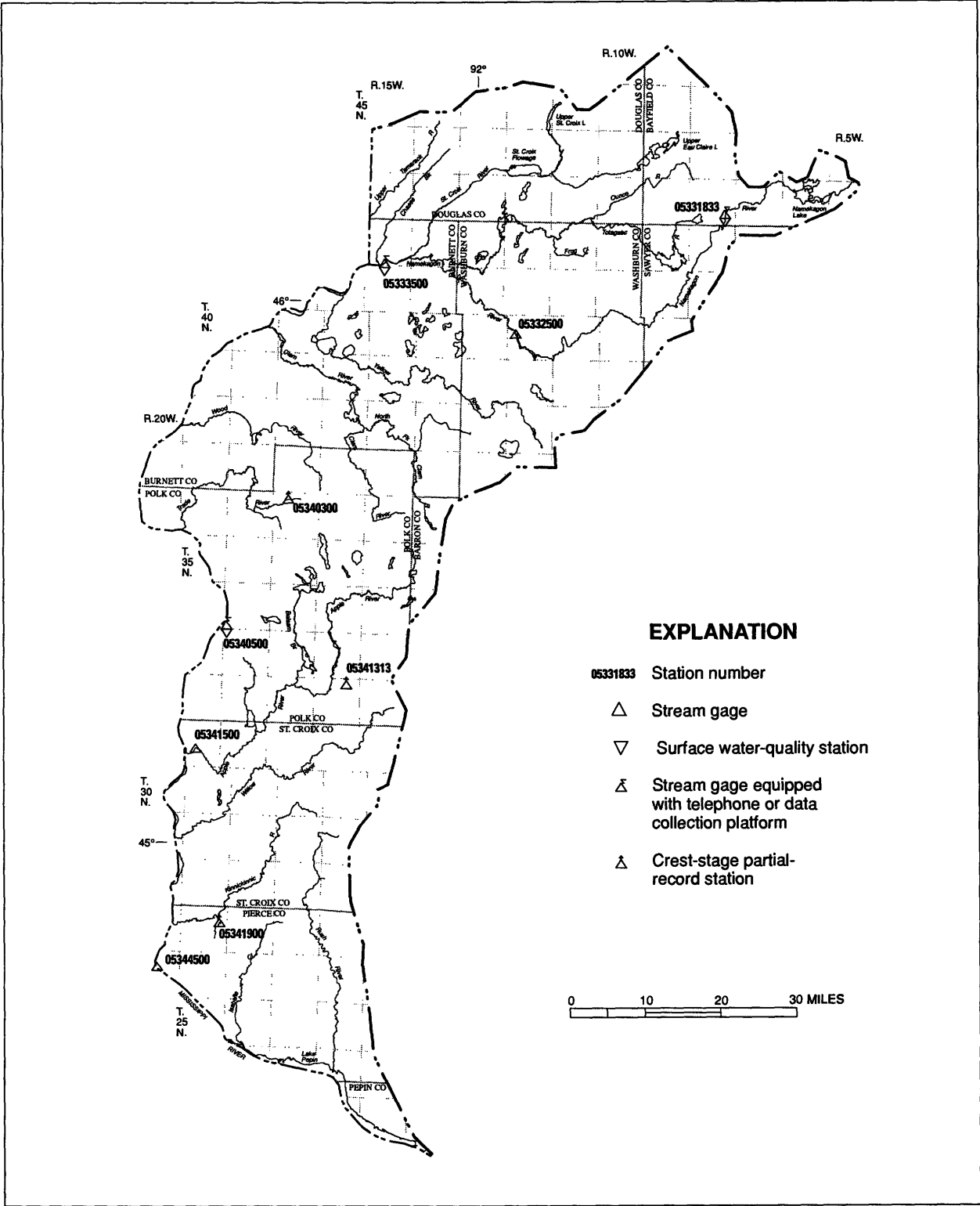
	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1972 - 1997
ANNUAL TOTAL	12150.4	11137.7	
ANNUAL MEAN	33.2	30.5	36.2
HIGHEST ANNUAL MEAN			59.0
LOWEST ANNUAL MEAN			8.10
HIGHEST DAILY MEAN	692	May 21	1010
LOWEST DAILY MEAN	4.9	Nov 29	
ANNUAL SEVEN-DAY MINIMUM	(a) 7.2	Jan 9	1.7
INSTANTANEOUS PEAK FLOW			(b) 1480
INSTANTANEOUS PEAK STAGE			(c) 9.14
ANNUAL RUNOFF (CFSM)	.86	.79	.94
ANNUAL RUNOFF (INCHES)	11.74	10.76	12.77
10 PERCENT EXCEEDS	73	66	81
50 PERCENT EXCEEDS	14	17	15
90 PERCENT EXCEEDS	8.0	8.6	5.5

(a) Ice affected

(b) Gage height, 8.15 ft

(c) Backwater from ice

UPPER MISSISSIPPI RIVER BASIN RECORDS



Base from U.S. Geological Survey 1:100,000 digital data; modified by Wisconsin Department of Natural Resources. Wisconsin Transverse Mercator projection.

ST. CROIX RIVER BASIN

05331833 NAMEKAGON RIVER AT LEONARDS, WI
(NATIONAL WATER-QUALITY ASSESSMENT PROGRAM STATION)

LOCATION.--Lat 46°10'17", long 91°19'45", in SW 1/4 SE 1/4 sec.26, T.43 N., R.8 W., Bayfield County, Hydrologic Unit 07030002, on left bank 15 ft upstream from Squaw Bend Road, and 0.4 mi west of U.S. Highway 63 at Leonards.

DRAINAGE AREA.--126 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,275 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 16-31, Jan. 6-20, Jan. 25 to Feb. 3, Feb. 8, 9, 13, 15-17, 22-25, Mar. 7, 8, 15, and 16. Records good except those for ice-affected periods, which are fair (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140	229	193	163	140	124	163	210	139	105	100	104
2	134	214	184	155	140	126	196	201	134	116	99	104
3	126	205	183	152	130	124	228	197	131	147	97	103
4	126	202	175	142	139	126	260	187	130	159	96	100
5	125	203	179	145	138	125	312	184	134	140	92	97
6	124	203	176	140	136	121	404	180	133	125	90	95
7	122	201	171	140	134	120	405	178	127	116	92	95
8	121	193	170	140	130	120	358	187	126	136	89	97
9	121	185	165	150	130	124	328	182	123	138	85	96
10	124	179	163	150	132	124	303	175	120	126	84	95
11	123	173	163	140	130	124	289	172	121	118	83	93
12	118	163	161	140	132	123	285	175	119	114	82	92
13	116	172	159	140	130	120	280	168	114	115	81	90
14	113	170	151	140	131	113	286	168	113	121	83	93
15	113	162	152	140	130	110	299	170	112	120	119	94
16	113	214	150	140	120	110	310	166	115	120	191	95
17	162	362	150	130	120	129	298	162	113	121	167	105
18	184	319	150	130	126	125	296	166	113	118	148	97
19	163	278	150	140	126	122	303	172	113	112	134	108
20	154	247	140	150	126	124	303	169	114	108	140	110
21	149	236	150	148	126	126	294	160	109	104	144	102
22	150	219	150	147	120	127	284	157	105	106	135	92
23	197	216	150	151	120	126	276	156	104	101	130	94
24	242	206	150	149	120	127	267	155	121	99	130	91
25	219	189	140	140	120	127	256	154	146	131	125	87
26	201	198	130	120	123	129	245	146	127	151	119	88
27	189	194	130	120	120	140	240	144	111	128	114	98
28	179	189	140	130	119	154	236	139	110	120	110	103
29	199	194	150	130	---	153	226	140	105	113	113	90
30	283	199	150	140	---	150	212	150	105	105	110	87
31	253	---	160	140	---	147	---	145	---	101	113	---
TOTAL	4883	6314	4885	4382	3588	3940	8442	5215	3587	3734	3495	2895
MEAN	158	210	158	141	128	127	281	168	120	120	113	96.5
MAX	283	362	193	163	140	154	405	210	146	159	191	110
MIN	113	162	130	120	119	110	163	139	104	99	81	87
CFSM	1.25	1.67	1.25	1.12	1.02	1.01	2.23	1.34	.95	.96	.89	.77
IN.	1.44	1.86	1.44	1.29	1.06	1.16	2.49	1.54	1.06	1.10	1.03	.85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

	1996	1997	1996	1997	1996	1997	1996	1997	1996	1997	1996	1997
MEAN	158	210	158	141	128	115	269	217	134	173	120	127
MAX	158	210	158	141	128	127	281	265	149	226	128	158
(WY)	1997	1997	1997	1997	1997	1997	1997	1996	1996	1996	1996	1996
MIN	158	210	158	141	128	104	257	168	120	120	113	96.5
(WY)	1997	1997	1997	1997	1997	1996	1996	1997	1997	1997	1997	1997

SUMMARY STATISTICS

	FOR 1997 WATER YEAR	WATER YEARS 1996 - 1997
ANNUAL TOTAL	55360	
ANNUAL MEAN	152	152
HIGHEST ANNUAL MEAN		152 1997
LOWEST ANNUAL MEAN		152 1997
HIGHEST DAILY MEAN	405 Apr 7	502 Apr 26 1996
LOWEST DAILY MEAN	81 Aug 13	81 Aug 13 1997
ANNUAL SEVEN-DAY MINIMUM	84 Aug 8	84 Aug 8 1997
INSTANTANEOUS PEAK FLOW	(a) 451 Apr 6	517 Apr 26 1996
INSTANTANEOUS PEAK STAGE	(b) 3.39 Dec 26	3.46 Apr 26 1996
INSTANTANEOUS LOW FLOW	77 Aug 14	64 Mar 25 1996
ANNUAL RUNOFF (CFSM)	1.20	1.20
ANNUAL RUNOFF (INCHES)	16.34	16.36
10 PERCENT EXCEEDS	222	272
50 PERCENT EXCEEDS	136	140
90 PERCENT EXCEEDS	100	102

(a) Gage height, 3.23 ft

(b) Ice affected

ST. CROIX RIVER BASIN
05331833 NAMEKAGON RIVER AT LEONARDS, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1996 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1996 to current year.

SPECIFIC CONDUCTANCE: June 1996 to current year.

INSTRUMENTATION.--Water temperature and specific conductance recorder since June 1, 1996, provides hourly readings.

REMARKS.--Records represent water temperature and specific conductance at sensor located near the orifice.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum, 26.0°C, June 28, 29, 1996; minimum, 0.5°C, on many days.

SPECIFIC CONDUCTANCE: Maximum , 152 µS/cm, Aug. 8, 1997; minimum, 55 µS/cm, Apr. 6, 7, 1997.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 25.0°C, July 17; minimum, 0.5°C, on many days.

SPECIFIC CONDUCTANCE: Maximum , 152 µS/cm, Aug. 8; minimum, 55 µS/cm, Apr. 6, 7.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
OCT 1996												
29...	1400	185	92	7.2	6.0	11.2	750	95	51	14	3.8	2.1
NOV												
12...	1430	165	135	6.7	0.5	14.3	756	100	55	15	4.2	2.3
DEC												
17...	1400	150	118	7.5	0.5	14.5	732	88	55	15	4.2	2.3
JAN 1997												
14...	1200	140	117	7.1	0.0	12.7	764	87	51	14	4.0	2.2
FEB												
18...	1245	125	139	7.6	2.5	12.6	725	98	64	18	4.7	2.3
MAR												
10...	1530	125	117	7.6	3.5	12.5	725	99	55	15	4.2	2.4
APR												
04...	0745	249	99	7.1	4.5	12.7	750	99	38	11	2.9	1.9
07...	1415	387	84	6.7	1.5	12.2	738	10	28	7.8	2.2	1.7
MAY												
20...	1300	166	108	7.8	10.5	11.2	740	94	53	15	3.9	2.2
JUN												
24...	1030	102	137	7.6	19.5	8.6	750	95	65	18	4.9	2.4
JUL												
08...	1130	138	106	7.7	14.0	10.2	760	89	53	15	4.0	2.2
29...	1400	113	128	7.8	20.0	9.4	734	78	58	16	4.4	2.2
AUG												
20...	1145	142	118	7.5	13.5	10.2	775	93	54	15	4.1	2.1
SEP												
09...	1240	96	138	7.9	15.5	10.8	735	84	65	18	5.0	2.5

ST. CROIX RIVER BASIN
05331833 NAMEKAGON RIVER AT LEONARDS, WI--CONTINUED

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 1996											
29...	0.60	48	39	3.3	2.3	<0.10	12	70	0.075	<0.010	<0.015
NOV											
12...	0.70	51	42	3.8	2.5	<0.10	13	81	0.140	0.020	0.040
DEC											
17...	0.50	90	74	4.0	2.4	<0.10	14	80	0.140	<0.010	0.030
JAN 1997											
14...	0.60	44	36	3.7	2.4	<0.10	14	86	0.130	0.010	0.020
FEB											
18...	0.60	68	55	4.1	2.3	<0.10	16	85	0.188	0.020	<0.015
MAR											
10...	0.60	71	58	3.9	2.4	<0.10	14	83	0.150	<0.010	<0.015
APR											
04...	0.57	43	36	3.0	2.0	<0.10	11	69	0.210	<0.010	0.040
07...	0.53	35	29	2.7	2.3	<0.10	9.0	59	0.130	<0.010	0.020
MAY											
20...	0.53	62	51	3.2	2.2	<0.10	11	85	0.076	<0.010	<0.015
JUN											
24...	0.62	73	60	4.3	2.5	<0.10	13	99	0.075	<0.010	<0.015
JUL											
08...	0.47	63	52	3.3	2.1	<0.10	11	87	0.088	<0.010	<0.015
29...	0.50	64	53	3.6	2.4	0.10	12	94	<0.050	<0.010	<0.015
AUG											
20...	0.54	60	49	2.1	2.1	<0.10	12	85	0.069	0.011	0.029
SEP											
09...	0.67	76	62	4.1	2.4	<0.10	14	90	0.052	<0.010	<0.015

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	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)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 1996											
29...	0.37	0.29	0.016	<0.010	<0.010	210	11	7.7	0.50	3	85
NOV											
12...	0.30	0.20	<0.010	<0.010	<0.010	180	15	5.3	0.40	2	94
DEC											
17...	0.30	0.30	<0.010	<0.010	<0.010	240	14	5.0	0.40	5	--
JAN 1997											
14...	0.30	<0.20	<0.010	<0.010	<0.010	180	11	4.8	0.70	4	--
FEB											
18...	0.32	<0.20	0.052	0.024	<0.010	170	14	4.4	4.5	5	--
MAR											
10...	0.30	0.20	<0.010	<0.010	<0.010	180	12	4.6	0.20	4	--
APR											
04...	0.40	0.20	0.020	<0.010	<0.010	240	19	8.0	0.80	6	--
07...	0.50	0.30	0.010	<0.010	<0.010	180	20	7.8	0.70	9	--
MAY											
20...	0.25	<0.20	0.022	<0.010	<0.010	180	21	5.3	0.20	4	--
JUN											
24...	0.23	<0.20	0.014	<0.010	<0.010	150	25	4.1	0.40	6	--
JUL											
08...	0.30	0.27	0.046	<0.010	<0.010	240	18	6.5	0.40	8	--
29...	0.28	0.26	<0.010	<0.010	<0.010	210	18	6.3	0.30	2	--
AUG											
20...	0.23	0.20	<0.010	<0.010	<0.010	130	10	6.5	0.30	3	--
SEP											
09...	<0.20	<0.20	<0.010	<0.010	0.010	94	11	3.6	0.20	--	--

ST. CROIX RIVER BASIN
05331833 NAMEKAGON RIVER AT LEONARDS, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
PESTICIDE ANALYSES

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	ACETO-CHLOR, WATER, FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN, WAT FLD 0.7 U, GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82674)	CHLOR-PYRIFOS, DIS-SOLVED (UG/L) (38933)
		CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82682)	DEETHYL, ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DIAZ-INON, D10 SRG, WAT FLT 0.7 U, GF, REC PERCENT (91063)	DI-ELDRIN, DIS-SOLVED (UG/L) (39381)	DISUL-FOTON, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82677)	EPTC, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN, WAT FLT 0.7 U, GF, REC (UG/L) (82663)	ETHO-PROP, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82672)
JUN 1997 24...	1030	102	<0.002	<0.002	<0.002	<0.001	<0.002	<0.002	<0.003	<0.003	<0.004
JUL 08...	1130	138	<0.002	<0.002	<0.002	0.006	<0.002	<0.002	<0.003	<0.003	<0.004
DATE											
JUN 1997 24...		<0.004	<0.002	<0.002	<0.002	91.1	<0.001	<0.017	<0.002	<0.004	<0.003
JUL 08...		<0.004	<0.002	E0.004	<0.002	102	<0.001	<0.017	<0.002	<0.004	<0.003
DATE											
		HCH ALPHA D6 SRG, WAT FLT 0.7 U, GF, REC PERCENT (91065)	LINDANE, DIS-SOLVED (UG/L) (39341)	LIN-URON, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL AZIN-PHOS, WAT FLT 0.7 U, GF, REC (UG/L) (82686)	METHYL PARA-THION, WAT FLT 0.7 U, GF, REC (UG/L) (82667)	METO-LACHLOR, WATER, DISSOLV (UG/L) (39415)	METRI-BUZIN, SENCOR, WATER, FLTRD DISSOLV (UG/L) (82630)	MOL-INATE, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82671)	NAPROP-AMIDE, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82684)
JUN 1997 24...	96.1	<0.004	<0.004	<0.002	<0.005	<0.001	<0.006	<0.002	<0.004	<0.004	<0.003
JUL 08...	115	<0.004	<0.004	<0.002	<0.005	<0.001	<0.006	<0.002	<0.004	<0.004	<0.003
DATE											
		PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82669)	PENDI-METH-ALIN, WAT FLT 0.7 U, GF, REC (UG/L) (82683)	PER-METHRIN, CIS, WAT FLT 0.7 U, GF, REC (UG/L) (82687)	PHORATE, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82664)	P, P' DDE, DISSOLV (UG/L) (34653)	PROM-AMIDE, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82676)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRO-PANIL, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82679)	PRO-PARGITE, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82685)
JUN 1997 24...	<0.004	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	<0.018	<0.004	<0.013
JUL 08...	<0.004	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	<0.018	<0.004	<0.013
DATE											
		PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TER-BACIL, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82665)	TEBU-THIURON, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82670)	TER-BUFOS, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82675)	TERBUTH YLAZINE, SURROGT, WAT FLT 0.7 U, GF, REC PERCENT (91064)	THIO-BENCARB, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82681)	TRIAL-LATE, WATER, FLTRD 0.7 U, GF, REC (UG/L) (82678)	TRI-FLUR-ALIN, WAT FLT 0.7 U, GF, REC (UG/L) (82661)	2,6-DI-ETHYL, ANILINE, WAT FLT 0.7 U, GF, REC (UG/L) (82660)
JUN 1997 24...	<0.007	<0.005	<0.007	<0.010	<0.013	108	<0.002	<0.001	<0.002	<0.003	<0.003
JUL 08...	<0.007	<0.005	<0.007	<0.010	<0.013	114	<0.002	<0.001	<0.002	<0.003	<0.003

05331833 NAMEKAGON RIVER AT LEONARDS, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	14.5	10.5	12.5	1.5	.5	1.5	1.5	.5	1.0	1.0	.5	.5
2	14.0	9.0	11.5	2.0	1.0	1.5	1.0	.5	1.0	1.5	1.0	1.0
3	10.0	6.5	8.5	3.5	1.0	2.5	1.5	.5	1.0	1.5	1.0	1.0
4	10.0	8.0	9.0	4.5	2.5	3.5	1.5	.5	1.0	1.5	.5	.5
5	13.0	9.0	11.0	5.0	4.5	5.0	2.0	1.0	1.5	.5	.5	.5
6	12.0	10.5	11.0	6.0	5.0	5.5	2.0	1.5	1.5	.5	.5	.5
7	11.5	9.0	10.0	5.5	4.0	5.0	1.5	.5	1.0	.5	.5	.5
8	9.5	7.0	8.5	4.5	3.5	4.0	1.5	1.0	1.5	.5	.5	.5
9	9.5	8.5	9.0	3.5	2.0	3.0	1.5	1.0	1.0	1.0	.5	.5
10	9.5	7.0	8.0	2.0	1.0	1.5	2.0	1.0	1.5	1.0	.5	.5
11	9.5	6.0	7.5	1.0	.5	1.0	2.0	1.0	1.5	.5	.5	.5
12	11.5	7.5	9.5	1.0	.5	.5	2.5	1.5	2.0	.5	.5	.5
13	12.5	9.0	10.5	.5	.5	.5	2.0	1.0	1.5	.5	.5	.5
14	10.0	8.0	9.0	1.0	.5	.5	1.5	.5	1.0	.5	.5	.5
15	11.5	8.0	9.5	1.0	.5	.5	1.0	.5	1.0	.5	.5	.5
16	11.0	7.5	9.5	2.0	1.0	1.5	.5	.5	.5	.5	.5	.5
17	12.5	10.0	11.0	2.0	.5	1.0	1.0	.5	.5	.5	.5	.5
18	10.0	7.0	8.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
19	8.0	5.5	6.5	1.0	.5	.5	.5	.5	.5	.5	.5	.5
20	8.0	6.5	7.5	1.0	.5	.5	.5	.5	.5	.5	.5	.5
21	8.5	8.0	8.0	1.5	1.0	1.0	.5	.5	.5	.5	.5	.5
22	8.0	7.0	7.5	1.0	.5	1.0	1.0	.5	.5	1.0	.5	.5
23	8.0	7.0	7.5	1.5	.5	1.0	1.0	.5	.5	.5	.5	.5
24	7.5	7.0	7.0	1.0	.5	.5	.5	.5	.5	1.0	.5	.5
25	8.5	6.5	7.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
26	10.0	8.0	8.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
27	10.0	8.0	9.0	.5	.5	.5	.5	.5	.5	.5	.5	.5
28	8.5	6.5	7.5	1.0	.5	.5	.5	.5	.5	.5	.5	.5
29	7.0	6.0	6.5	1.5	.5	1.0	.5	.5	.5	.5	.5	.5
30	7.0	3.0	5.5	1.5	1.0	1.5	.5	.5	.5	.5	.5	.5
31	3.0	1.0	2.0	---	---	---	.5	.5	.5	.5	.5	.5
MONTH	14.5	1.0	8.5	6.0	.5	1.6	2.5	.5	.9	1.5	.5	.5
FEBRUARY			MARCH			APRIL			MAY			
1	1.0	.5	.5	2.5	1.5	2.0	9.0	3.5	6.0	12.5	5.5	9.0
2	1.0	.5	1.0	3.5	.5	2.0	8.0	4.5	6.5	10.5	8.5	9.5
3	1.0	.5	.5	3.0	.5	2.0	8.5	3.5	6.0	13.5	7.5	10.0
4	1.0	.5	.5	3.0	1.0	2.0	7.5	5.0	6.0	13.5	7.5	10.5
5	1.0	.5	1.0	3.5	1.0	2.0	5.5	4.5	5.0	13.5	10.5	11.5
6	2.0	.5	1.5	2.5	.5	1.0	4.5	1.0	3.5	15.0	8.5	11.5
7	2.5	.5	1.5	2.0	.5	1.0	2.5	.5	1.0	12.5	9.5	11.0
8	.5	.5	.5	3.5	.5	1.5	3.0	.5	1.0	11.5	9.5	10.5
9	1.0	.5	.5	4.0	1.0	2.5	5.0	.5	2.5	13.5	7.5	10.5
10	1.5	.5	1.0	4.5	1.0	2.5	4.5	1.5	3.0	15.0	8.5	11.5
11	2.0	.5	1.0	5.0	1.0	3.0	6.5	1.5	4.0	13.5	9.0	11.5
12	1.0	.5	.5	4.0	.5	2.0	6.5	3.0	5.0	9.0	7.0	7.5
13	.5	.5	.5	2.0	.5	.5	8.0	2.5	5.5	10.5	6.0	8.0
14	1.5	.5	.5	1.0	.5	.5	9.0	4.0	6.5	9.5	7.5	8.5
15	.5	.5	.5	1.0	.5	.5	9.0	5.0	7.0	9.5	7.0	8.5
16	1.0	.5	.5	1.0	.5	.5	7.5	4.5	5.5	12.5	6.5	9.0
17	1.5	.5	1.0	4.0	.5	2.0	8.5	3.0	6.0	14.0	8.0	11.0
18	4.0	1.5	2.5	5.0	.5	2.5	9.5	6.0	7.5	12.5	10.0	11.5
19	3.0	1.0	2.0	4.0	.5	2.0	9.0	7.0	8.0	11.5	8.5	10.0
20	3.5	.5	2.0	5.0	.5	3.0	10.5	6.0	8.0	12.0	8.5	10.0
21	2.5	.5	1.5	3.5	2.5	3.0	11.0	6.0	8.5	16.0	8.0	12.0
22	1.5	.5	1.0	4.5	2.0	3.0	11.5	6.5	9.0	13.0	10.0	11.5
23	1.0	.5	.5	6.5	1.5	3.5	11.5	7.5	9.5	12.5	11.0	11.5
24	1.0	.5	.5	3.0	.5	2.0	12.5	7.5	9.5	12.0	10.5	11.5
25	1.5	.5	1.0	3.0	1.0	2.5	11.0	7.5	9.5	15.0	9.5	12.0
26	2.5	1.0	2.0	7.5	1.0	4.0	10.5	7.5	9.5	16.0	9.0	12.5
27	2.5	.5	1.5	8.5	2.0	5.0	11.0	8.5	9.5	17.0	9.5	13.5
28	2.5	.5	1.5	4.5	3.0	3.5	14.0	8.5	11.0	14.5	11.0	13.0
29	---	---	---	4.5	3.0	3.5	14.5	10.5	12.5	13.0	11.0	12.0
30	---	---	---	5.0	2.5	3.5	12.5	7.5	9.5	18.5	10.5	14.0
31	---	---	---	7.5	1.0	4.0	---	---	---	19.5	13.0	16.0
MONTH	4.0	.5	1.0	8.5	.5	2.3	14.5	.5	6.7	19.5	5.5	11.0

ST. CROIX RIVER BASIN
05331833 NAMEKAGON RIVER AT LEONARDS, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	21.0	14.0	17.5	24.0	17.0	20.0	22.5	16.5	19.0	18.0	15.5	16.5
2	22.0	15.0	18.0	20.5	17.5	18.5	23.0	16.0	19.0	17.5	13.5	15.5
3	20.5	16.0	18.0	18.0	14.0	15.5	20.5	17.5	19.0	17.0	11.0	14.0
4	19.5	15.5	17.5	19.0	13.0	15.5	21.0	16.0	18.5	17.0	11.0	14.0
5	19.5	14.0	16.5	18.0	14.5	16.5	19.0	13.5	16.5	18.0	13.5	15.0
6	21.5	15.0	18.0	17.5	13.0	15.5	20.0	14.5	17.0	17.5	13.5	15.5
7	18.0	14.5	16.5	15.5	12.0	14.0	21.0	15.0	18.0	15.5	14.5	14.5
8	21.0	13.0	17.0	15.0	13.0	14.0	20.5	16.0	18.0	16.0	13.5	14.5
9	22.0	14.0	18.0	19.5	11.5	15.0	20.0	15.5	18.0	17.0	13.5	15.0
10	22.0	15.5	18.5	21.0	14.0	17.5	19.5	14.5	17.0	15.5	12.0	13.5
11	20.5	15.5	18.0	21.5	16.0	18.5	19.0	12.5	15.5	16.0	10.0	13.0
12	22.0	15.5	18.5	22.5	17.5	20.0	16.5	14.5	15.5	16.0	10.5	13.0
13	22.0	15.5	18.5	23.5	19.0	21.0	18.0	12.0	14.5	13.5	12.0	13.0
14	21.0	13.5	17.0	23.0	19.0	21.0	14.5	12.0	12.5	17.0	13.0	14.5
15	17.5	15.0	16.0	23.0	17.0	20.0	16.0	12.5	14.0	16.0	14.5	15.0
16	18.5	14.0	16.0	23.0	18.5	20.5	16.0	15.0	15.5	15.0	14.0	14.5
17	15.5	12.5	14.5	25.0	19.0	22.0	15.5	13.5	14.0	16.5	12.5	14.5
18	16.0	13.0	14.5	22.5	18.5	20.5	16.0	11.5	13.5	16.5	12.5	14.5
19	16.0	13.5	15.0	19.0	17.0	18.0	15.0	13.5	14.0	16.5	14.5	15.5
20	20.0	14.0	16.5	20.5	16.5	18.0	14.5	13.0	14.0	15.0	11.5	13.0
21	21.5	15.0	18.0	19.0	15.5	17.0	16.5	13.0	14.5	13.0	8.5	11.0
22	22.0	14.5	18.5	16.5	14.5	15.5	17.5	13.0	15.0	12.5	9.5	11.0
23	23.5	17.5	20.0	19.0	14.5	17.0	15.5	13.0	14.0	14.0	9.0	11.5
24	21.0	18.5	19.5	18.5	15.5	17.0	16.5	14.0	15.0	14.0	9.0	11.5
25	22.0	17.5	19.5	19.0	16.5	17.5	17.5	14.0	15.5	15.5	10.5	13.0
26	22.0	16.0	19.0	22.5	17.5	19.5	20.5	15.5	17.5	15.0	10.5	12.5
27	22.0	16.0	18.5	23.5	18.5	21.0	20.5	15.5	18.0	14.5	12.0	13.5
28	19.5	17.0	18.0	21.5	17.0	19.0	17.5	14.5	16.0	14.0	12.5	13.0
29	20.5	16.0	18.0	21.5	15.5	18.5	17.0	13.0	15.0	12.5	10.5	11.0
30	21.0	17.0	19.0	21.0	14.0	17.5	18.0	15.0	16.5	11.5	10.0	10.5
31	---	---	---	20.0	14.5	17.5	20.0	15.0	17.5	---	---	---
MONTH	23.5	12.5	17.6	25.0	11.5	18.0	23.0	11.5	16.0	18.0	8.5	13.6

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	119	114	116	99	94	97	118	115	116	127	126	126
2	122	119	120	104	99	102	120	117	119	128	126	127
3	124	122	123	107	104	105	119	117	119	128	127	127
4	124	122	123	108	107	107	122	118	121	130	126	128
5	125	123	124	108	107	107	120	117	120	131	124	128
6	126	125	126	107	107	107	120	120	120	125	122	124
7	127	126	127	108	107	107	122	120	121	125	123	124
8	129	127	127	109	107	108	123	121	122	125	122	123
9	128	126	127	111	109	110	126	122	124	123	122	123
10	128	126	127	115	111	112	130	121	125	125	123	123
11	128	127	127	118	115	116	125	122	124	126	121	124
12	129	127	128	124	116	121	125	124	124	126	124	125
13	130	128	128	127	116	122	126	124	125	128	126	127
14	131	130	131	127	118	124	135	119	128	128	125	127
15	132	130	131	127	120	124	132	119	126	129	126	127
16	132	129	131	120	96	111	132	120	127	132	129	130
17	129	106	117	96	73	80	125	120	123	132	129	131
18	108	104	105	87	75	82	127	125	126	131	128	130
19	110	108	109	96	86	93	128	125	126	130	127	128
20	114	110	111	104	95	101	128	126	127	129	127	128
21	116	114	115	106	100	104	127	123	125	128	127	128
22	117	115	116	109	106	107	125	124	124	129	127	128
23	115	94	106	111	107	109	126	124	124	129	127	128
24	94	89	91	114	108	111	130	126	128	128	127	128
25	97	92	94	122	111	118	130	129	129	133	128	129
26	102	97	99	126	111	119	131	129	130	138	130	133
27	106	102	103	122	114	120	131	129	130	132	130	131
28	107	106	107	120	116	119	129	126	128	133	131	132
29	107	95	104	119	115	118	128	128	128	133	131	132
30	95	83	87	116	115	116	128	127	128	133	132	132
31	94	87	91	---	---	---	128	125	126	133	131	132
MONTH	132	83	115	127	73	109	135	115	125	138	121	128

05331833 NAMEKAGON RIVER AT LEONARDS, WI--CONTINUED

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	133	131	132	136	133	134	113	105	111	106	103	105
2	132	131	132	134	130	132	105	95	100	106	105	105
3	135	131	133	135	131	132	95	89	92	107	105	106
4	134	133	134	135	130	131	89	79	85	108	107	108
5	134	133	134	133	130	132	79	70	76	111	108	110
6	135	134	134	140	131	135	70	55	63	111	109	110
7	137	134	135	138	100	126	71	55	63	112	110	111
8	142	135	139	136	130	134	79	63	73	112	110	110
9	141	135	138	136	129	131	85	72	80	112	108	111
10	138	133	134	132	129	130	88	80	85	113	110	112
11	135	133	134	131	128	130	90	85	88	116	113	114
12	138	99	128	135	128	132	91	89	90	115	114	114
13	138	102	123	137	131	132	92	91	91	116	114	115
14	135	118	133	138	135	136	91	90	90	116	114	115
15	139	103	123	139	87	126	90	86	88	116	114	115
16	140	134	137	133	86	118	86	84	84	116	114	115
17	139	134	136	132	127	129	89	85	87	117	114	115
18	136	133	135	131	127	129	90	89	90	118	114	115
19	135	132	134	132	128	130	90	88	88	115	112	113
20	135	133	134	131	128	129	90	88	89	115	112	114
21	136	133	134	129	126	127	91	89	90	120	115	117
22	140	133	137	128	126	127	91	86	87	120	117	118
23	142	131	136	128	124	126	87	86	87	121	118	119
24	145	132	138	127	125	126	91	87	89	122	119	120
25	142	131	138	127	125	126	94	89	93	122	119	121
26	137	134	135	127	123	125	96	90	93	123	120	121
27	137	135	136	123	115	120	100	96	98	127	122	124
28	138	135	137	116	114	115	102	100	100	127	124	126
29	---	---	---	116	114	115	104	101	103	128	122	125
30	---	---	---	116	114	115	105	103	104	125	120	122
31	---	---	---	117	113	115	---	---	---	125	121	123
MONTH	145	99	134	140	86	127	113	55	89	128	103	115
JUNE			JULY			AUGUST			SEPTEMBER			
1	128	124	126	142	139	140	134	131	132	136	134	135
2	129	126	127	141	132	136	149	132	135	137	134	136
3	130	125	127	132	125	127	149	136	142	137	135	136
4	131	126	129	127	120	122	146	136	141	139	136	138
5	129	124	127	129	124	126	148	138	146	140	137	139
6	131	126	128	133	129	130	149	137	147	140	137	139
7	133	129	131	134	132	133	149	138	147	142	140	141
8	134	130	132	132	125	128	152	140	148	142	139	141
9	135	130	132	129	125	126	141	139	140	143	139	141
10	138	132	135	133	129	129	142	139	141	143	140	142
11	137	131	134	136	130	132	144	140	142	144	141	143
12	139	134	135	136	133	134	144	141	143	145	141	144
13	141	137	138	136	132	134	145	139	142	145	142	144
14	142	138	140	135	129	132	145	134	142	145	141	143
15	142	138	140	137	123	128	134	106	127	147	141	144
16	140	136	138	139	125	129	106	98	101	146	141	143
17	139	136	138	132	125	127	107	102	104	141	137	139
18	140	135	138	130	126	128	112	107	109	142	139	140
19	141	137	138	132	129	130	116	112	114	142	136	139
20	142	136	140	134	131	132	116	112	114	141	136	138
21	143	140	141	135	133	134	114	111	113	140	135	138
22	145	140	142	139	133	134	118	114	116	140	137	138
23	147	143	144	136	133	135	120	116	119	141	137	139
24	147	128	139	138	134	136	122	120	121	141	138	139
25	133	127	129	137	116	126	125	121	123	144	140	141
26	137	131	133	118	114	115	129	125	126	144	139	142
27	138	136	137	125	118	121	131	128	130	142	137	139
28	140	137	138	126	123	125	132	129	131	142	138	140
29	142	138	139	128	124	126	132	129	131	142	140	141
30	143	139	140	131	128	129	133	131	132	143	139	141
31	---	---	---	132	130	131	134	130	132	---	---	---
MONTH	147	124	135	142	114	130	152	98	130	147	134	140

ST. CROIX RIVER BASIN
05332500 NAMEKAGON RIVER NEAR TREGO, WI

LOCATION.--Lat 45°56'53", long 91°53'17", in SW 1/4 sec.17, T.40 N., R.12 W., Washburn County, Hydrologic Unit 07030002, at powerplant of Northern States Power Co., 4.0 mi downstream from Potato Creek, and 4.4 mi northwest of Trego.

DRAINAGE AREA.--488 mi².

PERIOD OF RECORD.--October 1927 to September 1970. October 1987 to current year.

REVISED RECORD.--WDR WI-88-1: Drainage area.

GAGE.--Headwater and tailwater read hourly.

REMARKS.--No estimated daily discharges. Diurnal fluctuation caused by Trego powerplant.

COOPERATION.--Records of daily discharge furnished by Northern States Power Company and reviewed by Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	556	1010	821	440	472	472	722	617	521	427	472	400
2	472	1010	612	556	472	472	1090	617	521	429	472	505
3	472	1010	612	556	472	472	1270	617	521	429	472	400
4	556	599	612	556	472	472	1470	617	472	429	437	400
5	556	599	612	556	620	472	1770	547	472	429	472	400
6	556	808	573	472	620	472	1770	612	472	429	397	400
7	437	599	573	472	472	472	2610	612	472	429	343	400
8	437	620	573	472	472	472	2160	612	472	556	427	400
9	437	620	612	472	472	472	2160	589	400	556	427	400
10	437	620	612	472	472	472	1360	589	400	427	356	400
11	437	620	612	488	472	472	1360	589	359	427	356	400
12	437	400	612	472	472	472	1360	589	359	427	356	400
13	437	400	612	472	472	472	1360	589	359	556	356	400
14	400	400	612	472	472	365	894	545	359	556	356	400
15	400	400	612	472	472	365	898	545	359	615	512	400
16	382	612	476	472	472	472	894	545	356	615	512	400
17	599	1120	476	472	472	472	898	545	443	615	512	400
18	556	1730	476	472	472	472	898	545	443	400	512	472
19	556	1020	476	472	472	472	898	621	443	400	472	432
20	556	1020	476	472	472	472	898	621	443	400	472	616
21	556	1020	476	472	472	561	898	521	443	400	472	616
22	556	1020	476	472	472	561	898	521	443	400	437	500
23	599	1020	440	561	472	561	693	521	428	420	437	472
24	909	1020	440	571	472	472	617	521	590	420	437	432
25	909	1020	440	571	472	472	617	521	573	420	472	432
26	909	1020	440	571	472	472	617	521	551	615	472	432
27	909	612	440	472	472	561	617	521	445	824	437	432
28	704	821	440	472	472	617	617	400	445	723	437	432
29	704	821	440	472	---	617	617	400	445	514	400	396
30	808	821	440	472	---	787	617	521	427	514	400	432
31	1010	---	440	472	---	787	---	521	---	472	400	---
TOTAL	18249	24412	16564	15338	13512	15694	33548	17252	13436	15273	13492	13001
MEAN	589	814	534	495	483	506	1118	557	448	493	435	433
MAX	1010	1730	821	571	620	787	2610	621	590	824	512	616
MIN	382	400	440	440	472	365	617	400	356	400	343	396
CFSM	1.21	1.67	1.09	1.01	.99	1.04	2.29	1.14	.92	1.01	.89	.89
IN.	1.39	1.86	1.26	1.17	1.03	1.20	2.56	1.32	1.02	1.16	1.03	.99

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1997, BY WATER YEAR (WY)

	MEAN	445	443	386	352	346	441	706	640	558	486	408	480
MAX	893	814	580	531	512	778	1118	1156	1093	1026	687	1834	
(WY)	1969	1997	1992	1969	1969	1945	1997	1950	1944	1958	1953	1941	
MIN	252	288	251	245	241	282	408	389	276	235	195	214	
(WY)	1949	1934	1933	1933	1933	1934	1931	1934	1934	1934	1933	1933	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1928 - 1997

ANNUAL TOTAL	230865	209771	
ANNUAL MEAN	631	575	474
HIGHEST ANNUAL MEAN			607
LOWEST ANNUAL MEAN			300
HIGHEST DAILY MEAN	2160	2610	5200
LOWEST DAILY MEAN	324	343	113
ANNUAL SEVEN-DAY MINIMUM	385	364	159
ANNUAL RUNOFF (CFSM)	1.29	1.18	.97
ANNUAL RUNOFF (INCHES)	17.60	15.99	13.21
10 PERCENT EXCEEDS	1030	898	719
50 PERCENT EXCEEDS	533	472	416
90 PERCENT EXCEEDS	385	400	286

(a) Also occurred Sept. 7, 1930

MEAN	1194	1215	1022	909	898	1338	2354	1846	1518	1298	1064	1220
MAX	2489	2216	1910	1555	1518	2930	4614	4023	3797	3230	2223	4759
(WY)	1969	1997	1992	1997	1997	1973	1916	1950	1944	1958	1955	1941
MIN	590	631	551	600	535	703	939	889	626	514	432	564
(WY)	1933	1926	1933	1924	1936	1934	1931	1931	1934	1934	1934	1933

ST. CROIX RIVER BASIN
05333500 ST. CROIX RIVER NEAR DANBURY, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	646434		586720		1322	
ANNUAL MEAN	1766		1607		1982	
HIGHEST ANNUAL MEAN					1986	
LOWEST ANNUAL MEAN					1934	
HIGHEST DAILY MEAN	7000	Apr 21	6500	Apr 7	8740	May 2 1954
LOWEST DAILY MEAN	922	Aug 31	762	Aug 14	405	(a) Aug 6 1934
ANNUAL SEVEN-DAY MINIMUM	983	Aug 27	872	Aug 8	417	Aug 12 1934
INSTANTANEOUS PEAK FLOW			6750	Apr 7	10200	May 6 1950
INSTANTANEOUS PEAK STAGE			5.99	Apr 7	8.22	May 6 1950
INSTANTANEOUS LOW FLOW			727	Aug 14	393	Aug 6 1934
ANNUAL RUNOFF (CFSM)	1.12		1.02		.84	
ANNUAL RUNOFF (INCHES)	15.22		13.81		11.37	
10 PERCENT EXCEEDS	2690		2200		2210	
50 PERCENT EXCEEDS	1430		1500		1090	
90 PERCENT EXCEEDS	1100		1020		725	

(a) Also occurred Aug. 13,16,17, 1934

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1995 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: April to September 1997.

INSTRUMENTATION.--Continuous water temperature recorder installed April 1997. Sensor located near gage.

REMARKS.--Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 27.5°C, July 17; minimum, 0.0°C, Apr. 7, 8.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
OCT 1996												
30...	1100	2410	80	7.6	5.5	11.7	750	95	51	14	3.9	2.1
NOV												
13...	1015	1320	131	7.1	0.0	14.8	751	95	55	15	4.2	2.3
19...	1620	3700	--	7.6	0.0	15.0	770	148	44	12	3.5	2.1
DEC												
18...	0945	1300	114	7.6	0.0	12.9	723	88	56	15	4.4	2.3
JAN 1997												
15...	1300	1590	120	6.8	0.0	9.7	730	69	55	15	4.3	2.2
FEB												
19...	0920	1400	113	7.0	0.0	11.3	743	80	64	18	4.7	2.2
MAR												
11...	1110	1520	108	7.6	0.5	11.5	735	97	58	16	4.5	2.5
APR												
03...	1030	3440	101	6.2	1.0	12.8	750	92	46	13	3.4	2.0
08...	0945	6150	78	7.2	0.0	15.4	--	--	26	7.0	2.1	1.4
MAY												
21...	1100	1410	106	7.6	12.0	10.9	758	103	56	15	4.2	2.3
JUN												
25...	1100	1440	124	7.5	21.5	7.7	750	89	59	16	4.5	2.3
JUL												
09...	1100	1410	112	8.0	18.5	10.5	778	97	59	16	4.6	2.4
30...	0845	1410	114	7.4	21.0	8.3	757	88	58	16	4.4	2.1
AUG												
21...	1030	1510	115	7.4	16.5	9.6	775	98	57	16	4.4	2.2
SEP												
10...	1030	1030	135	7.6	17.5	9.6	750	95	64	18	5.0	2.4

ST. CROIX RIVER BASIN
05333500 ST. CROIX RIVER NEAR DANBURY, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 1996											
30...	0.70	47	38	3.1	2.0	<0.10	11	76	0.090	<0.010	<0.015
NOV											
13...	0.70	22	18	3.6	2.8	<0.10	13	80	0.180	0.030	0.030
19...	0.90	37	30	3.4	2.1	<0.10	11	78	0.160	0.020	0.020
DEC											
18...	0.50	73	60	3.7	2.2	<0.10	14	80	0.170	<0.010	0.030
JAN 1997											
15...	0.70	--	--	3.5	2.1	<0.10	15	92	0.180	0.030	0.050
FEB											
19...	0.60	68	56	3.7	2.0	<0.10	16	85	0.183	0.012	<0.015
MAR											
11...	0.60	82	67	3.6	2.2	<0.10	14	88	0.190	<0.010	0.020
APR											
03...	0.59	57	46	3.1	2.0	<0.10	12	78	0.190	<0.010	0.030
08...	0.53	29	24	2.3	1.8	<0.10	8.7	57	0.110	<0.010	0.020
MAY											
21...	0.52	68	56	2.9	2.1	<0.10	8.5	88	<0.050	<0.010	<0.015
JUN											
25...	0.53	68	56	3.4	2.1	<0.10	9.5	86	0.069	<0.010	<0.015
JUL											
09...	0.42	67	55	3.1	1.9	<0.10	10	90	0.069	<0.010	<0.015
30...	0.40	64	53	2.7	1.9	<0.10	11	95	0.051	<0.010	<0.015
AUG											
21...	0.51	68	56	1.7	1.7	<0.10	11	86	<0.050	0.010	0.025
SEP											
10...	0.57	75	62	3.2	2.2	<0.10	12	86	<0.050	<0.010	<0.015

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHOS, DIS- SOLVED (MG/L AS P) (00671)	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)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 1996											
30...	0.40	0.32	0.024	<0.010	<0.010	400	13	8.7	0.60	8	89
NOV											
13...	0.30	0.30	0.010	<0.010	<0.010	350	18	7.6	0.30	4	72
19...	0.50	0.30	0.030	0.020	0.010	340	20	8.7	0.40	32	17
DEC											
18...	0.30	0.20	<0.010	<0.010	<0.010	360	13	5.6	0.40	3	--
JAN 1997											
15...	0.20	0.20	<0.010	<0.010	<0.010	360	8.0	4.7	0.10	2	--
FEB											
19...	0.26	<0.20	0.040	<0.010	<0.010	490	11	4.6	0.20	2	--
MAR											
11...	0.30	0.20	<0.010	<0.010	<0.010	260	10	4.6	0.20	3	--
APR											
03...	0.40	0.20	0.040	0.020	<0.010	350	17	6.0	0.80	20	--
08...	0.40	0.30	0.030	<0.010	<0.010	310	17	7.8	0.90	13	--
MAY											
21...	0.26	<0.20	0.015	<0.010	<0.010	160	9.1	5.4	0.20	4	--
JUN											
25...	0.32	<0.20	0.017	<0.010	<0.010	120	12	4.6	0.50	12	--
JUL											
09...	0.35	0.25	<0.010	<0.010	<0.010	170	8.8	4.9	0.30	8	--
30...	0.45	0.37	0.012	<0.010	0.014	220	9.2	8.1	0.50	4	--
AUG											
21...	0.33	<0.20	<0.010	<0.010	<0.010	110	8.2	6.1	0.40	5	--
SEP											
10...	0.23	<0.20	<0.010	<0.010	<0.010	94	7.4	4.5	0.20	--	--

ST. CROIX RIVER BASIN
05333500 ST. CROIX RIVER NEAR DANBURY, WI--CONTINUED

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

		DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	
JUN 1997												
25...	1100	1440	<0.002	<0.002	<0.002	0.016	<0.002	<0.002	<0.003	<0.003	<0.004	
JUL												
09...	1100	1410	<0.002	<0.002	<0.002	0.012	<0.002	<0.002	<0.003	<0.003	<0.004	
DATE		CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DIAZ- INON D10 SRG WAT FLT 0.7 U GF, REC PERCENT (91063)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)
JUN 1997												
25...		<0.004	<0.002	<0.002	<0.002	79.9	<0.001	<0.017	<0.002	<0.004	<0.003	<0.003
JUL												
09...		<0.004	<0.002	E0.005	0.009	99.0	<0.001	<0.017	<0.002	<0.004	<0.003	<0.003
DATE		HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC PERCENT (91065)	LINDANE DIS- SOLVED (UG/L) (39341)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA- THION, DIS- SOLVED (UG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN WATER FLTRD 0.7 U GF, REC (UG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	
JUN 1997												
25...		89.4	<0.004	<0.002	<0.005	<0.001	<0.006	<0.002	<0.004	<0.004	<0.003	
JUL												
09...	118		<0.004	<0.002	<0.005	<0.001	<0.006	<0.002	<0.004	<0.004	<0.003	
DATE		PARA- THION, DIS- SOLVED (UG/L) (39542)	PEB- ULATE WATER FLTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	P, P' DDE DISSOLV (UG/L) (34653)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	
JUN 1997												
25...		<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	<0.018	<0.004	<0.013	
JUL												
09...		<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	<0.018	<0.004	<0.013	
DATE		PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC PERCENT (91064)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	
JUN 1997												
25...		<0.007	<0.005	<0.007	<0.010	<0.013	97.2	<0.002	<0.001	<0.002	<0.003	
JUL												
09...		<0.007	<0.005	<0.007	<0.010	<0.013	120	<0.002	<0.001	<0.002	<0.003	

ST. CROIX RIVER BASIN
05333500 ST. CROIX RIVER NEAR DANBURY, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	---	---	---	12.5	8.5	10.5
2	---	---	---	---	---	---	---	---	---	12.5	10.5	11.5
3	---	---	---	---	---	---	---	---	---	13.5	10.0	11.5
4	---	---	---	---	---	---	4.5	4.0	4.0	14.0	10.0	12.0
5	---	---	---	---	---	---	4.0	3.5	3.5	15.0	11.5	13.0
6	---	---	---	---	---	---	3.5	1.0	3.0	15.0	10.5	12.5
7	---	---	---	---	---	---	1.5	.0	1.0	13.5	11.5	12.5
8	---	---	---	---	---	---	1.5	.0	1.0	12.5	10.0	11.5
9	---	---	---	---	---	---	2.5	.5	1.5	14.0	9.5	11.5
10	---	---	---	---	---	---	2.0	1.5	1.5	15.0	11.0	13.5
11	---	---	---	---	---	---	3.5	1.0	2.5	14.0	10.0	12.5
12	---	---	---	---	---	---	4.5	2.5	3.5	11.0	9.0	10.0
13	---	---	---	---	---	---	5.5	3.0	4.5	11.5	8.5	10.0
14	---	---	---	---	---	---	6.5	4.5	5.5	12.0	9.5	11.0
15	---	---	---	---	---	---	7.5	6.0	6.5	10.5	8.5	9.5
16	---	---	---	---	---	---	6.5	4.5	5.5	13.5	8.5	11.0
17	---	---	---	---	---	---	7.5	4.0	6.0	15.0	10.5	13.0
18	---	---	---	---	---	---	8.0	7.5	8.0	14.0	12.0	13.0
19	---	---	---	---	---	---	9.5	7.0	8.5	13.0	11.0	12.0
20	---	---	---	---	---	---	10.5	8.0	9.0	13.0	10.5	11.5
21	---	---	---	---	---	---	11.0	8.5	9.5	15.5	10.0	12.5
22	---	---	---	---	---	---	11.0	9.0	10.0	14.5	12.5	13.5
23	---	---	---	---	---	---	10.5	9.0	10.0	14.0	12.5	13.0
24	---	---	---	---	---	---	11.0	8.5	10.0	13.5	12.5	13.0
25	---	---	---	---	---	---	12.0	9.5	10.5	16.0	11.5	13.5
26	---	---	---	---	---	---	11.5	10.0	10.5	16.5	12.5	14.5
27	---	---	---	---	---	---	11.5	10.5	10.5	18.0	12.5	15.0
28	---	---	---	---	---	---	13.5	10.0	12.0	16.5	14.0	15.0
29	---	---	---	---	---	---	14.5	12.5	13.5	14.0	12.5	13.5
30	---	---	---	---	---	---	12.5	9.0	11.0	18.0	12.5	15.5
31	---	---	---	---	---	---	---	---	---	20.0	15.5	18.0
MONTH	---	---	---	---	---	---	---	---	---	20.0	8.5	12.6
JUNE			JULY			AUGUST			SEPTEMBER			
1	21.0	16.5	19.0	27.0	22.0	24.5	24.5	20.5	22.5	21.0	19.5	20.0
2	22.0	17.5	19.5	24.0	21.0	22.5	24.5	21.0	23.0	20.0	17.5	18.5
3	22.0	18.0	20.0	21.0	17.5	19.5	25.0	21.5	23.0	19.5	16.0	17.5
4	22.0	18.5	20.0	21.5	17.0	19.0	23.5	21.0	22.0	19.5	15.5	17.5
5	21.5	18.5	20.0	21.5	19.0	20.0	21.5	19.0	20.5	21.0	17.5	19.0
6	23.0	18.0	20.5	20.5	17.5	19.0	23.0	19.0	21.0	20.5	18.0	19.0
7	22.0	18.5	20.0	19.0	17.0	18.0	23.5	20.0	21.5	19.0	17.5	18.0
8	23.5	18.0	20.5	18.0	16.5	17.0	23.5	20.5	22.0	19.5	17.0	18.0
9	24.0	19.0	21.5	21.0	16.0	18.5	22.5	20.5	21.5	19.5	17.5	18.5
10	24.5	19.5	22.0	22.5	18.5	20.5	22.0	19.0	20.0	18.5	16.0	17.0
11	23.5	19.5	22.0	24.0	19.5	21.5	21.5	17.5	19.5	18.0	14.5	16.5
12	24.5	19.5	22.0	24.0	21.0	22.5	20.5	18.5	19.5	18.0	14.5	16.5
13	24.5	20.0	22.0	26.0	22.5	24.0	20.5	17.0	18.5	17.0	15.5	16.5
14	24.0	19.0	21.5	24.0	22.0	23.0	18.5	16.0	16.5	18.5	16.0	17.0
15	22.0	19.5	20.5	25.0	21.0	23.0	18.5	15.5	17.0	19.0	17.5	18.0
16	22.5	18.5	20.0	26.0	23.0	24.5	20.0	18.0	18.5	18.0	16.5	17.5
17	19.5	17.5	18.5	27.5	24.0	25.5	18.5	16.5	17.5	18.0	15.5	16.5
18	19.0	17.0	18.0	26.0	23.5	25.0	18.5	15.0	17.0	18.5	15.5	17.0
19	20.0	17.5	19.0	23.5	21.5	23.0	18.0	16.5	17.0	18.5	17.0	18.0
20	23.0	18.0	20.5	24.5	21.0	22.5	17.5	16.0	17.0	17.0	14.5	15.5
21	24.0	19.0	21.5	23.0	20.0	21.5	18.5	16.0	17.0	15.5	13.0	14.0
22	25.0	19.5	22.5	20.5	19.5	20.0	19.5	16.5	18.0	15.0	13.0	14.0
23	26.5	22.0	24.5	22.5	19.5	21.0	18.0	16.5	17.0	15.5	12.5	14.0
24	24.5	21.5	23.5	22.5	20.5	21.5	18.5	16.5	17.5	15.5	12.5	14.0
25	24.0	20.5	22.0	24.0	21.0	22.0	19.0	16.0	17.5	16.5	13.5	15.0
26	24.5	20.5	22.5	24.5	21.5	23.0	21.5	18.0	19.5	16.5	13.5	15.0
27	24.5	21.0	23.0	26.0	23.0	24.0	22.5	19.0	20.5	16.0	15.0	15.5
28	22.5	20.0	21.5	24.5	22.0	23.0	21.5	18.0	19.5	15.5	14.5	15.0
29	22.0	19.5	21.0	24.0	21.0	22.5	19.0	17.5	18.5	14.5	12.5	13.0
30	26.0	20.5	23.0	24.0	20.5	22.0	20.0	18.0	19.0	14.0	12.0	13.0
31	---	---	---	23.0	20.5	22.0	22.0	18.0	20.0	---	---	---
MONTH	26.5	16.5	21.1	27.5	16.0	21.8	25.0	15.0	19.3	21.0	12.0	16.5

05340500 ST. CROIX RIVER AT ST. CROIX FALLS, WI
(NATIONAL WATER-QUALITY ASSESSMENT PROGRAM 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 sea level. 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.--Estimated daily discharges: Ice-affected periods, Dec. 18 to Jan. 19 and Jan. 23 to Mar. 27. Records good except those of ice-affected periods, which are fair (see page 11). Diurnal fluctuation caused by St. Croix Falls Powerplant 1,500 ft upstream. Gage-height telemeter and data-collection platform at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3130	7170	7310	3500	3700	3200	13300	5660	3370	3190	4470	2890
2	3170	7050	7230	3600	3500	3300	20600	6590	3160	3940	4130	3180
3	2970	6450	6020	3800	3500	3300	23100	5860	3220	3820	3780	4800
4	3040	6590	5770	3900	3500	3200	26500	5680	3250	3800	3490	4650
5	2890	5960	5510	3800	3400	3300	30800	5420	3220	3530	3210	4480
6	2360	5620	5720	3600	3500	3300	35800	5060	3160	4110	3160	3830
7	2810	5610	5980	3600	3600	3300	40000	4840	2960	3850	2950	3540
8	2400	5620	5170	3500	3600	3300	41200	4940	2800	4000	2810	3250
9	2340	5560	5220	3300	3400	3300	40000	4990	2900	4420	2940	3260
10	2660	5490	5160	3700	3800	3300	36900	5130	2560	3960	2350	3160
11	2720	5490	5000	4000	3400	3100	33200	4920	2790	4050	2560	3160
12	2490	4570	5410	3800	3200	3300	29600	4890	2530	3850	2290	3000
13	2530	3330	5470	3700	3000	3300	26300	4790	2330	3930	2320	2760
14	2330	2940	5250	3800	3400	3300	23100	4580	2130	5140	2300	2820
15	2400	3400	4210	3800	3300	3400	20300	4460	2190	6100	2260	2830
16	2640	3830	4280	3700	3300	3400	18400	4310	2420	6430	2320	3090
17	3240	8840	3640	3600	3300	3400	17000	4440	2100	6340	3000	3090
18	3660	9380	3200	3600	3000	3500	16200	4470	2450	5810	3020	3130
19	4000	11700	3300	3600	3100	3500	15100	4210	2390	5260	3080	3120
20	3770	13600	3300	3670	3100	3700	14100	4410	2500	5080	3560	3180
21	3910	13800	3400	3670	3200	3600	13800	4330	2320	4360	3540	3290
22	4070	13500	3500	3400	3300	3800	11700	4340	2250	4020	3330	3360
23	4440	11300	3600	3600	3400	4100	11200	4150	2060	3870	3580	3370
24	5030	10400	3700	3800	3400	4200	10500	4060	2450	3940	3590	3260
25	5610	8980	3500	3800	3300	4400	9650	3830	2170	4220	3460	3100
26	5920	7260	3300	3700	3200	4800	9040	3860	2990	5930	3140	2990
27	5800	6480	3700	3600	3300	5000	8320	3800	3090	6360	3030	3030
28	5720	6070	3500	3700	3200	6500	7860	3710	3260	6490	3040	3200
29	6060	6540	3400	3600	---	7720	7500	3520	3250	5810	2940	3090
30	6310	6920	3400	3500	---	10400	6810	3550	3350	5380	2990	2900
31	6870	---	3500	3500	---	11400	---	3590	---	5150	2950	---
TOTAL	117290	219450	140650	113440	93900	132620	617880	142390	81620	146140	95590	98810
MEAN	3784	7315	4537	3659	3354	4278	20600	4593	2721	4714	3084	3294
MAX	6870	13800	7310	4000	3800	11400	41200	6590	3370	6490	4470	4800
MIN	2330	2940	3200	3300	3000	3100	6810	3520	2060	3190	2260	2760
CFSM	.61	1.17	.73	.59	.54	.69	3.30	.74	.44	.76	.49	.53
IN.	.70	1.31	.84	.68	.56	.79	3.68	.85	.49	.87	.57	.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1902 - 1997, BY WATER YEAR (WY)

	MEAN	3792	3487	2587	2192	2143	4237	10182	7521	5747	4157	2886	3530
MAX	14270	11910	5821	4279	6021	14420	22320	21840	19510	17260	9777	14590	
(WY)	1969	1972	1984	1984	1984	1945	1952	1950	1944	1952	1955	1941	
MIN	1380	1342	1288	1157	1257	1538	2212	2430	1481	1014	839	1152	
(WY)	1933	1911	1911	1911	1913	1912	1902	1934	1934	1934	1934	1933	

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

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1902 - 1997	
ANNUAL TOTAL	2262860		1999780		4385	
ANNUAL MEAN	6183		5479		8569 1986	
HIGHEST ANNUAL MEAN					1754 1934	
LOWEST ANNUAL MEAN					53900 May 8 1950	
HIGHEST DAILY MEAN	35600	Apr 22	41200	Apr 8	75 Jul 17 1910	
LOWEST DAILY MEAN	1970	Sep 2	2060	Jun 23	754 Jul 29 1934	
ANNUAL SEVEN-DAY MINIMUM	2290	Aug 27	2290	Jun 13	54900 May 8 1950	
INSTANTANEOUS PEAK FLOW			41500	Apr 8	25.19 May 8 1950	
INSTANTANEOUS PEAK STAGE			(a)19.14	Apr 8	.70	
ANNUAL RUNOFF (CFSM)	.99		.88		9.54	
ANNUAL RUNOFF (INCHES)	13.49		11.92		9100	
10 PERCENT EXCEEDS	11700		8900		2780	
50 PERCENT EXCEEDS	4210		3640		1560	
90 PERCENT EXCEEDS	2940		2810			

(a) Inside gage (rated gage) reading, outside gage (crest-stage gage) read 19.50 ft

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

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1996 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT OF SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg) (00925)
OCT 1996												
31...	0730	--	6450	143	7.4	5.5	11.8	755	96	76	20	6.4
NOV												
14...	0715	--	3940	167	7.3	0.5	14.5	760	96	74	19	6.4
DEC												
19...	0730	3300	--	170	7.7	0.5	12.3	737	89	81	21	7.0
JAN 1997												
16...	0720	3700	--	185	7.3	0.0	--	--	--	77	20	6.6
FEB												
19...	1330	3100	--	195	7.4	0.5	11.3	743	80	93	25	7.5
MAR												
12...	0730	3300	--	186	7.3	0.5	11.4	750	91	91	24	7.5
APR												
02...	1030	--	18300	150	6.5	0.5	16.4	750	116	57	15	4.7
09...	0730	--	40300	106	7.5	0.5	18.4	--	--	29	7.4	2.5
MAY												
22...	0715	--	5880	146	7.7	14.0	10.2	761	96	71	19	5.9
JUN												
26...	0715	--	3090	180	7.9	24.5	8.1	750	99	86	22	7.2
JUL												
10...	0715	--	2560	158	7.8	18.5	8.8	782	93	76	20	6.5
30...	1215	--	5430	157	7.5	24.5	8.0	757	88	74	20	6.2
AUG												
21...	1330	--	3190	171	7.8	18.0	9.5	775	98	79	21	6.7
SEP												
10...	1430	--	2600	178	7.8	20.5	8.8	750	95	83	21	7.1

DATE	SODIUM, DIS- SOLVED (MG/L AS Na) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CaCO3 (39086)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 1996												
31...	3.1	1.0	74	61	4.3	3.8	<0.10	11	98	0.158	0.010	<0.015
NOV												
14...	3.1	1.0	78	64	4.4	4.1	<0.10	12	104	0.250	0.020	0.030
DEC												
19...	3.4	1.2	81	66	5.0	4.2	<0.10	14	111	0.330	<0.010	0.070
JAN 1997												
16...	3.2	1.0	--	--	4.2	4.7	<0.10	15	127	0.280	0.020	0.090
FEB												
19...	3.4	1.0	105	86	4.5	4.0	<0.10	17	123	0.380	0.010	0.050
MAR												
12...	3.8	1.0	119	98	4.3	4.4	<0.10	16	121	0.370	<0.010	0.060
APR												
02...	2.8	1.9	69	57	4.0	4.4	<0.10	11	93	0.500	<0.010	0.190
09...	1.6	1.2	40	33	2.9	2.2	0.12	7.9	67	0.150	<0.010	0.080
MAY												
22...	2.9	0.89	87	72	3.2	3.3	<0.10	7.9	103	0.099	<0.010	<0.015
JUN												
26...	3.3	0.90	97	79	4.3	3.7	<0.10	9.6	116	0.113	<0.010	0.016
JUL												
10...	3.3	0.74	89	73	3.4	3.4	<0.10	9.8	115	0.142	<0.010	<0.015
30...	2.9	0.93	86	70	2.6	3.5	<0.10	12	126	0.082	<0.010	<0.015
AUG												
21...	3.3	0.72	92	75	2.3	3.8	<0.10	11	117	0.181	0.011	0.028
SEP												
10...	3.3	0.91	98	80	3.4	3.8	<0.10	11	110	0.125	<0.010	0.048

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	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)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 1996											
31...	0.47	0.35	0.028	0.013	<0.010	370	21	8.4	0.60	7	94
NOV											
14...	0.40	0.40	0.010	<0.010	<0.010	390	19	8.4	0.50	3	94
DEC											
19...	0.40	0.40	<0.010	<0.010	0.010	500	20	7.9	0.40	6	--
JAN 1997											
16...	0.40	0.40	<0.010	<0.010	0.010	500	24	6.0	0.20	5	--
FEB											
19...	0.30	0.20	0.040	0.010	<0.010	670	27	5.1	0.30	3	--
MAR											
12...	0.30	0.30	<0.010	<0.010	<0.010	360	24	5.0	0.20	4	--
APR											
02...	1.1	0.50	0.180	0.020	0.030	460	89	7.5	4.0	73	--
09...	0.70	0.50	0.070	<0.010	<0.010	450	76	10	0.90	46	--
MAY											
22...	0.37	0.23	<0.010	<0.010	<0.010	240	17	7.1	0.30	6	--
JUN											
26...	0.33	<0.20	0.012	<0.010	0.014	31	1.2	4.5	0.50	12	--
JUL											
10...	0.43	0.48	0.014	<0.010	0.013	170	19	8.5	0.40	4	--
30...	0.77	0.66	0.043	<0.010	0.016	470	12	13	0.80	5	--
AUG											
21...	0.35	0.27	0.014	<0.010	0.010	140	16	6.3	0.40	4	--
SEP											
10...	0.40	0.30	0.014	<0.010	<0.010	110	9.8	6.2	0.30	--	--

PESTICIDE DATA

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ACETO- CHLOR, WATER, FLTRD REC (UG/L) (49260)	ACIFL- UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI- CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALDI- CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA- RB SUL- FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	BDMC, SURROG, WATER, UNFLTRD REC PERCENT (99835)
JAN 1997												
16...	0720	3700	--	<0.002	<0.035	<0.002	<0.016	<0.016	<0.021	<0.002	0.010	78.0
FEB												
19...	1330	3100	--	<0.002	<0.035	<0.002	<0.016	<0.016	<0.021	<0.002	0.007	76.0
MAR												
12...	0730	3300	--	<0.002	<0.035	<0.002	<0.016	<0.016	<0.021	<0.002	0.006	86.0
APR												
02...	1030	--	18300	<0.002	<0.035	<0.002	<0.016	<0.016	<0.021	<0.002	0.024	89.0
09...	0730	--	40300	<0.002	<0.035	<0.002	<0.016	<0.016	<0.021	<0.002	<0.001	89.0
MAY												
22...	0715	--	5880	0.007	<0.035	0.002	<0.016	<0.016	<0.021	<0.002	0.052	71.0
JUN												
26...	0715	--	3090	<0.002	<0.035	<0.002	<0.016	<0.016	<0.021	<0.002	0.019	108
JUL												
10...	0715	--	2560	<0.002	<0.035	<0.002	<0.016	<0.016	<0.021	<0.002	0.028	87.0
30...	1215	--	5430	<0.002	<0.035	<0.002	<0.016	<0.016	<0.021	<0.002	0.035	90.0
AUG												
21...	1330	--	3190	<0.002	<0.035	<0.002	<0.016	<0.016	<0.021	<0.002	0.013	80.0
SEP												
10...	1430	--	2600	<0.002	<0.035	<0.002	<0.016	<0.016	<0.021	<0.002	0.012	89.0

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENTA- ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BRO- MACIL, WATER, DISS, GF 0.7U REC (UG/L) (04029)	BRO- MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	BUTYL- ATE, WATER, DISS, GF 0.7U REC (UG/L) (04028)	CAR- BARYL WATER, FLTRD 0.7 U GF, REC (UG/L) (82680)	CAR- BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CARBO- FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	CLOPYR- ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CHLOR- AMBEN, WATER, FLTRD, GF 0.7U REC (UG/L) (49307)
JAN 1997												
16...	<0.002	<0.014	<0.035	<0.035	<0.002	<0.003	<0.008	<0.003	<0.028	<0.004	<0.050	<0.011
FEB												
19...	<0.002	<0.014	<0.035	<0.035	<0.002	<0.003	<0.008	<0.003	<0.028	<0.004	<0.050	<0.011
MAR												
12...	<0.002	<0.014	<0.035	<0.035	<0.002	<0.003	<0.008	<0.003	<0.028	<0.004	<0.050	<0.011
APR												
02...	<0.002	<0.014	<0.035	<0.035	<0.002	<0.003	<0.008	<0.003	<0.028	<0.004	<0.050	<0.011
09...	<0.002	<0.014	<0.035	<0.035	<0.002	<0.003	<0.008	<0.003	<0.028	<0.004	<0.050	<0.011
MAY												
22...	<0.002	<0.014	<0.035	<0.035	<0.002	<0.003	<0.008	<0.003	<0.028	<0.004	<0.050	<0.011
JUN												
26...	<0.002	<0.014	<0.035	<0.035	<0.002	<0.003	<0.008	<0.003	<0.028	<0.004	<0.050	<0.011
JUL												
10...	<0.002	<0.014	<0.035	<0.035	<0.002	<0.003	<0.008	<0.003	<0.028	<0.004	<0.050	<0.011
30...	<0.002	<0.014	<0.035	<0.035	<0.002	<0.003	<0.008	<0.003	<0.028	<0.004	<0.050	<0.011
AUG												
21...	<0.002	<0.014	<0.035	<0.035	<0.002	<0.003	<0.008	<0.003	<0.028	<0.004	<0.050	<0.011
SEP												
10...	<0.002	<0.014	<0.035	<0.035	<0.002	<0.003	<0.008	<0.003	<0.028	<0.004	<0.050	<0.011
DATE	CHLORO- THALO- NIL, WAT, FLT GF 0.7U REC (UG/L) (49306)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	DACTHAL MONO- ACID, WAT, FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DIAZ- INON D10 SRG WAT FLT 0.7 U GF, REC PERCENT (91063)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLOR BENIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49303)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)
JAN 1997												
16...	<0.035	<0.004	<0.017	<0.002	E0.007	<0.002	90.5	<0.035	<0.020	<0.032	<0.001	<0.035
FEB												
19...	<0.035	<0.004	<0.017	<0.002	E0.003	<0.002	91.4	<0.035	<0.020	<0.032	<0.001	<0.035
MAR												
12...	<0.035	<0.004	<0.017	<0.002	E0.003	<0.002	96.0	<0.035	<0.020	<0.032	<0.001	<0.035
APR												
02...	<0.035	<0.004	<0.017	<0.002	E0.004	<0.002	91.3	<0.035	<0.020	<0.032	<0.001	<0.035
09...	<0.035	<0.004	<0.017	<0.002	<0.002	<0.002	86.0	<0.035	<0.020	<0.032	<0.001	<0.035
MAY												
22...	<0.035	<0.004	<0.017	<0.002	E0.003	<0.002	96.2	<0.035	<0.020	<0.032	<0.001	<0.035
JUN												
26...	<0.035	<0.004	<0.017	<0.002	E0.003	<0.002	88.2	<0.035	<0.020	<0.032	<0.001	<0.035
JUL												
10...	<0.035	<0.004	<0.017	<0.002	E0.008	0.007	106	<0.035	<0.020	<0.032	<0.001	<0.035
30...	<0.035	<0.004	<0.017	<0.002	E0.007	<0.002	89.7	<0.035	<0.020	<0.032	<0.001	<0.035
AUG												
21...	<0.035	<0.004	<0.017	<0.002	E0.003	<0.002	91.4	<0.035	<0.020	<0.032	<0.001	<0.035
SEP												
10...	<0.035	<0.004	<0.017	<0.002	E0.005	<0.002	107	<0.035	<0.020	<0.032	<0.001	<0.035

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	DNOC WAT, FLT GF 0.7U REC (UG/L) (49299)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ESFEN- VAL- ERATE, WAT, FLT GF 0.7U REC (UG/L) (49298)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN- URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUO- METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC PERCENT (91065)	LINDANE DIS- SOLVED (UG/L) (39341)
JAN 1997												
16...	<0.017	<0.020	<0.035	<0.002	<0.019	<0.004	<0.003	<0.013	<0.035	<0.003	91.6	0.017
FEB												
19...	<0.017	<0.020	<0.035	<0.002	<0.019	<0.004	<0.003	<0.013	<0.035	<0.003	104	<0.004
MAR												
12...	<0.017	<0.020	<0.035	<0.002	<0.019	<0.004	<0.003	<0.013	<0.035	<0.003	94.4	<0.004
APR												
02...	<0.017	<0.020	<0.035	<0.002	<0.019	<0.004	<0.003	<0.013	<0.035	<0.003	95.8	<0.004
09...	<0.017	<0.020	<0.035	<0.002	<0.019	<0.004	<0.003	<0.013	<0.035	<0.003	102	<0.004
MAY												
22...	<0.017	<0.020	<0.035	<0.002	<0.019	<0.004	<0.003	<0.013	<0.035	<0.003	84.3	<0.004
JUN												
26...	<0.017	<0.020	<0.035	<0.002	<0.019	<0.004	<0.003	<0.013	<0.035	<0.003	93.5	<0.004
JUL												
10...	<0.017	<0.020	<0.035	<0.002	<0.019	<0.004	<0.003	<0.013	<0.035	<0.003	118	<0.004
30...	<0.017	<0.020	<0.035	<0.002	<0.019	<0.004	<0.003	<0.013	<0.035	<0.003	104	<0.004
AUG												
21...	<0.017	<0.020	<0.035	<0.002	<0.019	<0.004	<0.003	<0.013	<0.035	<0.003	111	<0.004
SEP												
10...	<0.017	<0.020	<0.035	<0.002	<0.019	<0.004	<0.003	<0.013	<0.035	<0.003	78.8	<0.004
DATE	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA- THION, DIS- SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METHIO- CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH- OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN WATER DISSOLV (UG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)
JAN 1997												
16...	<0.018	<0.002	<0.005	<0.050	<0.035	<0.026	<0.017	<0.001	<0.006	80.002	0.007	<0.004
FEB												
19...	<0.018	<0.002	<0.005	<0.050	<0.035	<0.026	<0.017	<0.001	<0.006	<0.002	<0.004	<0.004
MAR												
12...	<0.018	<0.002	<0.005	<0.050	<0.035	<0.026	<0.017	<0.001	<0.006	<0.002	<0.004	<0.004
APR												
02...	<0.018	<0.002	<0.005	<0.050	<0.035	<0.026	<0.017	--	<0.006	0.020	<0.004	<0.004
09...	<0.018	<0.002	<0.005	<0.050	<0.035	<0.026	<0.017	<0.001	<0.006	0.006	<0.004	<0.004
MAY												
22...	<0.018	<0.002	<0.005	<0.050	<0.035	<0.026	<0.017	<0.001	<0.006	0.047	<0.004	<0.004
JUN												
26...	<0.018	<0.002	<0.005	<0.050	<0.035	<0.026	<0.017	<0.001	<0.006	0.005	<0.004	<0.004
JUL												
10...	<0.018	<0.002	<0.005	<0.050	<0.035	<0.026	<0.017	<0.001	<0.006	0.009	<0.004	<0.004
30...	<0.018	<0.002	<0.005	<0.050	<0.035	<0.026	<0.017	<0.001	<0.006	0.011	<0.004	<0.004
AUG												
21...	<0.018	<0.002	<0.005	<0.050	<0.035	<0.026	<0.017	<0.030	<0.006	0.005	<0.004	<0.004
SEP												
10...	<0.018	<0.002	<0.005	<0.050	<0.035	<0.026	<0.017	<0.001	<0.006	80.003	<0.004	<0.004

E Estimated

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NAPROP- AMIDE WATER, FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB- URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	1-NAPH THOL, WATER, FLTRD, GF 0.7U REC (UG/L) (49295)	ORY- ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	PARA- THION, DIS- SOLVED (UG/L) (39542)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC- LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)
JAN 1997												
16...	<0.003	<0.015	<0.024	<0.007	<0.019	<0.018	<0.004	<0.004	<0.004	<0.005	<0.002	<0.050
FEB												
19...	<0.003	<0.015	<0.024	<0.007	<0.019	<0.018	<0.004	<0.004	<0.004	<0.005	<0.002	<0.050
MAR												
12...	<0.003	<0.015	<0.024	<0.007	<0.019	<0.018	<0.004	<0.004	<0.004	<0.005	<0.002	<0.050
APR												
02...	<0.003	<0.015	<0.024	<0.007	<0.019	<0.018	<0.004	<0.004	<0.004	<0.005	<0.002	<0.050
09...	<0.003	<0.015	<0.024	<0.007	<0.019	<0.018	<0.004	<0.004	<0.004	<0.005	<0.002	<0.050
MAY												
22...	<0.003	<0.015	<0.024	<0.007	<0.019	<0.018	<0.004	<0.004	<0.004	<0.005	<0.002	<0.050
JUN												
26...	<0.003	<0.015	<0.024	<0.007	<0.019	<0.018	<0.004	<0.004	<0.004	<0.005	<0.002	<0.050
JUL												
10...	<0.003	<0.015	<0.024	<0.007	<0.019	<0.018	<0.004	<0.004	<0.004	<0.005	<0.002	<0.050
30...	<0.003	<0.015	<0.024	<0.007	<0.019	<0.018	<0.004	<0.004	<0.004	<0.005	<0.002	<0.050
AUG												
21...	<0.003	<0.015	<0.024	<0.007	<0.019	<0.018	<0.004	<0.004	<0.004	<0.005	<0.002	<0.050
SEP												
10...	<0.003	<0.015	<0.024	<0.007	<0.019	<0.018	<0.004	<0.004	<0.004	<0.005	<0.002	<0.050
DATE	P, P' DDE DISSOLV (UG/L) (34653)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO- PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PRO- POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SILVEX, DIS- SOLVED (UG/L) (39762)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)
JAN 1997												
16...	<0.006	<0.003	<0.018	<0.004	<0.013	<0.007	<0.035	<0.035	<0.021	E0.003	<0.007	<0.010
FEB												
19...	<0.006	<0.003	<0.018	<0.004	<0.013	<0.007	<0.035	<0.035	<0.021	<0.005	<0.007	<0.010
MAR												
12...	<0.006	<0.003	<0.018	<0.004	<0.013	<0.007	<0.035	<0.035	<0.021	<0.005	<0.007	<0.010
APR												
02...	<0.006	<0.003	<0.018	<0.004	<0.013	<0.007	<0.035	<0.035	<0.021	<0.005	<0.007	<0.010
09...	<0.006	<0.003	<0.018	<0.004	<0.013	<0.007	<0.035	<0.035	<0.021	<0.005	<0.007	<0.010
MAY												
22...	<0.006	<0.003	<0.018	<0.004	<0.013	<0.007	<0.035	<0.035	<0.021	E0.002	<0.007	<0.010
JUN												
26...	<0.006	<0.003	<0.018	<0.004	<0.013	<0.007	<0.035	<0.035	<0.021	<0.005	<0.007	<0.010
JUL												
10...	<0.006	<0.003	<0.018	<0.004	<0.013	<0.007	<0.035	<0.035	<0.021	<0.005	<0.007	<0.010
30...	<0.006	<0.003	E0.007	<0.004	<0.013	<0.007	<0.035	<0.035	<0.021	<0.005	<0.007	<0.010
AUG												
21...	<0.006	<0.003	<0.018	<0.004	<0.013	<0.007	<0.035	<0.035	<0.021	<0.005	<0.007	<0.010
SEP												
10...	<0.006	<0.003	<0.018	<0.004	<0.013	<0.007	<0.035	<0.035	<0.021	E0.003	<0.007	<0.010

E Estimated

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC (91064)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (82681)	3HYDRXY CARBO- FURAN WAT,FLT GF 0.7U REC (49308)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (82678)	TRI- CLOPYR, WATER, FLTRD, GF 0.7U REC (49235)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (82661)	2,4-DB WATER, FLTRD, GF 0.7U SOLVED REC (38746)	2,4,5-T DIS- SOLVED REC (39742)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (82660)
JAN 1997										
16...	<0.013	107	<0.002	<0.014	<0.001	<0.050	<0.002	<0.035	<0.035	<0.003
FEB										
19...	<0.013	91.5	<0.002	<0.014	<0.001	<0.050	<0.002	<0.035	<0.035	<0.003
MAR										
12...	<0.013	104	<0.002	<0.014	<0.001	<0.050	<0.002	<0.035	<0.035	<0.003
APR										
02...	<0.013	93.7	<0.002	<0.014	<0.001	<0.050	<0.002	<0.035	<0.035	<0.003
09...	<0.013	87.9	<0.002	<0.014	<0.001	<0.050	<0.002	<0.035	<0.035	<0.003
MAY										
22...	<0.013	105	<0.002	<0.014	<0.001	<0.050	<0.002	<0.035	<0.035	<0.003
JUN										
26...	<0.013	106	<0.002	<0.014	<0.001	<0.050	<0.002	<0.035	<0.035	<0.003
JUL										
10...	<0.013	115	<0.002	<0.014	<0.001	<0.050	<0.002	<0.035	<0.035	<0.003
30...	<0.013	104	<0.002	<0.014	<0.001	<0.050	<0.002	<0.035	<0.035	<0.003
AUG										
21...	<0.013	101	<0.002	<0.014	<0.001	<0.050	<0.002	<0.035	<0.035	<0.003
SEP										
10...	<0.013	120	<0.002	<0.014	<0.001	<0.050	<0.002	<0.035	<0.035	<0.003

ST. CROIX RIVER BASIN
05341500 APPLE RIVER NEAR SOMERSET, WI

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LOCATION.--Lat 45°09'27", long 92°42'59", in sec.21, T.31 N., R.19 W., St. Croix County, Hydrologic Unit 07030005, at powerplant of Northern States Power Co., 3.5 mi downstream from Somerset.

DRAINAGE AREA.--579 mi².

PERIOD OF RECORD.--January 1901 to September 1914 (monthly discharge only), October 1914 to September 1970, October 1986 to current year.

REVISED RECORDS.--WSP 1388: 1929, 1933. WDR-87-1: Drainage area.

GAGE.--Headwater and tailwater gages read hourly.

REMARKS.--No estimated daily discharges. Records of daily discharge computed on the basis of gate openings, head, and plant efficiency. Flow regulated by many powerplants upstream, but service ponds are small and monthly flows are only slightly affected.

COOPERATION.--Records of daily discharge furnished by Northern States Power Company and reviewed by Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	358	578	768	609	433	465	1040	394	363	369	421	786
2	278	571	723	592	429	447	1180	456	368	451	418	853
3	340	577	668	595	398	418	1240	493	373	569	274	768
4	370	531	728	624	285	385	1440	483	359	596	314	605
5	373	517	718	636	364	403	1470	482	405	750	363	728
6	361	424	721	592	379	413	1510	485	360	712	390	527
7	361	514	636	594	415	401	1630	461	343	568	398	488
8	360	523	727	603	402	400	1540	453	349	472	403	491
9	367	503	733	672	393	396	1560	412	333	514	394	486
10	348	493	677	674	475	394	1620	461	384	436	265	457
11	366	490	673	604	405	405	1420	420	385	442	248	420
12	351	414	669	427	391	431	1350	423	369	464	304	394
13	325	401	671	530	393	406	1150	420	329	482	332	390
14	293	290	627	437	432	400	1150	435	338	486	372	427
15	284	524	505	626	398	360	1100	420	333	502	376	362
16	349	542	516	541	403	383	815	447	312	521	353	403
17	403	913	502	327	446	579	877	383	347	630	373	560
18	434	971	594	394	480	411	867	434	371	583	407	782
19	388	1330	561	520	593	378	781	427	307	519	412	735
20	385	1540	556	493	424	383	825	416	296	635	566	686
21	371	1300	584	591	443	403	808	387	294	632	446	690
22	380	1270	667	615	418	470	636	406	308	674	491	611
23	467	1070	664	615	386	485	780	402	256	654	555	612
24	521	824	619	571	343	512	780	431	307	645	566	573
25	515	749	486	364	375	463	567	410	346	430	492	467
26	475	662	355	327	527	480	586	363	301	422	400	403
27	569	677	359	399	375	668	581	387	350	471	424	461
28	560	774	531	381	374	861	577	384	350	459	366	402
29	528	961	590	331	---	905	579	368	399	466	385	404
30	591	885	616	412	---	967	534	402	386	444	453	395
31	750	---	640	399	---	1110	---	399	---	441	538	---
TOTAL	12821	21818	19084	16095	11579	15582	30993	13144	10321	16439	12499	16366
MEAN	414	727	616	519	414	503	1033	424	344	530	403	546
MAX	750	1540	768	674	593	1110	1630	493	405	750	566	853
MIN	278	290	355	327	285	360	534	363	256	369	248	362
CFSM	.71	1.26	1.06	.90	.71	.87	1.78	.73	.59	.92	.70	.94
IN.	.82	1.40	1.23	1.03	.74	1.00	1.99	.84	.66	1.06	.80	1.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 1997, BY WATER YEAR (WY)

	MEAN	285	282	248	232	235	382	549	419	380	281	238	290
MAX	713	727	616	519	414	730	1335	1000	1030	576	704	808	
(WY)	1996	1997	1997	1997	1997	1946	1965	1906	1905	1993	1995	1962	
MIN	104	135	123	124	120	151	197	140	81.7	69.9	74.2	89.8	
(WY)	1933	1934	1934	1938	1934	1934	1930	1934	1934	1934	1934	1933	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1901 - 1997		
ANNUAL TOTAL	208139			196741					
ANNUAL MEAN	569			539			318		
HIGHEST ANNUAL MEAN							563		
LOWEST ANNUAL MEAN							144		
HIGHEST DAILY MEAN	1670			Apr 17			2510		
LOWEST DAILY MEAN	251			Aug 31			7.0		
ANNUAL SEVEN-DAY MINIMUM	298			Sep 16			49		
ANNUAL RUNOFF (CFSM)	.98			.93			.55		
ANNUAL RUNOFF (INCHES)	13.37			12.64			7.46		
10 PERCENT EXCEEDS	923			784			529		
50 PERCENT EXCEEDS	467			461			250		
90 PERCENT EXCEEDS	340			350			144		

(a) Also occurred Sept. 30, 1929, July 19, 1932, and Aug. 2, 3, 1933

MISSISSIPPI RIVER MAIN STEM
05344500 MISSISSIPPI RIVER AT PRESCOTT, WI

LOCATION.--Lat 44°44'45", long 92°48'00", in sec.9, T.26 N., R.20 W., Pierce County, Hydrologic Unit 07040001, 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. WRD MN-74: 1973.

GAGE.--Water-stage recorder. Datum of gage is 649.50 ft above sea level. 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.

REMARKS.--Estimated daily discharges: Oct. 1 to Mar. 22, June 6-30, July 17-24, Aug. 11-19, and Aug. 27 to Sept. 30. Records good except those for estimated daily discharges, which are fair to poor (see page 11). Some regulation by reservoirs, navigation dams, and powerplants at low and medium stages. Discharges below a stage of 26.7 ft may be computed by routing flows from Mississippi River at St. Paul (05331000) and St. Croix River at St. Croix Falls (05340500).

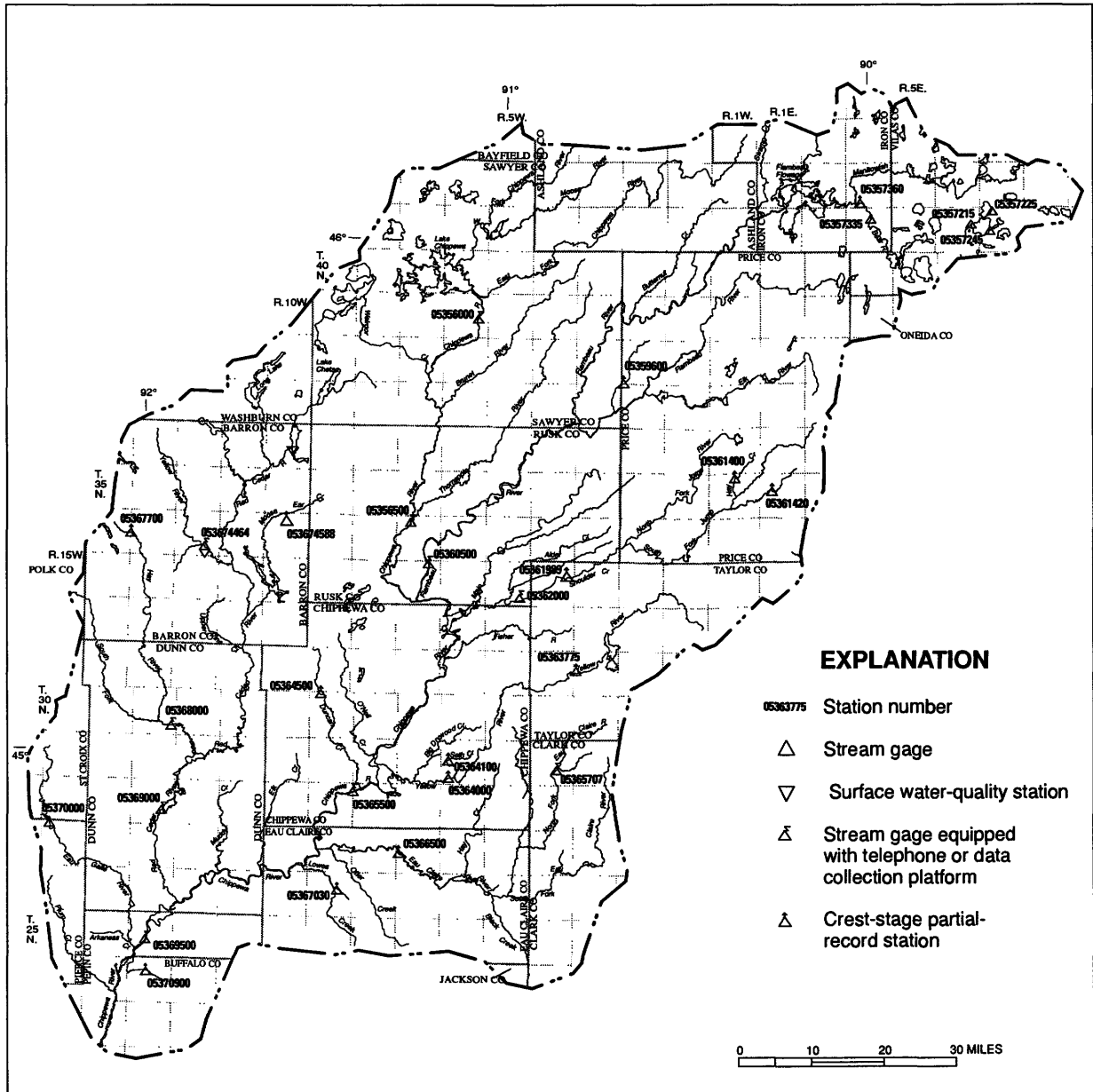
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8790	20400	22300	15300	13100	12700	59300	61400	27500	24900	45000	20000
2	8760	20700	23700	14500	12300	13100	66200	59300	26900	31000	44200	19400
3	8620	21000	23000	14800	13400	13100	74800	57400	26400	33500	42700	19500
4	8870	20900	21400	15300	13400	12700	85000	54700	25300	34000	41100	21100
5	8920	21100	20800	15400	13100	13000	94800	52700	24800	34400	38300	19800
6	8980	21000	20700	15600	12700	14000	107000	50100	24700	35000	35400	19100
7	8280	20800	22200	14500	13100	14400	118000	48100	24700	35300	32400	17400
8	8750	21500	22700	13800	13600	14500	131000	47100	23300	36200	29900	16700
9	8380	21500	21600	13700	13300	16100	142000	45500	22200	36400	27700	16000
10	8100	21100	20900	12900	12700	17400	150000	43100	21500	35900	26000	15700
11	8400	21500	21100	13000	13300	18100	156000	42100	20500	35500	24100	15400
12	8600	21200	21300	13200	12800	18700	159000	40800	19700	35100	23200	15100
13	8250	20000	21900	12100	12500	20000	159000	39600	19200	35100	21800	14400
14	8200	17700	22300	11600	12200	21400	155000	39100	18400	35400	20900	14000
15	7610	16500	21500	11900	12700	22800	148000	38600	17000	35200	19900	14100
16	7910	16400	19500	12300	12900	23900	139000	37300	16500	36100	19200	13700
17	7730	16200	18200	13000	12600	24300	129000	36200	16000	36800	19000	13700
18	9000	21300	16800	14400	12500	24800	120000	35300	15700	37200	19300	14200
19	9870	25000	16600	13100	12200	25000	113000	34600	15300	36900	19000	14900
20	10800	28300	16100	13400	12600	25200	105000	33300	14700	34600	23700	15200
21	10700	30900	14700	13200	12200	25600	99200	32200	14400	33900	25000	14800
22	10900	32000	13900	13300	12900	25900	93300	30800	14000	32100	26100	14700
23	12700	31900	14500	13200	12900	27100	87300	29600	13700	33100	25400	14500
24	13700	28800	16300	13800	12900	30000	82300	29600	13100	34200	25100	14100
25	14900	27700	15800	13900	12600	32100	78100	28100	14200	38600	25000	14300
26	16500	25800	15300	13400	12600	32700	74700	27100	13700	40600	24600	14000
27	17000	23000	14400	13400	12600	34300	71900	26900	16200	43100	23400	13200
28	17000	20800	15000	13200	12900	36900	69400	27600	17600	45000	22300	13200
29	17300	19800	15300	13400	---	41300	67000	27900	19300	46000	21600	13800
30	18100	21400	15600	13300	---	46600	64900	28000	20300	45900	20900	13100
31	18500	---	15800	13200	---	53000	---	27900	---	45400	20400	---
TOTAL	340120	676200	581200	421100	358600	750700	3199200	1212000	576800	1132400	832600	469100
MEAN	10970	22540	18750	13580	12810	24220	106600	39100	19230	36530	26860	15640
MAX	18500	32000	23700	15600	13600	53000	159000	61400	27500	46000	45000	21100
MIN	7610	16200	13900	11600	12200	12700	59300	26900	13100	24900	19000	13100
AC-FT	674600	1341000	1153000	835300	711300	1489000	6346000	2404000	1144000	2246000	1651000	930500
CFSM	.24	.50	.42	.30	.29	.54	2.38	.87	.43	.82	.60	.35
IN.	.28	.56	.48	.35	.30	.62	2.66	1.01	.48	.94	.69	.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1997, BY WATER YEAR (WY)												
MEAN	13550	13290	9943	8275	8115	17270	41370	32150	25720	20440	13430	12920
MAX	49740	40360	21460	16060	21390	55010	117600	90100	69890	87420	48350	45950
(WY)	1987	1972	1983	1983	1966	1983	1965	1986	1993	1993	1993	1986
MIN	3526	3874	3379	3153	3519	4369	7215	6304	4185	3197	2366	3002
(WY)	1933	1977	1934	1935	1934	1934	1931	1931	1934	1934	1934	1976

SUMMARY STATISTICS				FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1928 - 1997	
ANNUAL TOTAL				8737060		10550020			
ANNUAL MEAN				23870		28900		(a) 18080	
HIGHEST ANNUAL MEAN								38540	1986
LOWEST ANNUAL MEAN								4367	1934
HIGHEST DAILY MEAN				81900	Apr 24	159000	Apr 12	226000	Apr 18 1965
LOWEST DAILY MEAN				7610	Oct 15	7610	Oct 15	1380	Jul 13 1940
ANNUAL SEVEN-DAY MINIMUM				8040	Sep 21	8100	Oct 11	2190	Aug 11 1936
INSTANTANEOUS PEAK FLOW						161000	Apr 12	228000	Apr 18 1965
INSTANTANEOUS PEAK STAGE						40.09	Apr 12	43.11	Apr 18 1965
ANNUAL RUNOFF (AC-FT)				17330000		20930000		13100000	
ANNUAL RUNOFF (CFSM)				.53		.65		.40	
ANNUAL RUNOFF (INCHES)				7.25		8.76		5.48	
10 PERCENT EXCEEDS				46400		51100		39400	
50 PERCENT EXCEEDS				17600		20700		11800	
90 PERCENT EXCEEDS				9860		12600		5090	

(a) Median of annual mean discharges is 18030 ft³/s



Base from U.S. Geological Survey 1:100,000 digital data;
modified by Wisconsin Department of Natural Resources,
Wisconsin Transverse Mercator projection.

CHIPPEWA RIVER BASIN

CHIPPEWA RIVER BASIN

05356000 CHIPPEWA RIVER AT BISHOPS BRIDGE, NEAR WINTER, WI

LOCATION.--Lat 45°50'57", long 91°04'44", in SW 1/4 NE 1/4 sec.23, T.39 N., R.6 W., Sawyer County, Hydrologic Unit 07050001, on right bank 15 ft upstream from highway bridge on County Trunk Highway G, 3.2 mi downstream from Lake Chippewa Dam, and 3.7 mi north-west of Winter.

DRAINAGE AREA.--790 mi².

PERIOD OF RECORD.--February 1912 to current year. March, April, 1912, and 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 sea level (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 (see page 11). Flow regulated by Moose Lake and Lake Chippewa. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1230	2500	1580	724	741	713	662	606	468	468	426	436
2	1230	2150	1580	726	739	711	671	605	901	471	426	442
3	1190	1900	1570	726	740	709	744	457	902	474	426	436
4	1250	1700	1570	735	954	710	802	458	646	472	426	425
5	1250	1750	1570	733	1600	706	743	602	641	469	427	417
6	1240	1630	1560	733	1620	705	732	596	671	462	426	410
7	1060	1920	1550	740	1610	706	725	608	467	464	426	410
8	949	1950	1540	745	1620	704	693	1170	467	637	427	440
9	826	1610	1550	745	1610	707	674	1520	467	641	429	458
10	729	1600	1540	1240	1600	701	645	752	470	666	426	450
11	448	1610	1540	1490	1600	700	649	753	444	664	426	450
12	448	1610	1540	1490	1590	701	555	1230	470	482	426	454
13	445	1610	1540	1490	1590	707	559	1500	470	486	426	447
14	443	1610	1530	1500	1580	698	674	1020	465	1220	427	450
15	447	1550	1530	1500	1570	498	620	1020	474	1610	430	450
16	443	738	1530	1480	1570	500	614	1020	1180	1560	428	463
17	537	824	1530	1480	1570	605	624	468	1100	1050	449	904
18	683	1250	1530	1480	1560	619	621	468	641	1050	442	896
19	661	1610	1520	1480	1550	631	622	1020	643	481	442	883
20	661	1880	1470	1480	1550	617	628	1010	641	473	442	862
21	661	2060	656	1500	1540	627	596	1020	476	473	442	871
22	562	2060	653	1490	1540	502	599	1020	475	486	442	899
23	532	2050	653	1370	1530	502	594	1020	480	485	442	1090
24	531	2050	648	1280	1530	615	600	462	484	426	442	1560
25	512	1760	652	1280	1530	633	594	463	477	441	442	1560
26	514	1590	602	1280	1500	627	476	1020	471	434	442	1570
27	450	1590	723	1280	999	629	477	632	474	430	592	958
28	448	1590	723	1250	712	628	606	628	477	430	606	858
29	1040	1580	723	743	---	524	608	642	473	426	593	874
30	2760	1580	724	746	---	529	596	650	470	426	451	899
31	3070	---	724	743	---	644	---	468	---	427	447	---
TOTAL	27250	50912	38351	35679	39445	19808	19003	24908	17385	19184	13944	21722
MEAN	879	1697	1237	1151	1409	639	633	803	580	619	450	724
MAX	3070	2500	1580	1500	1620	713	802	1520	1180	1610	606	1570
MIN	443	738	602	724	712	498	476	457	444	426	426	410

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1997, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1912	681	2896	1986	43.6	1925
1913	855	1884	1992	143	1925
1914	998	1910	1992	321	1990
1915	921	1770	1983	201	1922
1916	775	1550	1928	194	1918
1917	437	1097	1920	117	1923
1918	514	3453	1922	20.0	1925
1919	766	2823	1954	24.2	1923
1920	800	2950	1939	39.8	1925
1921	676	2122	1996	40.3	1925
1922	623	2235	1972	146	1970
1923	708	3769	1941	140	1970

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1912 - 1997

ANNUAL TOTAL	452665	327591	
ANNUAL MEAN	1237	898	728
HIGHEST ANNUAL MEAN			1174
LOWEST ANNUAL MEAN			258
HIGHEST DAILY MEAN	5300	3070	7520
LOWEST DAILY MEAN	221	410	14
ANNUAL SEVEN-DAY MINIMUM	229	425	15
INSTANTANEOUS PEAK FLOW		3750	7520
INSTANTANEOUS PEAK STAGE		8.12	11.05
INSTANTANEOUS LOW FLOW		174	14
10 PERCENT EXCEEDS	2130	1580	1410
50 PERCENT EXCEEDS	1050	700	589
90 PERCENT EXCEEDS	282	442	171

(a) Also occurred May 1-5, 1925

CHIPPEWA RIVER BASIN
05356500 CHIPPEWA RIVER NEAR BRUCE, WI

225

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 sea level. 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-affected periods, Nov. 1-3 and Nov. 10 to Mar. 25. Records good except those for ice-affected periods, which are poor (see page 11). Flow from 48 percent of the drainage area regulated by Moose Lake and Lake Chippewa. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1780	4800	2000	1400	1400	1400	3730	1350	1270	856	724	934
2	1670	3600	1900	1400	1400	1400	5480	1280	1100	1060	693	1730
3	1640	3100	1800	1400	1400	1400	8260	1270	1430	1320	715	1690
4	1560	2630	1900	1400	1400	1400	10800	1130	1350	1210	807	1170
5	1620	2850	1900	1400	1500	1400	12000	1020	1110	1120	718	978
6	1580	2960	1800	1300	2100	1400	12200	1170	1200	1030	697	888
7	1550	2780	1800	1300	2200	1400	10600	1150	1180	988	672	842
8	1290	3100	1800	1300	2200	1500	7830	1280	940	1130	644	800
9	1290	2740	1800	1300	2200	1500	5360	1980	863	1130	630	810
10	1160	2400	1800	1300	2200	1500	3730	1890	880	1150	619	821
11	986	2200	1800	1600	2200	1500	2690	1400	845	1100	621	823
12	834	2100	1800	2200	2200	1300	2390	1350	802	978	618	774
13	762	2000	1800	2200	2200	1100	2050	1960	753	972	619	739
14	809	2000	1800	2200	2100	1100	1950	1730	817	1140	612	755
15	736	2000	1800	2100	2100	1200	2120	1580	823	2180	635	741
16	809	2000	1800	2100	2100	1200	2070	1560	1010	2140	673	845
17	1190	4600	1800	2100	2100	1300	1840	1540	1780	1650	796	2380
18	1970	6000	1800	2100	2200	1300	1720	1020	1170	1370	1100	2820
19	1820	5000	1800	2100	2300	1300	1610	1060	1020	1280	1100	2230
20	1590	4000	1700	2100	2100	1300	1650	1570	989	914	1170	2000
21	1480	3600	1700	2100	2300	1200	1570	1540	978	876	1280	1930
22	1600	3100	1200	2100	2300	1100	1650	1510	765	833	1050	1760
23	1880	2900	1100	2200	2200	1000	1580	1500	763	824	1010	1750
24	2720	2800	1100	2100	2000	1100	1580	1520	792	811	954	2070
25	2690	2600	1100	2000	2100	1200	1370	966	903	1190	847	1940
26	2370	2200	1000	2000	2100	1300	1280	1030	892	1770	835	1950
27	1990	2100	1000	1900	1900	1450	1180	1430	831	1300	768	1610
28	1580	2100	1200	1800	1600	1790	1140	1050	738	1090	882	1290
29	1360	2000	1500	1600	---	2480	1300	1120	793	895	878	1200
30	3650	2100	1500	1400	---	2840	1310	1450	794	817	937	1180
31	5900	---	1400	1400	---	2990	---	1570	---	759	928	---
TOTAL	53866	88360	50200	54900	56100	45350	114040	42976	29581	35883	25232	41450
MEAN	1738	2945	1619	1771	2004	1463	3801	1386	986	1158	814	1382
MAX	5900	6000	2000	2200	2300	2990	12200	1980	1780	2180	1280	2820
MIN	736	2000	1000	1300	1400	1000	1140	966	738	759	612	739

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

	MEAN	1289	1444	1404	1210	1054	1438	2683	1941	1746	1257	1045	1378
MAX	5666	3662	2842	2200	2100	3964	8007	5971	7483	3990	2915	7423	
(WY)	1986	1992	1992	1942	1971	1973	1916	1954	1943	1968	1972	1941	
MIN	296	459	442	356	338	404	590	390	411	317	364	338	
(WY)	1934	1990	1990	1922	1918	1923	1987	1925	1949	1925	1964	1976	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1914 - 1997

ANNUAL TOTAL	777970	637938	
ANNUAL MEAN	2126	1748	1488
HIGHEST ANNUAL MEAN			2290
LOWEST ANNUAL MEAN			666
HIGHEST DAILY MEAN	13600	Apr 20	24900
LOWEST DAILY MEAN	(a) 440	Apr 1	155
ANNUAL SEVEN-DAY MINIMUM	(a) 449	Mar 26	218
INSTANTANEOUS PEAK FLOW			Aug 9
INSTANTANEOUS PEAK STAGE			Aug 6
INSTANTANEOUS LOW FLOW			Aug 14
10 PERCENT EXCEEDS	4130	2530	2720
50 PERCENT EXCEEDS	1800	1430	1110
90 PERCENT EXCEEDS	745	810	500

(a) Ice affected

(b) From rating curve extended above 25,100 ft³/s, gage height, 18.12 ft

(c) From floodmarks

CHIPPEWA RIVER BASIN

05357215 ALLEQUASH CREEK (HEAD OF TROUT RIVER) AT CTH M, NEAR BOULDER JUNCTION, WI

LOCATION.--Lat 46°01'25", long 89°39'10", in NW 1/4 NW 1/4 sec.20, T.41 N., R.7 E., Vilas County, Hydrologic Unit 07050002, on right bank approximately 400 ft downstream from County Trunk Highway M, 6.1 mi south of Boulder Junction.

DRAINAGE AREA.--8.43 mi².

PERIOD OF RECORD.--May 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,620 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: May 1 to July 23 and ice-affected periods, Dec. 20, 21, 25-27, Jan. 5, 6, 11-13, 16, 17, Jan. 26 to Feb. 7, Feb. 14-16, 21-24, 26, Mar. 1, 6, 7, and 13-19. Records good except those for estimated daily discharges, which are poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	22	15	12	14	14	18	14	14	16	12	16
2	12	21	15	12	14	14	17	15	14	18	12	15
3	11	19	14	12	14	14	18	14	14	19	12	15
4	11	18	14	12	14	15	20	13	14	19	12	14
5	11	18	15	12	14	15	21	13	14	17	12	14
6	11	17	15	12	14	14	23	14	14	17	12	14
7	11	16	15	12	12	13	23	13	14	15	11	13
8	11	16	14	12	11	14	22	14	14	23	11	13
9	11	16	14	12	10	14	21	14	13	25	9.8	14
10	11	16	14	12	11	14	20	14	13	22	9.6	14
11	11	15	14	12	11	16	18	14	13	20	9.1	13
12	11	15	13	13	11	16	18	14	12	19	8.9	13
13	11	15	13	12	12	15	17	14	12	18	8.4	12
14	11	14	13	12	12	14	17	14	11	19	8.4	12
15	11	15	14	13	12	15	17	15	12	18	9.6	12
16	11	20	14	13	12	16	17	14	12	19	12	13
17	16	21	14	13	12	16	16	13	11	19	13	15
18	16	21	14	13	12	16	16	14	12	19	13	15
19	16	20	14	12	12	16	16	15	12	18	13	15
20	16	19	13	10	12	17	16	14	12	16	14	15
21	15	18	13	10	12	17	16	13	12	16	16	15
22	15	17	13	11	12	17	16	13	12	14	16	14
23	18	16	13	11	12	17	15	13	11	13	15	14
24	18	16	13	12	13	17	15	13	12	14	15	13
25	18	15	12	12	13	17	14	14	12	15	14	13
26	17	15	12	12	13	17	14	14	12	15	14	13
27	21	15	12	12	13	17	13	13	12	15	14	13
28	26	14	12	12	14	18	13	13	12	14	14	13
29	26	14	12	13	---	19	13	14	12	13	14	12
30	27	15	12	14	---	19	14	15	15	12	15	13
31	24	---	12	14	---	18	---	15	---	12	16	---
TOTAL	467	509	417	376	348	491	514	429	379	529	385.8	410
MEAN	15.1	17.0	13.5	12.1	12.4	15.8	17.1	13.8	12.6	17.1	12.4	13.7
MAX	27	22	15	14	14	19	23	15	15	25	16	16
MIN	11	14	12	10	10	13	13	13	11	12	8.4	12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1997, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997
MEAN	13.4	13.9	11.8	10.1	9.73	11.3	15.3
MAX	22.7	20.2	13.6	12.1	12.4	15.8	18.3
(WY)	1992	1992	1994	1997	1997	1997	1992
MIN	7.75	10.9	9.67	9.02	8.80	9.33	11.2
(WY)	1993	1994	1996	1995	1992	1993	1995

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1991 - 1997

ANNUAL TOTAL	4957.4	5254.8	
ANNUAL MEAN	13.5	14.4	12.2
HIGHEST ANNUAL MEAN			14.4
LOWEST ANNUAL MEAN			10.7
HIGHEST DAILY MEAN	30	27	56
LOWEST DAILY MEAN	(a) 8.8	8.4	.93
ANNUAL SEVEN-DAY MINIMUM	(a) 8.9	9.1	1.1
INSTANTANEOUS PEAK FLOW		30	(b) 79
INSTANTANEOUS PEAK STAGE		1.77	(c) 2.77
INSTANTANEOUS LOW FLOW		7.6	.69
10 PERCENT EXCEEDS	19	18	17
50 PERCENT EXCEEDS	13	14	11
90 PERCENT EXCEEDS	9.5	12	8.3

(a) Ice affected

(b) Gage height, 2.36 ft

(c) Ice jam

05357225 STEVENSON CREEK, AT COUNTY HIGHWAY M, NEAR BOULDER JUNCTION, WI

LOCATION.--Lat 46°03'41", long 89°38'47", in NW 1/4 SE 1/4 sec.5, T.41 N., R.7 E., Vilas County, Hydrologic Unit 07050002, at County Highway M, 3.6 mi south of Boulder Junction.

DRAINAGE AREA.--7.96 mi².

PERIOD OF RECORD.--May 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,620 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected period, Nov. 19 to Apr. 4. Records fair except those for ice-affected period, which is poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	3.7	4.0	2.4	1.9	1.6	3.3	2.4	2.8	2.5	4.3	5.1
2	3.5	3.7	3.9	2.5	1.9	1.6	3.9	2.1	2.6	2.8	4.2	5.2
3	3.4	3.6	3.9	2.6	1.9	1.6	4.8	2.0	2.5	2.4	4.2	4.7
4	3.4	3.7	4.0	2.6	1.9	1.6	5.6	1.7	3.0	2.7	4.2	4.7
5	3.3	4.0	4.0	2.6	1.8	1.6	6.7	2.6	6.1	2.0	4.1	4.6
6	3.4	3.8	4.0	2.5	1.8	1.5	7.6	10	5.9	2.0	4.0	4.5
7	3.5	3.7	4.0	2.4	1.8	1.5	5.0	10	5.6	1.9	4.0	4.4
8	3.4	3.6	3.9	2.3	1.8	1.6	4.4	11	5.1	3.1	4.0	4.3
9	3.4	3.7	3.7	2.3	1.8	1.6	4.1	9.7	4.8	2.8	3.9	4.7
10	3.4	3.6	3.5	2.2	1.8	1.7	4.1	9.0	4.5	5.0	4.0	4.3
11	3.3	3.6	3.5	2.1	1.7	1.7	4.1	8.9	4.3	5.6	3.9	4.0
12	3.3	3.6	3.5	2.1	1.7	1.7	4.1	8.7	4.2	5.4	3.9	3.8
13	3.3	3.5	3.4	2.0	1.7	1.7	4.2	8.1	4.0	5.5	3.9	3.7
14	3.2	3.5	3.3	2.0	1.7	1.7	4.4	7.8	3.9	5.8	3.8	3.7
15	3.2	3.8	3.2	1.9	1.7	1.7	4.9	7.5	4.3	5.4	4.6	3.7
16	3.3	6.9	3.2	1.9	1.7	1.7	4.9	7.2	4.5	5.8	7.7	4.2
17	5.8	6.6	3.1	1.8	1.7	1.7	4.6	6.8	4.4	5.6	6.0	5.2
18	4.0	4.6	3.0	1.8	1.7	1.8	4.6	7.3	4.6	5.3	5.4	4.0
19	3.5	4.0	2.9	1.8	1.7	1.9	4.5	7.5	4.4	5.1	5.1	4.3
20	3.4	3.9	2.8	1.8	1.7	2.0	4.5	6.5	4.3	5.0	6.5	4.0
21	3.3	4.0	2.7	1.9	1.6	2.2	4.5	6.0	4.0	4.9	6.7	3.7
22	3.4	4.1	2.6	1.9	1.5	2.3	4.4	5.5	3.5	4.9	5.4	3.5
23	4.9	4.1	2.6	1.9	1.5	2.3	4.3	5.3	2.6	4.9	5.2	3.5
24	4.6	4.1	2.6	1.8	1.5	2.3	4.2	5.7	2.1	4.8	5.2	3.4
25	3.7	4.0	2.5	1.8	1.5	2.4	4.0	5.3	2.5	5.1	5.1	3.5
26	3.5	3.9	2.4	1.8	1.5	2.6	3.4	4.9	1.9	5.2	4.9	3.3
27	3.5	3.9	2.4	1.7	1.5	2.8	2.7	4.8	1.7	4.8	4.7	3.2
28	3.5	3.8	2.3	1.7	1.5	3.1	2.6	4.6	1.6	4.8	4.6	3.3
29	4.1	4.0	2.3	1.8	---	3.1	2.5	4.8	1.7	4.6	4.5	3.1
30	5.1	4.1	2.4	1.8	---	3.1	2.6	4.6	3.7	4.4	6.2	3.1
31	3.9	---	2.4	1.8	---	2.9	---	3.3	---	4.3	5.8	---
TOTAL	114.1	121.1	98.0	63.5	47.5	62.6	129.5	191.6	111.1	134.4	150.0	120.7
MEAN	3.68	4.04	3.16	2.05	1.70	2.02	4.32	6.18	3.70	4.34	4.84	4.02
MAX	5.8	6.9	4.0	2.6	1.9	3.1	7.6	11	6.1	5.8	7.7	5.2
MIN	3.2	3.5	2.3	1.7	1.5	1.5	2.5	1.7	1.6	1.9	3.8	3.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1997, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997
MEAN	3.52	4.20	2.94	2.61	2.63	2.76	3.24
MAX	4.02	6.28	3.35	2.93	3.44	4.34	4.85
(WY)	1996	1994	1992	1994	1994	1992	1996
MIN	3.00	2.91	2.46	2.05	1.70	1.58	1.29
(WY)	1994	1995	1996	1997	1997	1995	1995

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1991 - 1997

ANNUAL TOTAL	1303.1	1344.1	
ANNUAL MEAN	3.56	3.68	
HIGHEST ANNUAL MEAN			3.27
LOWEST ANNUAL MEAN			3.68
HIGHEST DAILY MEAN	8.8	May 19	11
LOWEST DAILY MEAN	1.8	(a) Jun 14	(b) 1.5
ANNUAL SEVEN-DAY MINIMUM	1.9	Aug 24	(b) 1.5
INSTANTANEOUS PEAK FLOW			(d) 11
INSTANTANEOUS PEAK STAGE			(b) 9.24
INSTANTANEOUS LOW FLOW			(g) 1.4
10 PERCENT EXCEEDS	5.1		5.5
50 PERCENT EXCEEDS	3.4		3.6
90 PERCENT EXCEEDS	2.2		1.7

(a) Also occurred June 15 and Aug. 29,30

(b) Ice affected

(c) Also occurred Mar. 6,7

(d) Gage height, 8.60 ft

(e) Gage height, 9.62 ft

(f) Beaver dam

(g) May have been less during period of ice affect

CHIPPEWA RIVER BASIN

05357245 TROUT RIVER AT TROUT LAKE NEAR BOULDER JUNCTION, WI

LOCATION.--Lat 46°02'08", long 89°42'20", in NE 1/4 NE 1/4 sec.14, T.41 N., R.6 E., Vilas County, Hydrologic Unit 07050002, on right bank 20 ft upstream from U.S. Highway 51 bridge, approximately 500 ft downstream from outlet of Trout Lake, 6.0 mi southwest of Boulder Junction.

DRAINAGE AREA.--46.2 mi².

PERIOD OF RECORD.--May 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,620 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1-28 and Jan. 20 to Feb. 18. Records good except those for estimated daily discharges, which are fair (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	51	58	61	52	41	46	51	55	56	45	48
2	35	50	57	62	52	41	46	50	54	59	44	49
3	35	50	56	61	52	41	47	50	53	58	44	47
4	34	50	56	64	54	41	47	49	52	59	43	46
5	33	52	56	66	54	41	49	50	53	56	40	45
6	32	52	56	66	54	41	53	51	54	54	39	45
7	34	52	57	65	54	41	53	50	53	52	38	44
8	33	51	56	64	52	40	52	52	52	56	37	43
9	32	52	56	64	52	41	53	53	51	56	35	44
10	33	53	56	64	52	41	53	52	51	53	35	44
11	31	52	55	64	50	41	53	52	50	52	33	43
12	32	51	54	63	50	41	52	54	50	52	32	43
13	32	50	54	62	49	41	52	54	49	52	31	42
14	32	50	53	61	49	45	52	54	47	55	30	42
15	32	52	56	61	48	46	52	54	47	54	33	42
16	31	61	56	62	47	45	51	54	48	55	42	44
17	42	64	57	61	48	45	52	54	47	56	42	48
18	42	63	58	61	48	45	52	56	48	56	42	47
19	41	62	58	61	47	44	52	58	48	54	41	48
20	41	63	59	60	46	44	53	59	48	53	44	48
21	41	61	59	58	45	44	52	57	47	53	46	47
22	41	60	59	58	44	44	51	57	46	51	45	46
23	48	60	59	58	42	43	51	57	46	51	44	45
24	48	59	60	58	41	43	51	58	48	50	44	43
25	48	58	60	56	39	45	51	58	50	51	43	43
26	48	57	59	56	40	44	50	57	49	52	43	42
27	47	56	59	54	40	44	50	56	47	52	43	41
28	47	56	59	54	40	45	50	54	46	50	42	41
29	49	56	58	54	---	47	50	55	46	49	42	40
30	53	58	60	52	---	47	51	57	53	47	46	41
31	51	---	61	52	---	47	---	56	---	45	48	---
TOTAL	1213	1662	1777	1863	1341	1339	1527	1679	1488	1649	1256	1331
MEAN	39.1	55.4	57.3	60.1	47.9	43.2	50.9	54.2	49.6	53.2	40.5	44.4
MAX	53	64	61	66	54	47	53	59	55	59	48	49
MIN	31	50	53	52	39	40	46	49	46	45	30	40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1997, BY WATER YEAR (WY)

MEAN	37.2	43.2	45.8	44.6	40.7	39.4	46.0	54.3	48.1	46.6	35.6	34.1
MAX	45.2	55.4	58.1	60.1	47.9	44.9	53.5	70.5	59.6	57.0	49.7	44.4
(WY)	1996	1997	1992	1997	1997	1992	1996	1996	1996	1996	1996	1997
MIN	31.1	35.0	36.1	34.3	35.5	33.0	35.4	37.6	34.9	32.9	26.4	22.6
(WY)	1994	1995	1995	1995	1994	1994	1994	1994	1994	1994	1992	1995

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1991 - 1997

ANNUAL TOTAL	18771	18125	
ANNUAL MEAN	51.3	49.7	42.7
HIGHEST ANNUAL MEAN			49.8
LOWEST ANNUAL MEAN			34.8
HIGHEST DAILY MEAN	85	May 20	85
LOWEST DAILY MEAN	31	Oct 11	17
ANNUAL SEVEN-DAY MINIMUM	32	Oct 10	19
INSTANTANEOUS PEAK FLOW		68	89
INSTANTANEOUS PEAK STAGE		1.79	1.99
INSTANTANEOUS LOW FLOW		29	13
10 PERCENT EXCEEDS	65	59	58
50 PERCENT EXCEEDS	51	51	42
90 PERCENT EXCEEDS	39	41	31

05357335 BEAR RIVER NEAR MANITOWISH WATERS, WI

LOCATION.--Lat 46°02'56", long 89°59'04", in SE 1/4 NW 1/4 sec.10, T.41 N., R.4 E., Iron County, Hydrologic Unit 07050002, on right bank 10 ft upstream from East River Trail bridge, 2.3 mi upstream from Little Bear Creek, 7.7 mi southwest of Manitowish Waters, and 5.3 mi upstream from mouth.

DRAINAGE AREA.--81.3 mi².

PERIOD OF RECORD.--May 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,580 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected period, Nov.11 to Apr. 12. Records are poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	119	94	76	74	84	130	112	85	66	89	68
2	55	107	88	76	74	84	130	106	79	72	85	75
3	53	99	90	76	76	84	140	99	74	78	82	76
4	51	90	90	76	76	84	150	95	70	85	80	76
5	49	90	90	76	76	84	160	92	68	86	77	73
6	49	90	90	74	74	84	170	93	65	85	74	70
7	49	90	88	74	74	82	160	92	63	84	72	67
8	48	87	88	72	74	84	150	92	61	92	69	64
9	47	85	86	72	74	86	150	91	57	95	66	69
10	46	83	86	72	74	90	150	92	55	93	63	70
11	46	80	88	72	74	90	150	90	54	90	61	67
12	45	80	88	72	74	90	160	94	53	87	59	64
13	44	78	88	70	74	88	161	97	51	86	57	61
14	43	76	86	72	74	88	166	95	49	88	56	58
15	42	80	88	72	74	88	172	95	50	88	57	55
16	42	110	86	72	74	88	176	97	52	99	69	57
17	57	160	84	70	76	90	165	97	52	116	74	76
18	76	180	84	70	78	92	155	106	52	113	76	78
19	80	190	82	72	80	94	143	126	52	110	76	79
20	75	180	84	72	82	96	138	129	51	109	82	76
21	71	170	84	74	82	96	134	124	51	107	89	72
22	72	150	82	74	80	96	131	115	50	104	89	67
23	94	140	82	74	78	96	128	113	50	102	86	61
24	134	130	80	72	78	96	123	109	52	99	86	55
25	142	120	78	72	82	98	119	106	62	99	83	50
26	136	110	76	72	84	100	113	100	65	101	78	46
27	124	100	76	72	82	110	110	94	63	99	73	44
28	112	100	76	70	82	110	115	87	61	97	70	43
29	104	110	76	70	---	110	111	85	59	96	68	41
30	127	100	76	72	---	120	115	94	62	93	68	40
31	129	---	76	72	---	120	---	92	---	90	69	---
TOTAL	2301	3384	2610	2252	2154	2902	4275	3109	1768	2909	2283	1898
MEAN	74.2	113	84.2	72.6	76.9	93.6	143	100	58.9	93.8	73.6	63.3
MAX	142	190	94	76	84	120	176	129	85	116	89	79
MIN	42	76	76	70	74	82	110	85	49	66	56	40
CFSM	.91	1.39	1.04	.89	.95	1.15	1.75	1.23	.72	1.15	.91	.78
IN.	1.05	1.55	1.19	1.03	.99	1.33	1.96	1.42	.81	1.33	1.04	.87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1997, BY WATER YEAR (WY)

MEAN	74.9	84.8	70.8	64.2	69.5	94.2	140	124	83.1	80.3	61.1	65.2
MAX	130	151	117	105	110	187	234	184	129	108	89.5	159
(WY)	1995	1992	1992	1992	1992	1992	1996	1996	1993	1996	1996	1994
MIN	37.1	26.4	43.2	35.5	43.4	44.3	67.3	75.3	54.4	58.3	28.9	24.5
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	1992	1994	1992	1992

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1992 - 1997

ANNUAL TOTAL	40018	31845	
ANNUAL MEAN	109	87.2	84.3
HIGHEST ANNUAL MEAN			104
LOWEST ANNUAL MEAN			59.1
HIGHEST DAILY MEAN	384	(a) 190	570
LOWEST DAILY MEAN	42	40	15
ANNUAL SEVEN-DAY MINIMUM	44	44	17
INSTANTANEOUS PEAK FLOW		(b)	589
INSTANTANEOUS PEAK STAGE		(c) 3.45	3.47
INSTANTANEOUS LOW FLOW		39	15
ANNUAL RUNOFF (CFSM)	1.34	1.07	1.04
ANNUAL RUNOFF (INCHES)	18.31	14.57	14.09
10 PERCENT EXCEEDS	189	127	144
50 PERCENT EXCEEDS	96	82	72
90 PERCENT EXCEEDS	51	55	41

(a) Ice affected

(b) Unknown, ice affected

(c) Backwater from ice

(d) Also occurred Oct. 1, 1992

CHIPPEWA RIVER BASIN
05360500 FLAMBEAU RIVER NEAR BRUCE, WI

LOCATION.--Lat 45°22'21", long 91°12'34", in Lot 7 of NW 1/4 sec.2, T.33 N., R.7 W., Rusk County, Hydrologic Unit 07050002, on right bank 2.5 mi downstream from Thornapple Powerplant, 6.0 mi upstream from mouth, and 7.0 mi southeast of Bruce.

DRAINAGE AREA.--1,860 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,056.34 ft above sea level.

REMARKS.--Estimated daily discharges: Ice-affected period, Nov. 18 to Mar. 31. Records good except those for ice-affected period, which is fair (see page 11). Flow regulated by several powerplants above station and by Rest Lake and Flambeau Flowage Reservoirs. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2070	4140	2500	1800	2200	1400	3050	2910	2430	1590	1210	1470
2	1550	3880	2100	1800	2300	1500	4720	3500	1940	2290	1320	2150
3	1710	2490	2200	1700	2300	1600	6570	2670	1810	2530	1320	2130
4	1550	2530	2200	1800	2300	1700	8810	2890	1570	2840	1300	1730
5	1550	2270	2000	1800	2300	1700	11900	3040	1730	3050	1020	1490
6	1160	2420	2100	1800	2300	1700	14100	2670	2640	3330	1120	1480
7	1150	2740	2300	1700	2400	1700	15100	2740	2350	2480	1100	1320
8	1110	2810	2000	1700	2400	1700	11900	2640	2460	2150	1290	1160
9	1220	2710	2000	1700	2400	1500	8890	2390	2430	2180	1060	1390
10	1110	2710	1900	1800	2400	1300	7340	2390	2070	2590	1110	1160
11	1070	2360	2000	1800	2300	1300	5250	2220	1530	2290	1090	1210
12	898	1970	2000	1700	2300	1400	4400	2380	1480	2220	1050	1340
13	852	1790	2100	1700	2300	1200	4320	2040	1410	2070	875	1400
14	1130	1260	2200	1700	2300	1300	4210	2080	1310	2180	885	1210
15	1300	2010	2000	1800	2300	1500	4210	2230	1370	2240	1080	824
16	1140	3190	1600	1800	2200	1400	4190	2150	2410	2000	919	1300
17	2700	4890	1700	1700	2300	1200	4680	2170	2500	2160	1120	2320
18	2370	5600	1600	1700	2300	1200	4750	1940	2960	2440	1920	2400
19	2930	5800	1800	1700	2200	1400	4370	2080	2330	2140	2140	2900
20	2770	4900	1900	1700	2200	1500	4390	2160	1930	1710	2170	4960
21	2110	5600	1500	1700	2000	1300	3940	2560	1950	1910	2010	3310
22	2120	3200	1600	1800	1800	1300	3730	2220	1590	1480	1660	2700
23	2620	2500	1800	1900	1700	1500	3650	2100	1470	1510	1780	2740
24	3420	3300	1700	1900	1700	1500	3820	2210	1510	1320	1740	1920
25	4780	3100	1700	2000	1600	1400	2850	2110	1520	2370	1660	1890
26	4360	3000	1600	2000	1500	1400	3720	2090	1710	2260	1520	1720
27	3460	2600	1600	2000	1400	1300	3310	1660	2050	2180	1140	1590
28	3000	2300	1600	2300	1400	1500	2670	1640	1930	2110	1360	1660
29	2710	2200	1700	1900	---	2900	3010	1550	1500	1730	1220	1560
30	3410	2600	1700	2000	---	2900	3190	2240	1450	1550	1510	1560
31	4640	---	1800	2100	---	2800	---	2870	---	1190	1610	---
TOTAL	67970	92870	58500	56500	59100	49000	171040	72540	57340	66090	42309	55994
MEAN	2193	3096	1887	1823	2111	1581	5701	2340	1911	2132	1365	1866
MAX	4780	5800	2500	2300	2400	2900	15100	3500	2960	3330	2170	4960
MIN	852	1260	1500	1700	1400	1200	2670	1550	1310	1190	875	824

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1997, BY WATER YEAR (WY)

	1795	1697	1314	1165	1156	1701	3623	2632	2075	1656	1482	1873
MEAN	1795	1697	1314	1165	1156	1701	3623	2632	2075	1656	1482	1873
MAX	5616	4404	2542	2006	2411	5490	6782	6082	6066	4339	3765	5089
(WY)	1986	1992	1992	1973	1969	1973	1967	1954	1968	1968	1972	1994
MIN	363	430	382	451	474	971	1013	758	572	596	591	491
(WY)	1977	1977	1977	1977	1977	1959	1990	1987	1988	1988	1987	1976

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1951 - 1997

ANNUAL TOTAL	952640	849253	
ANNUAL MEAN	2603	2327	1844
HIGHEST ANNUAL MEAN			2900
LOWEST ANNUAL MEAN			993
HIGHEST DAILY MEAN	17000	Apr 20	23200
LOWEST DAILY MEAN	852	Oct 13	205
ANNUAL SEVEN-DAY MINIMUM	1060	Oct 8	320
INSTANTANEOUS PEAK FLOW			24100
INSTANTANEOUS PEAK STAGE			12.44
10 PERCENT EXCEEDS	4440		3420
50 PERCENT EXCEEDS	1860		1390
90 PERCENT EXCEEDS	1390		785

CHIPPEWA RIVER BASIN
05362000 JUMP RIVER AT SHELDON, WI

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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 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). WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,092.75 ft above sea level. Prior to Feb. 9, 1939, Sept. 1, 1941, to Apr. 1, 1953, and 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 discharges: Ice-affected periods, Nov. 11-15, 18-28, and Dec. 2 to Apr. 1. Records good except those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	227	2060	424	310	270	210	3700	361	789	233	216	339
2	193	1400	380	320	270	220	5620	445	548	596	189	549
3	159	991	350	330	260	230	9000	412	389	1200	176	654
4	137	799	330	330	250	240	11000	362	303	1370	171	479
5	123	752	320	310	240	250	11200	319	502	1240	158	353
6	114	789	310	300	230	260	11200	292	1020	907	141	299
7	106	728	300	280	220	260	9620	284	802	622	140	263
8	99	660	310	290	220	260	6140	283	657	559	132	233
9	96	582	310	300	210	260	3690	314	640	719	121	249
10	95	504	310	300	210	260	2440	324	513	654	114	424
11	92	370	320	290	200	260	1750	302	363	492	104	455
12	92	300	310	280	190	270	1380	281	272	379	98	350
13	92	200	300	280	190	280	1160	271	231	382	92	274
14	92	250	300	270	190	290	1010	263	202	818	87	229
15	90	280	290	260	180	290	910	257	187	1070	85	204
16	106	1300	290	250	180	280	901	256	277	782	85	200
17	315	5890	290	250	180	280	882	248	555	555	85	365
18	906	6000	280	260	190	280	802	243	523	480	98	686
19	856	3800	270	270	200	280	721	240	412	436	184	620
20	639	2300	270	280	200	280	667	249	366	392	262	512
21	532	1500	280	290	200	290	633	252	325	315	505	420
22	460	1000	290	300	200	300	588	238	277	267	608	363
23	668	740	290	290	190	320	545	223	231	246	499	312
24	1880	600	280	280	180	340	511	216	206	228	414	266
25	1990	430	280	280	180	380	473	241	254	350	391	237
26	1550	270	270	270	180	440	398	292	313	681	354	214
27	1160	230	280	270	190	500	344	260	282	712	292	204
28	871	400	290	270	200	800	332	224	219	547	246	241
29	732	447	290	270	---	1200	323	215	187	409	209	222
30	1900	468	300	270	---	1100	317	577	205	320	228	202
31	2700	---	310	270	---	1300	---	1010	---	258	330	---
TOTAL	19072	36040	9424	8820	5800	12210	88257	9754	12050	18219	6814	10418
MEAN	615	1201	304	285	207	394	2942	315	402	588	220	347
MAX	2700	6000	424	330	270	1300	11200	1010	1020	1370	608	686
MIN	90	200	270	250	180	210	317	215	187	228	85	200
CFM	1.07	2.09	.53	.49	.36	.68	5.11	.55	.70	1.02	.38	.60
IN.	1.23	2.33	.61	.57	.37	.79	5.70	.63	.78	1.18	.44	.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 1997, BY WATER YEAR (WY)

	MEAN	419	443	182	104	96.4	733	1834	858	656	265	234	458
MAX	1881	2022	1092	392	620	3184	4126	2514	3442	1293	1916	4145	
(WY)	1986	1992	1992	1946	1984	1973	1982	1973	1943	1968	1941	1941	
MIN	27.5	35.3	34.7	25.6	21.4	61.2	360	134	54.6	17.5	21.9	25.4	
(WY)	1949	1977	1934	1917	1924	1940	1946	1987	1934	1936	1933	1976	

CHIPPEWA RIVER BASIN
05362000 JUMP RIVER AT SHELDON, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1915 - 1997	
ANNUAL TOTAL	251515		236878			
ANNUAL MEAN	687		649		522	
HIGHEST ANNUAL MEAN					923	1942
LOWEST ANNUAL MEAN					214	1948
HIGHEST DAILY MEAN	13300	Apr 20	11200	Apr 5,6	40800	Aug 31 1941
LOWEST DAILY MEAN	70	Sep 20-23	85	Aug 15-17	11	Dec 18 1943
ANNUAL SEVEN-DAY MINIMUM	71	Sep 18	90	Aug 12	14	(a) Jan 25 1924
INSTANTANEOUS PEAK FLOW			11300	Apr 5	(b) 46000	Aug 31 1941
INSTANTANEOUS PEAK STAGE			11.47	Apr 5	(c) 18.80	Aug 31 1941
INSTANTANEOUS LOW FLOW			85	Aug 15-17	11	Dec 18 1943
ANNUAL RUNOFF (CFSM)	1.19		1.13		.91	
ANNUAL RUNOFF (INCHES)	16.24		15.30		12.32	
10 PERCENT EXCEEDS	1290		1010		1300	
50 PERCENT EXCEEDS	300		292		157	
90 PERCENT EXCEEDS	114		182		46	

(a) Also occurred July 11, 1936

(b) From rating curve extended above 13,000 ft³/s on basis of contracted-opening measurement of peak flow

(c) From floodmark

CHIPPEWA RIVER BASIN
05365500 CHIPPEWA RIVER AT CHIPPEWA FALLS, WI

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LOCATION.--Lat 44°55'37", long 91°24'33", in Lot 1, sec.12, T.28 N., R.9 W., Chippewa County, Hydrologic Unit 07050005, on right bank at Chippewa Falls, 1.0 mi downstream from Duncan Creek.

DRAINAGE AREA.--5,650 mi².

PERIOD OF RECORD.--June 1888 to September 1983, October 1986 to current year. Monthly discharge for some periods published in WSP 1308.

REVISED RECORDS.--WSP 785: 1934(M). WSP 1508: 1897, 1905, 1918(M), 1924(M). WDR WI-81-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 798.46 ft above sea level. Prior to January 1914, nonrecording gage, and January 1914 to June 19, 1932, water-stage recorder at site 1 mi upstream at different datum. June 19, 1932, to current year, water-stage recorder at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 17-20 and ice-affected periods, Dec. 25-27, Jan. 11-18, and Jan. 26-29. Records good except those for estimated daily discharges, which are fair (see page 11). Considerable regulation by Moose Lake, Lake Chippewa, Rest Lake, Flambeau Flowage, and Lake Wissota Reservoirs. Diurnal fluctuation caused by hydroelectric plant 1.1 mi upstream. Gage-height tele-meter at station.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--A stage of 26.94 ft occurred Sept. 10, 1884, site and datum in use June 1932.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5070	15000	7120	4020	4730	3640	19100	5670	5990	2560	2730	3440
2	4380	15200	7210	4440	4580	2660	29900	5670	4680	6320	1840	8300
3	3490	7450	5750	4400	5040	6060	37900	4920	4890	9730	2250	7080
4	4430	9640	5960	5130	4390	6060	43200	5120	3980	6750	2950	6640
5	2670	6320	6490	4170	4300	6080	45900	6970	4080	6930	2720	4370
6	2270	6870	5360	4370	4620	5940	47800	4460	5200	6060	2620	3290
7	4250	9520	5850	4680	4750	5350	49100	4220	5060	5540	1630	3170
8	2110	7520	5370	4640	5820	4150	41000	4290	5260	4650	2710	3790
9	2710	7440	5010	4490	5550	3420	28200	4710	5310	5720	983	3020
10	2700	6800	5670	4570	5480	4970	19600	5990	5370	5730	2320	3290
11	2980	6140	5820	5200	7020	4920	16000	4420	2930	5370	2410	3110
12	1800	5840	5580	5000	6570	4490	12000	5440	2800	4650	1960	3870
13	1250	4300	5750	4400	5640	5380	8130	4830	2580	4510	1020	3970
14	2630	4070	4640	4400	5740	4750	9510	4750	1700	5290	1820	1430
15	2320	4210	6000	5400	4260	2030	9680	4420	3460	5630	2320	2630
16	2360	8600	4950	4800	1670	1810	8880	4660	4460	6360	996	3930
17	5310	13000	3540	5000	5030	4130	9070	3720	4350	5600	2820	5090
18	6230	29000	4060	4500	6980	2750	9270	3770	6620	5440	3530	9380
19	7170	27000	4800	4910	7610	3310	8390	3580	4580	4120	1050	6970
20	5600	20000	4760	5730	6970	4010	8040	3620	3470	3720	6110	8800
21	5840	13600	3860	5220	7410	4170	7270	5140	3860	3260	4430	6810
22	5100	13100	3840	5220	5080	2060	7280	3830	3550	3410	5380	5620
23	7250	8160	4730	4820	4220	4060	6370	5050	3480	2950	4240	5570
24	8020	9410	4000	5150	5600	6220	7070	4170	3110	3150	4500	5000
25	11200	7430	3700	5620	6850	7130	6750	3950	3150	5700	1410	5150
26	12500	6350	3000	5000	6720	6710	5160	3050	3260	6340	2710	4750
27	10500	4180	3700	5200	6280	6350	4960	4080	3300	6050	4280	4180
28	6190	5120	3350	5200	5810	9120	6930	4080	3430	5090	3540	3180
29	7040	5360	3720	5200	---	9470	4710	4080	2390	5400	3290	4190
30	10100	6530	4330	5210	---	9940	5630	4540	4230	2300	5230	3540
31	14100	---	4020	5830	---	11000	---	5830	---	2900	4790	---
TOTAL	169570	293160	151940	151920	154720	162140	522800	143030	120530	157230	90589	143560
MEAN	5470	9772	4901	4901	5526	5230	17430	4614	4018	5072	2922	4785
MAX	14100	29000	7210	5830	7610	11000	49100	6970	6620	9730	6110	9380
MIN	1250	4070	3000	4020	1670	1810	4710	3050	1700	2300	983	1430

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1888 - 1997, BY WATER YEAR (WY)

	MEAN	4262	4243	3014	2602	2621	5324	11679	8591	6896	4324	3392	4487
MAX	15570	15990	7897	5305	6569	17630	28900	22700	30570	13620	9805	23030	
(WY)	1901	1992	1992	1973	1969	1973	1916	1903	1943	1968	1900	1941	
MIN	798	800	950	831	800	1210	2210	1688	1162	1172	1124	929	
(WY)	1977	1890	1893	1917	1895	1890	1895	1987	1988	1988	1894	1976	

SUMMARY STATISTICS

	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1888 - 1997
ANNUAL TOTAL	2603860	2261189	
ANNUAL MEAN	7114	6195	5116
HIGHEST ANNUAL MEAN			8063
LOWEST ANNUAL MEAN			2453
HIGHEST DAILY MEAN	57900	49100	95500
LOWEST DAILY MEAN	1110	983	40
ANNUAL SEVEN-DAY MINIMUM	2290	1830	308
INSTANTANEOUS PEAK FLOW		50400	102000
INSTANTANEOUS PEAK STAGE		18.03	24.80
10 PERCENT EXCEEDS	13100	9180	11200
50 PERCENT EXCEEDS	5290	5000	3570
90 PERCENT EXCEEDS	2840	2710	1310

CHIPPEWA RIVER BASIN

05365707 NORTH FORK EAU CLAIRE RIVER NEAR THORP, WI

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 1986 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,115 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected period, Nov. 25 to Apr. 1. Records good except those for ice-affected period, which is poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	53	25	16	21	15	1500	25	33	3.9	3.4	30
2	2.2	37	27	17	20	28	1490	23	18	142	2.9	112
3	1.8	28	23	26	18	45	1160	21	11	72	9.2	72
4	1.8	25	18	46	19	43	768	17	7.8	43	4.6	39
5	1.8	25	15	42	19	40	534	13	8.5	24	3.1	22
6	1.6	27	16	40	19	37	438	11	12	16	2.5	17
7	1.5	27	15	41	18	33	243	9.3	20	11	2.3	11
8	1.4	24	15	42	19	31	129	18	12	77	2.4	9.1
9	1.5	21	15	43	18	35	82	24	7.6	69	2.0	24
10	1.6	16	15	40	17	50	63	19	5.1	42	1.7	29
11	1.7	14	15	36	15	60	51	14	4.8	23	1.4	17
12	1.9	11	15	30	15	70	46	11	7.3	14	1.5	12
13	2.1	9.2	15	27	14	60	41	9.5	4.0	11	1.7	8.6
14	2.1	7.8	16	25	13	50	36	8.4	3.7	13	2.1	7.2
15	2.1	11	16	24	12	45	33	8.4	3.3	12	2.9	8.1
16	2.2	720	16	23	12	44	32	8.3	3.1	8.6	2.9	30
17	15	691	15	22	12	47	29	7.7	2.8	6.8	2.7	170
18	18	454	15	20	12	52	25	8.3	2.5	5.6	2.7	75
19	11	192	14	21	13	70	23	11	2.4	4.5	2.9	43
20	7.1	80	14	22	15	74	23	11	8.5	3.7	45	26
21	5.7	67	14	23	20	86	22	8.9	46	3.7	50	19
22	6.8	37	15	32	16	100	20	7.6	16	3.8	38	14
23	58	30	16	56	13	120	18	6.5	7.6	5.4	25	11
24	70	24	15	52	11	140	17	10	4.6	5.7	21	11
25	46	21	14	42	8.6	150	15	24	4.5	12	14	8.2
26	34	16	13	35	8.9	120	14	18	5.6	23	10	6.8
27	25	13	13	32	9.6	130	13	13	4.0	17	7.9	6.2
28	19	10	14	28	10	150	14	11	3.2	9.9	6.3	6.1
29	26	11	14	25	---	230	11	18	4.1	6.8	5.1	5.5
30	131	17	15	23	---	400	12	57	3.7	5.1	42	5.1
31	86	---	15	22	---	820	---	57	---	3.9	61	---
TOTAL	588.8	2719.0	493	973	418.1	3375	6902	508.9	276.7	698.4	380.2	854.9
MEAN	19.0	90.6	15.9	31.4	14.9	109	230	16.4	9.22	22.5	12.3	28.5
MAX	131	720	27	56	21	820	1500	57	46	142	61	170
MIN	1.4	7.8	13	16	8.6	15	11	6.5	2.4	3.7	1.4	5.1
CFSM	.37	1.78	.31	.62	.29	2.13	4.51	.32	.18	.44	.24	.56
IN.	.43	1.98	.36	.71	.30	2.46	5.03	.37	.20	.51	.28	.62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1997, BY WATER YEAR (WY)

	MEAN	28.7	53.9	16.3	6.13	5.30	117	122	55.2	70.3	20.6	36.2	52.1
MAX	123	262	79.7	31.4	14.9	181	267	184	339	49.4	143	420	
(WY)	1987	1992	1992	1997	1997	1989	1996	1993	1993	1986	1986	1986	
MIN	2.17	3.57	.56	.28	.45	9.95	25.9	5.29	1.34	.31	.37	.81	
(WY)	1990	1990	1990	1990	1990	1996	1987	1987	1988	1988	1988	1988	

SUMMARY STATISTICS

	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1986 - 1997
ANNUAL TOTAL	17408.69	18188.0	
ANNUAL MEAN	47.6	49.8	46.0
HIGHEST ANNUAL MEAN			93.0
LOWEST ANNUAL MEAN			25.5
HIGHEST DAILY MEAN	1170	(a) 1500	3670
LOWEST DAILY MEAN	.40	1.4 (b) Oct 8	.03
ANNUAL SEVEN-DAY MINIMUM	.64	1.6 Oct 5	.07
INSTANTANEOUS PEAK FLOW		(c) 2570	(d) 9050
INSTANTANEOUS PEAK STAGE		(e) 7.36	10.13
INSTANTANEOUS LOW FLOW		1.3 (f) Oct 7,8	.02
ANNUAL RUNOFF (CFSM)	.93	.98	.90
ANNUAL RUNOFF (INCHES)	12.70	13.27	12.25
10 PERCENT EXCEEDS	79	70	100
50 PERCENT EXCEEDS	10	16	9.5
90 PERCENT EXCEEDS	1.5	3.2	1.5

(a) Ice affected

(b) Also occurred Aug. 11

(c) Gage height, 7.04 ft

(d) From rating curve extended above 2,500 ft³/s on basis of step-backwater measurement of peak flow

(e) Backwater from ice

(f) Also occurred Aug. 11, 12

LOCATION.--Lat 45°23'43", long 91°49'48", in SE 1/4 SE 1/4 sec.27, T.34 N., R.12 W., Barron County, Hydrologic Unit 07050007, on left bank 1.0 mi southeast of intersection of U.S. Highway 8 and State Highway 25 in Barron, 0.5 mi downstream from Quaderer Creek, in Becker Park, and 7.3 mi upstream from mouth.

DRAINAGE AREA.--153 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,090 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 16-20, 25, 26, Jan. 11, 12, 16-21, and 25-28. Records good except those for ice-affected periods, which are fair (see page 11). Flow is regulated occasionally at small dam upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	114	119	86	81	86	534	106	97	85	99	104
2	74	104	109	89	82	87	1040	103	77	125	86	141
3	75	99	104	91	85	86	1070	102	78	132	77	296
4	77	103	98	98	84	86	857	99	85	106	85	158
5	77	115	102	86	84	86	723	100	90	96	90	126
6	77	116	103	119	82	83	582	101	89	94	78	120
7	79	111	101	106	84	74	481	99	84	73	71	108
8	79	105	100	77	83	79	320	106	82	99	75	100
9	84	101	99	91	80	91	328	107	81	101	75	105
10	83	97	97	94	81	90	275	100	80	96	75	120
11	80	90	97	90	83	98	239	98	79	77	74	109
12	80	86	97	90	86	86	183	97	78	70	74	97
13	80	76	94	89	84	88	159	94	76	105	74	94
14	81	80	90	88	78	81	179	91	75	145	75	93
15	82	95	87	87	81	86	165	102	76	139	86	85
16	84	178	88	88	80	85	154	110	79	122	93	101
17	144	802	88	86	80	99	146	102	78	108	98	315
18	147	816	88	86	83	89	140	104	81	93	98	362
19	109	390	88	88	86	84	138	105	82	110	106	183
20	96	290	88	88	84	89	135	99	82	278	129	156
21	94	210	90	88	84	98	129	96	81	257	133	133
22	89	174	90	86	81	105	124	89	77	164	116	115
23	132	155	90	85	80	109	116	85	76	147	104	105
24	152	141	87	85	73	110	112	91	77	141	117	98
25	129	118	88	86	75	109	111	91	83	152	123	93
26	113	118	88	80	86	110	109	87	84	170	108	92
27	107	113	88	80	85	122	108	86	78	143	98	90
28	100	113	84	82	83	154	107	92	77	123	94	90
29	105	114	87	82	---	210	106	100	86	115	95	89
30	140	123	84	82	---	324	106	116	90	88	99	78
31	134	---	85	82	---	432	---	104	---	85	103	---
TOTAL	3063	5347	2898	2735	2298	3616	8976	3062	2438	3839	2908	3956
MEAN	98.8	178	93.5	88.2	82.1	117	299	98.8	81.3	124	93.8	132
MAX	152	816	119	119	86	432	1070	116	97	278	133	362
MIN	74	76	84	77	73	74	106	85	75	70	71	78
CFSM	.65	1.16	.61	.58	.54	.76	1.96	.65	.53	.81	.61	.86
IN.	.74	1.30	.70	.66	.56	.88	2.18	.74	.59	.93	.71	.96

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1997, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997
MEAN	105	118	84.3	77.4	78.5	153	226
MAX	204	178	101	88.2	89.7	226	343
(WY)	1996	1997	1992	1997	1994	1995	1996
MIN	74.4	74.2	73.1	63.2	64.0	117	166
(WY)	1992	1995	1995	1995	1995	1997	1994

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1991 - 1997

ANNUAL TOTAL	48903	45136	114
ANNUAL MEAN	134	124	137
HIGHEST ANNUAL MEAN			1996
LOWEST ANNUAL MEAN			93.5
HIGHEST DAILY MEAN	1160	1070	1210
LOWEST DAILY MEAN	57	70	23
ANNUAL SEVEN-DAY MINIMUM	69	74	55
INSTANTANEOUS PEAK FLOW		1230	1320
INSTANTANEOUS PEAK STAGE		6.02	6.19
INSTANTANEOUS LOW FLOW		23	7.3
ANNUAL RUNOFF (CFSM)	.87	.81	.74
ANNUAL RUNOFF (INCHES)	11.89	10.97	10.10
10 PERCENT EXCEEDS	207	154	168
50 PERCENT EXCEEDS	97	94	87
90 PERCENT EXCEEDS	76	78	67

CHIPPEWA RIVER BASIN
053674464 YELLOW RIVER AT BARRON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: August 1991 to current year.

INSTRUMENTATION.--Continuous water temperature recorder since Aug. 30, 1991.

REMARKS.--Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum temperature, 28.0°C, June 21, 1995; minimum, 0.0°C, for many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum temperature, 26.5°C, July 17; minimum, 0.0°C, many days Nov. 11 through Apr. 8.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	14.0	12.5	13.0	2.0	.5	1.5	.5	.0	.0	.5	.0	.5
2	14.0	12.0	13.5	1.0	.5	.5	.5	.0	.0	.5	.5	.5
3	12.5	11.5	12.0	2.0	.5	1.5	.5	.0	.0	.5	.0	.5
4	11.5	11.0	11.0	2.5	2.0	2.0	.5	.0	.0	.5	.0	.5
5	11.5	10.5	11.0	3.0	2.5	3.0	.5	.0	.5	.0	.0	.0
6	12.0	11.5	11.5	4.0	3.0	3.5	.5	.0	.5	.0	.0	.0
7	12.0	11.0	11.5	4.5	3.5	4.0	.5	.0	.0	.0	.0	.0
8	11.5	10.5	11.0	4.5	3.5	4.0	.5	.0	.5	.5	.0	.0
9	11.5	10.5	11.0	3.5	2.0	2.5	.5	.0	.5	.5	.0	.0
10	10.5	9.5	10.0	2.0	.5	1.0	.5	.0	.5	.5	.0	.0
11	10.0	9.0	9.5	.5	.0	.5	1.0	.0	.5	.0	.0	.0
12	10.5	9.0	9.5	1.5	.5	.5	1.0	.5	.5	.0	.0	.0
13	12.0	10.0	10.5	2.0	1.0	1.0	.5	.0	.5	.0	.0	.0
14	11.5	10.5	11.0	2.0	1.0	1.5	.5	.0	.5	.5	.0	.0
15	11.5	10.0	11.0	2.0	1.0	1.5	1.0	.0	.5	.0	.0	.0
16	12.0	10.5	11.5	1.5	.5	1.0	.5	.0	.0	.0	.0	.0
17	12.5	11.0	12.0	1.0	.0	.0	.5	.0	.0	.0	.0	.0
18	11.0	9.0	10.0	.0	.0	.0	.5	.0	.0	.0	.0	.0
19	9.5	8.5	9.0	.5	.0	.0	.0	.0	.0	.5	.0	.0
20	8.5	8.0	8.5	.0	.0	.0	.0	.0	.0	.5	.0	.0
21	8.5	7.5	8.0	.5	.0	.0	.5	.0	.0	.5	.0	.0
22	7.5	7.0	7.5	.5	.0	.0	.5	.0	.0	.5	.0	.0
23	7.5	7.0	7.0	.5	.0	.0	.5	.0	.0	.0	.0	.0
24	7.0	6.0	6.5	.5	.0	.0	.0	.0	.0	.5	.0	.0
25	7.0	6.0	6.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
26	8.5	7.0	7.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
27	9.0	8.0	8.5	.5	.0	.0	.0	.0	.0	.0	.0	.0
28	8.5	7.5	8.0	.5	.0	.5	.5	.0	.0	.0	.0	.0
29	8.0	7.5	7.5	.5	.0	.5	.0	.0	.0	.0	.0	.0
30	7.5	4.0	6.0	.5	.5	.5	.0	.0	.0	.5	.0	.0
31	4.0	2.0	3.0	---	---	---	.5	.0	.0	.5	.0	.0
MONTH	14.0	2.0	9.5	4.5	.0	1.0	1.0	.0	.2	.5	.0	.1

053674464 YELLOW RIVER AT BARRON, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	.5	.0	.0	1.0	.0	.5	2.5	1.5	2.0	12.5	9.5	11.0
2	1.0	.0	.5	1.0	.0	.5	2.5	1.0	1.5	12.5	11.5	12.0
3	.5	.0	.0	1.0	.0	.5	3.0	.5	2.0	12.5	10.5	11.5
4	.5	.0	.0	1.5	.5	.5	4.5	3.0	4.0	13.5	11.0	12.5
5	.5	.0	.0	1.5	.0	.5	6.0	4.5	5.0	14.5	13.0	13.5
6	.5	.0	.0	1.0	.0	.5	6.0	3.0	5.0	15.0	12.0	13.5
7	1.0	.0	.5	1.5	.0	.5	3.0	.5	1.5	14.0	13.0	13.5
8	.5	.0	.0	1.5	.0	.5	2.0	.0	1.0	13.5	12.0	12.5
9	.5	.0	.0	1.5	.5	1.0	3.5	1.0	2.0	13.0	10.5	11.5
10	.5	.0	.0	2.0	.5	1.0	4.5	2.5	3.5	14.0	11.5	12.5
11	.5	.0	.0	2.0	.5	1.0	5.5	3.0	4.0	14.5	12.5	13.5
12	.5	.0	.0	2.5	1.0	1.5	7.0	4.0	5.0	13.0	11.0	12.0
13	.5	.0	.0	1.5	.5	1.0	7.5	5.5	6.5	12.5	11.0	12.0
14	.5	.0	.0	1.5	.5	1.0	8.5	6.5	7.5	12.5	10.5	11.5
15	.5	.0	.0	1.5	.0	.5	9.5	8.0	8.5	11.0	10.0	10.5
16	.5	.0	.0	1.5	.0	.5	9.0	6.5	7.5	12.0	9.5	10.5
17	1.0	.0	.5	1.5	.5	.5	8.0	6.0	7.0	13.5	11.0	12.0
18	1.0	.0	.5	1.5	.0	.5	8.5	7.5	8.0	14.5	13.0	13.5
19	1.0	.0	.0	2.0	.0	1.0	10.5	8.5	9.5	14.5	13.0	13.5
20	1.0	.0	.5	2.5	.5	1.5	12.0	10.0	11.0	14.0	12.5	13.0
21	.5	.0	.5	3.0	1.0	2.0	13.0	10.5	11.5	15.5	12.5	13.5
22	1.0	.0	.0	3.0	2.0	2.5	13.5	11.0	12.0	15.5	13.5	14.5
23	.5	.0	.0	3.5	2.0	2.5	12.0	10.5	11.5	16.0	14.5	15.0
24	1.0	.0	.0	3.0	2.0	2.5	12.0	10.0	11.0	16.5	15.5	16.0
25	1.0	.0	.5	2.5	1.5	2.0	12.0	10.0	11.0	17.5	15.0	16.0
26	1.5	.0	.5	3.0	1.0	2.0	11.5	10.5	11.0	17.0	15.0	16.0
27	1.0	.0	.5	3.5	2.0	2.5	12.5	11.0	11.5	17.5	15.0	16.0
28	1.0	.0	.5	3.5	3.0	3.5	13.5	11.0	12.0	16.5	15.5	16.0
29	---	---	---	3.5	2.5	3.0	14.0	12.5	13.0	15.5	14.0	15.0
30	---	---	---	2.5	1.5	2.0	13.5	11.0	12.5	17.0	14.0	15.0
31	---	---	---	2.0	1.0	1.5	---	---	---	18.0	15.5	16.5
MONTH	1.5	.0	.2	3.5	.0	1.3	14.0	.0	7.3	18.0	9.5	13.4
JUNE				JULY			AUGUST			SEPTEMBER		
1	19.5	17.0	18.0	23.5	21.5	22.0	22.5	21.0	21.5	20.5	19.5	20.0
2	21.0	18.5	19.5	22.5	21.5	22.0	23.0	21.5	22.0	20.5	19.5	20.0
3	21.5	19.5	20.5	21.5	19.0	20.0	24.0	22.0	23.0	20.0	18.0	19.0
4	22.0	20.0	21.0	19.5	18.0	18.5	24.0	22.5	23.0	18.0	16.0	17.0
5	21.5	20.0	20.5	19.5	18.5	19.0	23.0	21.5	22.5	18.0	17.0	17.0
6	21.5	19.5	20.5	20.0	18.0	19.0	22.5	21.5	22.0	19.0	17.5	18.0
7	20.5	19.0	19.5	19.0	17.5	18.5	22.5	21.0	21.5	18.5	18.0	18.5
8	21.0	18.5	19.5	18.0	17.0	17.5	22.5	21.5	22.0	18.0	17.5	18.0
9	21.5	19.0	20.0	18.0	16.0	17.0	22.5	21.0	21.5	18.5	17.5	18.0
10	22.0	19.5	20.5	19.5	17.0	18.0	22.0	20.5	21.0	18.0	17.0	17.5
11	23.0	20.5	21.5	20.5	19.0	19.5	21.5	20.0	20.5	17.0	16.5	16.5
12	23.0	20.5	22.0	21.5	20.0	20.5	20.5	19.5	20.5	17.0	16.0	16.5
13	24.0	21.0	22.5	23.5	21.5	22.5	20.5	18.5	19.5	16.5	16.0	16.5
14	23.0	21.0	21.5	24.0	23.0	23.5	19.0	18.0	18.5	17.0	16.0	16.5
15	21.0	20.0	21.0	24.0	22.5	23.5	19.0	17.5	18.0	17.0	16.5	17.0
16	21.0	19.5	20.0	25.0	23.5	24.0	20.0	18.5	19.0	17.5	17.0	17.0
17	19.5	18.5	19.0	26.5	24.0	25.0	19.5	18.0	18.5	17.5	16.5	16.5
18	18.5	18.0	18.5	26.0	25.0	25.5	18.5	17.0	18.0	17.5	16.0	16.5
19	18.0	17.5	17.5	25.0	22.5	23.5	18.0	16.5	17.5	17.5	17.0	17.5
20	19.5	17.5	18.0	22.5	20.0	21.0	16.5	16.0	16.5	17.0	16.0	16.5
21	21.0	18.0	19.5	21.0	19.5	20.0	17.0	15.5	16.0	16.0	15.0	15.5
22	22.0	19.5	21.0	21.0	20.0	20.5	17.5	15.5	16.5	15.5	14.0	14.5
23	23.5	21.0	22.0	21.0	20.0	20.5	17.0	16.5	16.5	14.5	13.5	14.0
24	24.0	23.0	23.5	21.0	20.5	21.0	17.5	17.0	17.0	14.5	13.5	14.0
25	24.0	22.5	23.0	22.5	21.0	21.5	18.5	17.0	17.5	15.5	14.0	14.5
26	24.0	22.0	23.0	23.5	22.0	22.5	19.5	18.0	19.0	15.5	14.5	15.0
27	24.0	22.0	23.0	24.0	23.0	23.5	21.0	19.0	20.0	15.5	15.0	15.5
28	23.0	22.0	22.5	24.0	22.5	23.5	21.5	20.0	20.5	16.0	15.0	15.5
29	22.0	21.5	21.5	23.5	22.5	23.0	20.5	19.5	20.0	15.5	14.0	14.5
30	23.0	21.0	22.0	23.0	21.5	22.0	20.0	19.0	19.5	14.0	13.0	13.5
31	---	---	---	22.5	21.0	21.5	20.0	19.0	19.5	---	---	---
MONTH	24.0	17.0	20.7	26.5	16.0	21.3	24.0	15.5	19.6	20.5	13.0	16.5

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 sea level. Prior to Mar. 25, 1951, nonrecording gage.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 19 to Dec. 4 and Dec. 15 to Feb. 17. Records good except those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Maximum stage since 1915, 16.6 ft April 1934, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	226	317	380	270	300	283	1470	384	308	271	321	430
2	220	295	350	280	310	292	1770	376	286	468	313	573
3	214	282	340	290	290	291	2420	368	273	531	302	576
4	213	271	320	300	300	295	2120	351	268	383	294	440
5	214	279	342	320	300	289	1600	339	280	344	282	381
6	214	284	330	300	300	275	1350	332	284	363	275	349
7	212	276	316	290	290	268	1150	326	280	321	269	328
8	212	271	320	320	280	278	864	341	267	405	263	319
9	215	275	314	310	270	302	721	341	261	392	258	320
10	215	260	308	310	280	295	657	332	257	335	252	310
11	214	246	306	310	290	304	609	333	254	315	248	301
12	212	229	269	310	290	310	577	332	253	294	245	297
13	212	230	282	300	280	313	552	326	250	339	245	285
14	210	243	272	300	280	291	532	317	245	428	242	275
15	210	262	270	300	290	278	516	312	247	387	247	272
16	212	460	250	310	320	309	497	312	254	352	253	295
17	283	1740	250	320	350	322	477	317	250	329	256	626
18	386	3060	250	320	287	299	466	322	246	313	269	639
19	286	1800	250	320	277	290	461	326	248	307	277	485
20	267	1300	240	330	271	295	456	314	252	353	364	416
21	256	900	250	330	283	313	444	315	251	531	387	368
22	245	580	250	330	282	380	428	297	243	628	323	345
23	325	500	260	320	279	466	416	291	239	796	312	330
24	414	450	250	300	282	516	407	298	241	756	349	318
25	357	390	240	300	311	488	400	305	256	537	325	311
26	314	370	240	290	307	441	392	289	250	489	293	304
27	291	370	240	280	294	527	388	281	248	453	274	287
28	278	380	250	290	282	949	390	277	248	447	263	282
29	274	380	260	290	---	1580	384	281	282	397	258	277
30	377	390	260	290	---	1890	381	306	280	368	431	268
31	367	---	260	290	---	1790	---	313	---	339	679	---
TOTAL	8145	17090	8719	9420	8175	15219	23295	9954	7801	12971	9369	11007
MEAN	263	570	281	304	292	491	777	321	260	418	302	367
MAX	414	3060	380	330	350	1890	2420	384	308	796	679	639
MIN	210	229	240	270	270	268	381	277	239	271	242	268
CFSM	.63	1.36	.67	.73	.70	1.17	1.86	.77	.62	1.00	.72	.88
IN.	.72	1.52	.78	.84	.73	1.35	2.07	.89	.69	1.15	.83	.98
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1997, BY WATER YEAR (WY)												
MEAN	264	262	226	202	221	490	635	360	341	271	262	283
MAX	579	704	470	412	657	1021	2054	767	778	667	513	762
(WY)	1986	1971	1966	1981	1981	1983	1965	1954	1993	1979	1980	1986
MIN	139	138	122	97.2	85.2	155	166	153	153	135	126	141
(WY)	1959	1959	1959	1959	1959	1956	1959	1958	1959	1964	1964	1958
SUMMARY STATISTICS FOR 1996 CALENDAR YEAR FOR 1997 WATER YEAR WATER YEARS 1951 - 1997												
ANNUAL TOTAL	140387			141165			318			1986		
ANNUAL MEAN	384			387			318			1959		
HIGHEST ANNUAL MEAN							424					
LOWEST ANNUAL MEAN							152					
HIGHEST DAILY MEAN	3060			Nov 18			3060			Nov 18		
LOWEST DAILY MEAN	199			Sep 19			210			Oct 14, 15		
ANNUAL SEVEN-DAY MINIMUM	201			Sep 14			212			Oct 10		
INSTANTANEOUS PEAK FLOW							3250			Nov 18		
INSTANTANEOUS PEAK STAGE							10.47			Nov 18		
INSTANTANEOUS LOW FLOW							208			Oct 14		
ANNUAL RUNOFF (CFSM)	.92						.93			.76		
ANNUAL RUNOFF (INCHES)	12.49						12.56			10.34		
10 PERCENT EXCEEDS	582						520			489		
50 PERCENT EXCEEDS	290						304			239		
90 PERCENT EXCEEDS	213						248			150		

(a) Ice affected

(b) From rating curve extended above 9,000 ft³/s

(c) Result of freezeup

LOCATION.--Lat 44°53'02", long 91°55'57", in NW 1/4 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 sea level (Northern States Power Co. bench mark). Prior to Sept. 3, 1908, non-recording 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.--No estimated daily discharges. Records good (see page 11). Flow regulated by powerplants at Menomonie and Cedar Falls. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	1960	1950	1300	1230	1300	4990	1410	1340	1160	1350	2540
2	1140	1760	1680	1440	1220	1240	5240	1540	1180	2520	1220	2060
3	1060	1680	1430	1390	1210	1450	6220	1460	1090	1930	1340	2170
4	1010	1600	1530	1630	1220	1470	8570	1470	1140	1830	1290	1940
5	1030	1680	1450	1680	1240	1420	6920	1270	1180	1430	1050	1930
6	1070	1870	1640	1420	1170	1340	6120	1380	1190	1390	1130	1630
7	1180	1860	1560	1380	1190	1230	5450	1440	1180	1280	1080	1350
8	1070	1430	1560	1430	1150	1290	5010	1340	1100	1710	910	1320
9	1070	1440	1610	1550	1080	1470	4530	1410	1040	1680	883	1340
10	1000	1380	1570	1460	1140	1590	4040	1400	1060	1380	845	1340
11	1120	1300	1580	1420	1170	1640	3530	1350	1050	1300	872	1380
12	1010	994	1620	1280	1140	1560	3150	1340	1050	1340	952	1300
13	1080	949	1500	1270	1140	1580	2750	1330	1020	1300	1030	1690
14	1020	926	1480	1270	1160	1180	2520	1290	986	1450	931	1380
15	1050	1340	1240	1290	1200	1010	2510	1350	1100	1440	991	1130
16	1040	2340	1090	1250	1070	1120	2420	1330	1170	1440	959	1490
17	1550	4590	1090	1180	1200	1400	1870	1260	1000	1350	975	2090
18	1800	5030	1210	1080	1180	1580	1090	1370	1020	1320	1030	2900
19	1910	5670	916	1130	1220	1500	1100	1330	1040	1240	1180	2780
20	1560	4950	958	1290	1200	1370	1150	1370	1050	1390	1460	2510
21	1290	3960	1100	1240	1270	1460	1580	1380	1030	1840	1630	1870
22	1510	3050	1090	1290	1230	1490	1790	1190	985	2200	1450	1690
23	1620	2530	1350	1240	1110	1900	1570	1240	950	2290	1860	1670
24	1860	2190	1040	1350	957	1980	1580	1410	1160	2220	1890	1440
25	1730	1570	932	1220	1120	1810	1510	1280	1120	1900	1660	1320
26	1580	1500	1080	1160	1280	1750	1510	1240	1030	1950	1760	1300
27	1650	1320	1140	1190	1330	2030	1580	1200	976	2090	1200	1410
28	1500	1330	1230	1190	1140	2580	1490	1190	985	1970	1180	1340
29	1720	1720	1310	1140	---	2550	1460	1280	1040	1910	1090	1310
30	1830	1690	1230	1200	---	4000	1490	1220	1200	1590	2070	1250
31	1990	---	1320	1220	---	4690	---	1310	---	1400	2550	---
TOTAL	42210	65609	41486	40580	32967	53980	94740	41380	32462	51240	39818	50870
MEAN	1362	2187	1338	1309	1177	1741	3158	1335	1082	1653	1284	1696
MAX	1990	5670	1950	1680	1330	4690	8570	1540	1340	2520	2550	2900
MIN	1000	926	916	1080	957	1010	1090	1190	950	1160	845	1130

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1907 - 1997, BY WATER YEAR (WY)

MEAN	1141	1158	979	897	951	1930	2308	1484	1463	1118	967	1196
MAX	2806	2521	2316	1317	2047	4142	6819	2947	3702	2926	2237	3091
(WY)	1969	1992	1966	1973	1966	1973	1965	1938	1943	1968	1995	1938
MIN	528	566	541	532	536	921	664	612	425	421	383	493
(WY)	1933	1937	1933	1959	1959	1956	1930	1934	1934	1934	1934	1933

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1907 - 1997
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ANNUAL TOTAL		618395			587342														
ANNUAL MEAN		1690			1609							1299							
HIGHEST ANNUAL MEAN												1842						1983	
LOWEST ANNUAL MEAN												711						1931	
HIGHEST DAILY MEAN		7630		Apr 13	8570		Apr 4		29000					Apr 4	1934				
LOWEST DAILY MEAN		838		Aug 31	845		Aug 10		100					Nov 8	1907				
ANNUAL SEVEN-DAY MINIMUM		877		Sep 13	918		Aug 8		310					Sep 8	1934				
INSTANTANEOUS PEAK FLOW					12200		Apr 3		(a) 40000					Apr 4	1934				
INSTANTANEOUS PEAK STAGE							Apr 3		(b) 16.00					Apr 4	1934				
10 PERCENT EXCEEDS		2710			2210							2180							
50 PERCENT EXCEEDS		1330			1340							1050							
90 PERCENT EXCEEDS		968			1040							635							

(a) From rating curve extended above 27,000 ft³/s on basis of computed flow over Cedar Falls Dam, 6 mi upstream

(a) From rating curve
(b) From floodmarks

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.

ANNUAL TOTAL	3677990		3455300			
ANNUAL MEAN	10050		9467		7727	
HIGHEST ANNUAL MEAN					11550	1942
LOWEST ANNUAL MEAN					3992	1931
HIGHEST DAILY MEAN	62100	Apr 22	55700	Apr 7	117000	Apr 2 1967
LOWEST DAILY MEAN	2950	Oct 14	2750	Aug 14	1100	Nov 24 1950
ANNUAL SEVEN-DAY MINIMUM	4050	Aug 29	3360	Aug 8	1580	Oct 28 1948
INSTANTANEOUS PEAK FLOW			56000	Apr 7	123000	Apr 2 1967
INSTANTANEOUS PEAK STAGE			13.07	Apr 7	16.93	Apr 2 1967
INSTANTANEOUS LOW FLOW			2230	Aug 14	1020	Nov 24 1950
10 PERCENT EXCEEDS	17100		13100		14300	
50 PERCENT EXCEEDS	7890		8000		5620	
90 PERCENT EXCEEDS	4790		4960		2990	

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.

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

REVISED RECORDS.--WDR WI-67-1: 1966. WDR WI-81-1: Drainage area. WDR WI-92-1: 1975-79(M), 1977, 1978.

GAGE.--Water-stage recorder, crest-stage gage, and v-notch sharp-crested weir. Datum of gage is 900.00 ft above sea level (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 sea level. Aug. 1, 1957, to June 6, 1966, nonrecording gage at downstream site at datum of 910.45 ft above sea level. June 7, 1966, to Oct. 31, 1968, nonrecording gage at downstream site at datum of 909.45 ft above sea level.

REMARKS.--No estimated daily discharges. Records good (see page 11). Low flow slightly regulated and high flow completely regulated by flood-control dam 770 ft upstream. Data-collection platform at station.

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 sea level, 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	27	28	19	20	20	142	25	21	24	17	57
2	18	23	29	20	19	20	154	62	21	293	17	36
3	17	21	27	20	19	20	105	57	21	104	17	40
4	16	21	25	24	19	22	77	29	21	50	17	34
5	17	21	25	25	19	22	67	29	22	35	17	28
6	17	20	24	24	19	21	102	27	21	28	17	23
7	16	21	23	28	19	20	72	26	21	25	17	22
8	17	20	22	36	19	20	43	27	21	33	17	21
9	17	19	22	36	18	20	37	28	20	44	17	19
10	17	18	22	32	19	21	36	29	20	34	17	16
11	17	18	22	27	19	22	34	24	20	28	18	18
12	17	18	22	25	19	26	32	23	19	25	19	19
13	17	18	21	24	18	31	31	23	19	27	19	20
14	17	18	22	22	18	29	31	24	19	25	19	31
15	17	21	23	22	18	27	28	24	22	24	20	30
16	18	404	22	21	18	26	26	23	20	23	20	218
17	25	739	22	21	18	24	27	23	20	24	20	452
18	22	148	22	20	18	23	27	25	21	22	20	103
19	20	59	22	20	18	22	27	24	22	22	24	46
20	18	39	21	20	18	23	27	24	22	22	29	28
21	18	32	21	20	18	25	27	23	21	23	24	25
22	18	29	21	22	19	66	27	23	21	130	22	24
23	25	28	22	21	19	186	25	22	21	503	21	23
24	27	27	21	22	18	187	25	25	23	67	20	22
25	26	25	21	21	19	113	26	24	23	28	20	21
26	23	25	20	20	19	79	26	22	20	24	19	20
27	20	24	20	21	19	363	25	22	20	18	20	20
28	19	23	20	20	19	1030	26	21	23	17	19	19
29	22	23	20	20	---	499	25	23	26	17	19	15
30	32	26	20	20	---	312	24	22	23	16	168	15
31	34	---	20	20	---	127	---	20	---	16	143	---
TOTAL	621	1955	692	713	522	3446	1381	823	634	1771	873	1465
MEAN	20.0	65.2	22.3	23.0	18.6	111	46.0	26.5	21.1	57.1	28.2	48.8
MAX	34	739	29	36	20	1030	154	62	26	503	168	452
MIN	16	18	20	19	18	20	24	20	19	16	17	15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1997, BY WATER YEAR (WY)

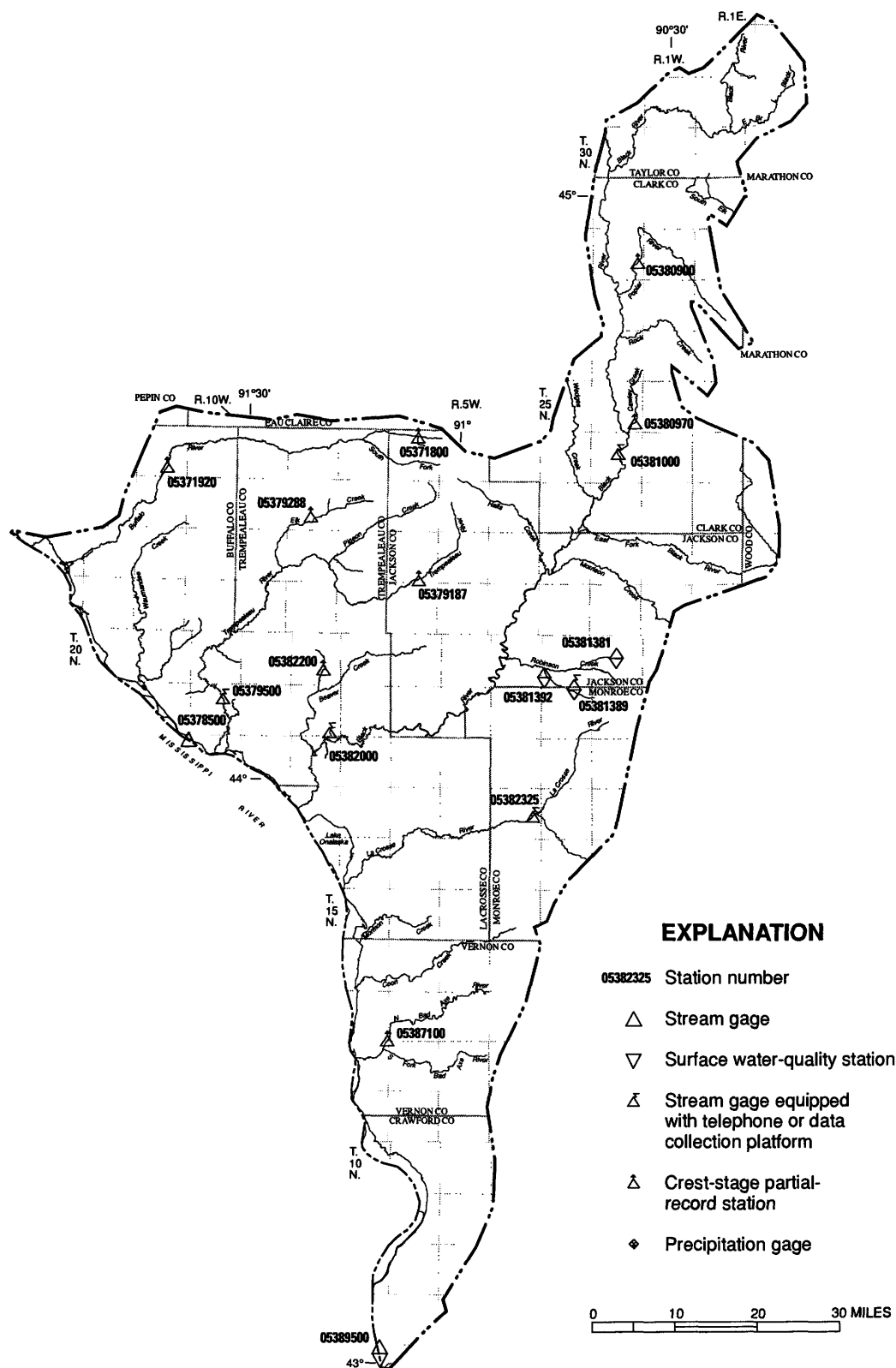
	MEAN	26.3	28.1	18.7	15.3	20.3	77.0	65.4	36.7	40.2	27.6	29.3	31.6
MAX	81.3	86.2	39.7	23.0	71.6	164	128	94.9	148	94.1	90.1	153	
(WY)	1971	1971	1978	1997	1981	1989	1969	1973	1980	1978	1995	1986	
MIN	10.4	7.24	4.22	5.21	5.77	10.1	19.5	12.4	11.6	12.5	5.95	9.81	
(WY)	1970	1969	1969	1969	1969	1970	1987	1977	1969	1988	1969	1969	

CHIPPEWA RIVER BASIN
05370000 EAU GALLE RIVER AT SPRING VALLEY, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1969 - 1997	
ANNUAL TOTAL	13277.8		14896			
ANNUAL MEAN	36.3		40.8		34.7	
HIGHEST ANNUAL MEAN					55.8 1980	
LOWEST ANNUAL MEAN					21.2 1988	
HIGHEST DAILY MEAN	739	Nov 17	1030	Mar 28	2190	Mar 28 1989
LOWEST DAILY MEAN	3.7	Sep 26	15	Sep 29,30	(a).00	Aug 12-16 1971
ANNUAL SEVEN-DAY MINIMUM	13	Sep 26	17	Oct 3	.91	Sep 15 1969
INSTANTANEOUS PEAK FLOW			1470	Mar 28	(b)3030	Jun 7 1980
INSTANTANEOUS PEAK STAGE			17.38	Mar 28	(b)19.90	Jun 7 1980
INSTANTANEOUS LOW FLOW			13	Sep 29	(a).00	Aug 11-16 1971
10 PERCENT EXCEEDS	54		45		48	
50 PERCENT EXCEEDS	21		22		18	
90 PERCENT EXCEEDS	17		18		12	

(a) 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

(b) Peak discharge and stage prior to construction of flood-control reservoir occurred Apr. 15, 1954, and was 7,000 ft³/s and 12.50 ft (datum then in use), respectively



Base from U.S. Geological Survey 1:100,000 digital data;
modified by Wisconsin Department of Natural Resources.
Wisconsin Transverse Mercator projection.

TREMPEALEAU-BLACK RIVER BASIN

MISSISSIPPI RIVER MAIN STEM
05378500 MISSISSIPPI RIVER AT WINONA, MN

LOCATION.--Lat 44°03'21", long 91°38'16", in sec.23, T.107 N., R.7 W., Winona County, Hydrologic Unit 07040003, on right bank at Winona pumping station in Winona, 9.5 mi upstream from Trempealeau River, and at mile 725.7 upstream from the Ohio River.

DRAINAGE AREA.--59,200 mi², approximately.

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 sea level. June 10, 1928, to Apr. 15, 1931, non-recording 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.--Estimated daily discharges: Dec. 20 to Mar. 2 and Aug. 27 to Sept. 30. Records good except those for estimated daily discharges, which are fair to poor (see page 11). Some regulation by reservoirs, navigation dams, and powerplants at low and medium stages. Flood flow not materially affected by artificial storage. Daily discharges for some days provided by the U.S. Army Corps of Engineers.

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 U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19500	36500	45500	25000	27000	27700	74400	90900	42800	34800	66100	42000
2	17600	37100	56400	25100	27000	29700	80000	85900	42900	35600	64700	43000
3	19200	38100	63600	26800	27400	31400	88000	83000	42800	40000	63900	42000
4	19700	39000	62800	27800	28300	29800	97900	79200	42300	45100	62100	41000
5	19700	40300	62600	31500	29200	28700	112000	76700	39800	49500	59800	40000
6	17800	41000	62000	32800	29100	28600	130000	75300	39200	51400	58700	39000
7	16400	39800	62900	27700	29000	28700	147000	72800	37700	51500	56000	37000
8	15600	38800	62400	25800	27400	28900	161000	70500	36300	51300	52000	35000
9	15300	37600	56100	27000	27300	29400	173000	69100	35500	52200	48700	33000
10	16400	35800	41700	29200	27000	28500	184000	66100	34200	52900	44900	31000
11	16100	35700	39000	31600	27000	28200	192000	64200	32500	52600	40100	30000
12	15100	35800	37700	30000	27000	28400	194000	63700	31400	52800	37600	29000
13	15200	34700	36800	26900	26900	31800	193000	62100	29900	52700	37200	28000
14	15800	33400	36900	26400	26700	32500	190000	59700	29000	53200	32800	27000
15	15100	31400	36600	26500	26600	34000	187000	59300	27300	53100	32000	26000
16	15500	30400	33000	27800	26700	38000	183000	58000	24300	52900	31800	25000
17	15100	33900	30300	27300	26700	38600	178000	56200	21200	54000	32300	27000
18	16400	40600	27100	21600	26700	36800	171000	55400	23500	55500	31300	32000
19	22500	46400	21000	23300	27300	35500	164000	55100	27400	57500	29900	37000
20	25600	52100	22000	26400	27600	36700	156000	52700	27400	58100	31200	36000
21	27000	58700	24000	28400	28000	37400	148000	48800	27000	57400	35800	36000
22	27800	62200	26000	28800	28200	39100	141000	50600	26900	57100	39100	35000
23	28800	62500	33200	28700	28300	43800	133000	48000	26200	56500	40900	32000
24	28900	55400	33200	28600	28600	49900	127000	46600	23500	58000	41000	30000
25	30200	54700	33000	28400	28200	53900	120000	46600	20800	61900	41800	28000
26	32500	43300	30900	28300	26700	55400	113000	45000	19500	63500	41500	28000
27	33200	39000	26200	25700	27000	58200	108000	41900	20600	64200	41000	27000
28	34500	38700	25200	25700	27500	60500	103000	42500	27600	68200	40000	27000
29	35200	37500	25000	25700	---	64300	97500	42900	31200	70000	38000	28000
30	35200	42200	25000	25800	---	68400	94600	42900	34300	68600	39000	28000
31	36000	---	25000	25800	---	72300	---	42900	---	67100	40000	---
TOTAL	698900	1252600	1203100	846400	770400	1235100	4240400	1854600	925000	1699200	1351200	979000
MEAN	22550	41750	38810	27300	27510	39840	141300	59830	30830	54810	43590	32630
MAX	36000	62500	63600	32800	29200	72300	194000	90900	42900	70000	66100	43000
MIN	15100	30400	21000	21600	26600	27700	74400	41900	19500	34800	29900	25000
AC-FT	1386000	2485000	2386000	1679000	1528000	2450000	8411000	3679000	1835000	3370000	2680000	1942000
CFSM	.38	.71	.66	.46	.46	.67	2.39	1.01	.52	.93	.74	.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1997, BY WATER YEAR (WY)												
MEAN	22610	22960	17710	15230	15410	30460	61430	48710	39170	31600	21440	22540
MAX	85950	50040	40440	30480	35900	86420	152600	111500	100200	118800	67560	69490
(WY)	1987	1972	1992	1983	1984	1983	1965	1986	1993	1993	1993	1986
MIN	6774	7367	6286	6742	7874	9023	12810	11930	8450	7063	5391	6790
(WY)	1934	1934	1934	1940	1977	1934	1931	1931	1934	1934	1934	1933

SUMMARY STATISTICS				FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1928 - 1997	
ANNUAL TOTAL				15263500		17055900			
ANNUAL MEAN				41700		46730		29140	
HIGHEST ANNUAL MEAN								56850	1986
LOWEST ANNUAL MEAN								9742	1934
HIGHEST DAILY MEAN				143000	Apr 25	194000	Apr 12	264000	Apr 20 1965
LOWEST DAILY MEAN				14800	Sep 17	15100	Oct 12	2250	Dec 29 1933
ANNUAL SEVEN-DAY MINIMUM				15400	Oct 11	15400	Oct 11	3210	Dec 27 1933
INSTANTANEOUS PEAK FLOW						194000	Apr 11	268000	Apr 19 1965
INSTANTANEOUS PEAK STAGE						18.27	Apr 11	(a) 20.77	Apr 19 1965
INSTANTANEOUS LOW FLOW								(b) 1940	Dec 12 1980
ANNUAL RUNOFF (AC-FT)				30280000		33830000		21110000	
ANNUAL RUNOFF (CFSM)				.70		.79		.49	
10 PERCENT EXCEEDS				69500		73400		60400	
50 PERCENT EXCEEDS				34400		36000		20900	
90 PERCENT EXCEEDS				18100		25100		9900	

(a) From highwater mark
(b) Result of ice jam

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 sea level. 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: Ice-affected periods, Nov. 14-17 and Nov. 24 to Mar. 18. Records good except those for ice-affected periods, which are fair (see page 11). Gage-height telemeter and data-collection platform at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	349	495	300	280	310	340	1820	648	493	473	479	493
2	333	450	300	300	310	350	1430	719	457	428	456	870
3	322	425	300	310	310	350	1230	717	437	420	529	923
4	319	415	300	330	310	340	1120	678	423	417	686	664
5	317	432	300	350	300	340	1030	630	433	406	542	574
6	316	434	300	350	300	340	1020	586	462	395	483	524
7	316	426	300	340	300	340	993	556	490	420	447	496
8	313	413	300	320	290	340	858	554	484	426	433	482
9	312	403	300	310	290	350	758	556	479	455	416	551
10	310	397	300	310	300	380	713	541	448	431	405	578
11	311	386	300	310	300	420	682	520	421	409	398	527
12	310	373	300	320	300	470	664	503	420	396	406	491
13	310	363	300	320	300	500	655	485	420	403	431	444
14	310	480	300	320	300	540	632	478	409	416	442	450
15	310	800	300	320	300	600	611	479	396	399	535	448
16	310	1200	300	320	300	760	596	490	402	386	621	462
17	335	1300	300	320	300	720	584	494	440	451	563	789
18	383	1440	280	330	330	640	571	484	420	469	490	808
19	394	1120	260	330	350	607	567	480	401	453	452	643
20	371	842	240	330	360	594	569	471	396	566	468	574
21	354	620	260	330	350	664	570	455	699	528	548	518
22	371	539	280	330	340	931	560	443	818	497	519	485
23	552	517	290	330	330	1170	543	441	643	611	501	473
24	651	450	290	320	320	1210	532	437	522	648	744	461
25	555	360	260	320	320	1090	523	448	478	543	563	453
26	474	300	240	320	330	937	513	474	459	700	492	446
27	428	270	250	320	330	1080	506	463	432	553	463	436
28	404	280	260	320	340	1380	505	444	415	770	446	437
29	415	300	260	320	---	1650	505	454	445	854	433	433
30	563	320	260	320	---	1890	510	515	492	615	463	422
31	564	---	270	310	---	2030	---	534	---	547	513	---
TOTAL	11882	16550	8800	9960	8820	23353	22370	16177	14134	15485	15367	16355
MEAN	383	552	284	321	315	753	746	522	471	500	496	545
MAX	651	1440	300	350	360	2030	1820	719	818	854	744	923
MIN	310	270	240	280	290	340	505	437	396	386	398	422
CFSM	.60	.86	.44	.50	.49	1.17	1.16	.81	.73	.78	.77	.85
IN.	.69	.96	.51	.58	.51	1.35	1.29	.94	.82	.90	.89	.95

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

MEAN	376	390	324	280	328	824	682	483	488	412	363	411
MAX	1314	856	953	679	878	2325	2146	1320	1516	1332	1050	1239
(WY)	1955	1992	1983	1973	1981	1936	1965	1973	1993	1993	1975	1992
MIN	169	181	139	117	119	289	301	195	183	163	138	153
(WY)	1951	1950	1959	1959	1959	1968	1964	1934	1964	1964	1964	1948

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1914 - 1997

ANNUAL TOTAL	197368		179253			
ANNUAL MEAN	539		491		448	
HIGHEST ANNUAL MEAN					813	1973
LOWEST ANNUAL MEAN					237	1964
HIGHEST DAILY MEAN	3660	Mar 27	2030	Mar 31	12900	Apr 4 1956
LOWEST DAILY MEAN	(a) 240	Dec 20, 26	(a) 240	Dec 20, 26	(a) 98	Jan 10 1938
ANNUAL SEVEN-DAY MINIMUM	(a) 257	Dec 25	(a) 257	Dec 25	(a) 106	Jan 7 1938
INSTANTANEOUS PEAK FLOW			2050	Mar 31	17400	Apr 4 1956
INSTANTANEOUS PEAK STAGE			8.74	Mar 31	(b) 10.35	Apr 4 1956
ANNUAL RUNOFF (CFSM)	.84		.76		.70	
ANNUAL RUNOFF (INCHES)	11.42		10.37		9.46	
10 PERCENT EXCEEDS	793		718		731	
50 PERCENT EXCEEDS	430		437		340	
90 PERCENT EXCEEDS	304		300		198	

(a) Ice affected

(b) Datum then in use

BLACK RIVER BASIN
05381000 BLACK RIVER AT NEILLSVILLE, WI

LOCATION.--Lat 44°33'34", long 90°36'52", in sec.15, T.24 N., R.2 W., Clark County, Hydrologic Unit 07040007, on right bank at downstream side of bridge on U.S. Highway 10 in Neillsville, 1.0 mi downstream from O'Neill Creek, and 2.6 mi upstream from Cunningham Creek.

DRAINAGE AREA.--749 mi².

PERIOD OF RECORD.--April 1905 to March 1909, October 1913 to current year. Monthly discharge 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 and crest-stage gage. Datum of gage is 962.34 ft above sea level. 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: Oct. 2, 3, and ice-affected period, Nov. 24 to Apr. 1. Records good except those for ice-affected period, which is poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	148	1270	320	130	140	150	8800	498	990	151	158	628
2	130	999	350	130	130	170	12200	479	684	4760	135	879
3	120	719	270	140	130	190	11400	596	483	2730	663	610
4	110	522	210	150	130	210	9840	546	360	2290	690	549
5	98	433	220	250	140	200	8390	461	366	1700	422	411
6	93	391	200	270	140	200	8150	386	577	1250	281	312
7	86	375	200	240	130	190	6790	337	476	803	203	249
8	80	359	160	220	130	180	4730	454	669	746	150	211
9	77	340	170	200	130	170	2910	541	709	1510	121	248
10	73	314	170	180	130	180	1910	579	660	1310	104	367
11	72	248	170	170	130	240	1380	484	457	909	93	708
12	72	194	170	160	130	290	1050	389	420	585	95	623
13	71	182	170	150	130	320	841	327	441	414	103	425
14	68	192	180	150	130	320	718	294	501	327	98	321
15	66	180	190	140	130	320	642	288	426	277	121	256
16	66	4070	180	140	120	310	589	270	457	242	128	321
17	203	6040	170	130	120	300	564	263	289	477	113	4120
18	348	4770	160	130	120	290	540	249	235	243	106	2940
19	397	3590	150	120	130	280	532	258	208	198	102	1800
20	398	2260	140	120	150	280	513	266	257	179	163	1060
21	316	1520	150	130	160	520	502	276	498	179	290	718
22	267	1010	150	130	170	920	482	268	719	169	532	536
23	332	696	150	130	160	1500	443	239	591	169	578	414
24	473	460	140	140	160	1700	410	220	461	156	1070	327
25	723	270	140	140	160	1400	364	234	470	164	406	271
26	757	160	130	140	160	1100	329	295	289	215	293	231
27	605	170	130	140	150	2800	308	338	224	293	255	201
28	466	180	130	140	150	6000	283	309	182	343	213	187
29	425	210	130	140	---	7400	266	391	160	281	178	169
30	898	250	130	140	---	6600	286	1100	162	224	265	158
31	1290	---	130	140	---	6600	---	1330	---	188	543	---
TOTAL	9328	32374	5460	4830	3890	41330	86162	12965	13421	23482	8672	20250
MEAN	301	1079	176	156	139	1333	2872	418	447	757	280	675
MAX	1290	6040	350	270	170	7400	12200	1330	990	4760	1070	4120
MIN	66	160	130	120	120	150	266	220	160	151	93	158
CFSM	.40	1.44	.24	.21	.19	1.78	3.83	.56	.60	1.01	.37	.90
IN.	.46	1.61	.27	.24	.19	2.05	4.28	.64	.67	1.17	.43	1.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1997, BY WATER YEAR (WY)

	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916
MEAN	392	463	191	109	122	1256	1970	868	827	310	246	537
MAX	2101	2345	1133	615	1348	3960	5025	3538	4689	1538	1293	4304
(WY)	1983	1992	1966	1973	1984	1973	1951	1973	1905	1978	1928	1938
MIN	20.7	27.1	35.9	10.0	5.00	56.7	270	77.4	43.0	14.9	10.5	5.77
(WY)	1934	1977	1934	1918	1918	1940	1946	1934	1964	1933	1933	1933

BLACK RIVER BASIN

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05381000 BLACK RIVER AT NEILLSVILLE, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1905 - 1997	
ANNUAL TOTAL	274733		262164		604	
ANNUAL MEAN	751		718		1213	1942
HIGHEST ANNUAL MEAN					160	1931
LOWEST ANNUAL MEAN					38200	Sep 10 1938
HIGHEST DAILY MEAN	9060	Jun 18	12200	Apr 2	.70	(b) Aug 10 1936
LOWEST DAILY MEAN	(a) 49	Sep 23	66	Oct 15, 16	1.0	Aug 10 1936
ANNUAL SEVEN-DAY MINIMUM	55	Sep 19	70	Oct 10	48800	Sep 10 1938
INSTANTANEOUS PEAK FLOW			12800	Apr 2	23.80	Sep 10 1938
INSTANTANEOUS PEAK STAGE			13.36	Apr 2	.60	Aug 15 1936
INSTANTANEOUS LOW FLOW			64	Oct 16	.81	
ANNUAL RUNOFF (CFSM)	1.00		.96		10.96	
ANNUAL RUNOFF (INCHES)	13.64		13.02		1510	
10 PERCENT EXCEEDS	1730		1280		150	
50 PERCENT EXCEEDS	220		268		36	
90 PERCENT EXCEEDS	83		130			

(a) May have been less during period of no gage-height record, Sept. 19-20

(b) Also occurred Aug. 11, 14-16, 1936

BLACK RIVER BASIN

05381381 PIGEON CREEK BELOW PIGEON CREEK FLOWAGE NEAR MILLSTON, WI

LOCATION.--Lat 44°12'40", long 90°36'54", in sec.16, T.20 N., R.2 W., Jackson County, Hydrologic Unit 07040007, on dam headwall of Pigeon Creek Flowage and 3 mi northeast of Millston.

DRAINAGE AREA.--5.67 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to September 1997 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 950 ft, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 1-5, Jan. 4 to Feb. 17, and Mar. 4-7. Records are fair (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.90	.31	.54	.85	4.9	2.6	2.3	.01	.00	.67
2	.00	.00	.90	.31	.52	1.1	4.7	3.0	1.8	.00	.00	1.2
3	.00	.00	.90	.34	.50	1.1	4.6	3.1	1.3	.00	.00	1.4
4	.00	.00	.90	.28	.50	1.0	4.2	3.0	1.0	.00	.00	1.2
5	.00	.00	.90	.28	.50	1.0	4.0	2.6	.89	.00	.00	.87
6	.00	.00	.84	.28	.50	1.0	3.6	2.4	1.0	.00	.00	.68
7	.00	.00	.78	.28	.50	1.0	3.2	2.1	1.1	.00	.00	.43
8	.00	.00	.70	.28	.50	1.1	2.8	2.1	.98	.00	.00	.30
9	.00	.00	.69	.28	.50	1.2	2.6	2.0	.78	.00	.00	.52
10	.00	.00	.69	.28	.50	1.5	2.2	2.0	.60	.00	.00	.56
11	.00	.00	.60	.28	.50	1.8	2.1	1.6	.50	.00	.00	.51
12	.00	.00	.59	.28	.50	2.1	1.9	1.2	.45	.00	.00	.37
13	.00	.00	.59	.28	.50	2.6	1.9	.98	.47	.00	.00	.32
14	.00	.00	.59	.28	.50	2.5	1.8	.88	.37	.00	.00	.31
15	.00	.00	.64	.28	.52	2.2	1.7	.95	.31	.00	.31	.27
16	.00	.02	.52	.28	.54	2.1	1.6	.99	.34	.00	1.3	.43
17	.00	.77	.55	.28	.56	2.0	1.5	.98	.30	.00	1.8	1.3
18	.00	1.7	.53	.28	.69	2.0	1.5	.91	.29	.00	1.9	1.6
19	.00	2.1	.54	.28	.76	2.0	1.5	.84	.21	.00	1.7	1.9
20	.00	1.8	.46	.30	.78	2.1	1.5	.73	.14	.00	1.8	1.9
21	.00	1.6	.47	.37	.85	2.6	1.4	.71	.20	.00	1.8	1.7
22	.00	1.2	.42	.50	.88	3.3	1.3	.58	.12	.00	1.6	1.3
23	.00	1.1	.40	.50	.88	3.7	1.2	.47	.11	.00	1.3	1.1
24	.00	1.0	.34	.50	.88	3.7	1.1	.62	.15	.00	1.3	.75
25	.00	.98	.34	.50	.87	3.8	1.0	1.1	.41	.00	1.2	.48
26	.00	.91	.39	.50	.78	3.7	.92	1.2	.37	.00	.95	.33
27	.00	.92	.39	.50	.78	3.8	.82	1.2	.34	.00	.73	.17
28	.00	.93	.41	.50	.78	4.5	.78	1.0	.26	.00	.41	.08
29	.00	.88	.36	.50	---	4.7	.71	1.5	.11	.00	.29	.05
30	.00	.99	.39	.50	---	4.7	1.2	2.2	.04	.00	.52	.01
31	.00	---	.37	.52	---	4.8	---	2.5	---	.00	.75	---
TOTAL	0.00	16.90	18.09	11.13	17.61	75.55	64.23	48.04	17.24	0.01	19.66	22.71
MEAN	.000	.56	.58	.36	.63	2.44	2.14	1.55	.57	.000	.63	.76
MAX	.00	2.1	.90	.52	.88	4.8	4.9	3.1	2.3	.01	1.9	1.9
MIN	.00	.00	.34	.28	.50	.85	.71	.47	.04	.00	.00	.01
CFSM	.00	.10	.10	.06	.11	.43	.38	.27	.10	.00	.11	.13
IN.	.00	.11	.12	.07	.12	.50	.42	.32	.11	.00	.13	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

	MEAN	.000	.56	.58	.36	.63	2.44	2.14	1.55	.57	.000	.32	.38
MAX	.000	.56	.58	.36	.63	2.44	2.14	1.55	.57	.000	.63	.76	
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	
MIN	.000	.56	.58	.36	.63	2.44	2.14	1.55	.57	.000	.000	.000	
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996	1996	

SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1996 - 1997

ANNUAL TOTAL	311.17		
ANNUAL MEAN	.85	.85	
HIGHEST ANNUAL MEAN		.85	1997
LOWEST ANNUAL MEAN		.85	1997
HIGHEST DAILY MEAN	4.9	Apr 1	1997
LOWEST DAILY MEAN	.00	Many days	
ANNUAL SEVEN-DAY MINIMUM	.00	Many periods	
INSTANTANEOUS PEAK FLOW	4.9	Mar 31	1997
INSTANTANEOUS PEAK STAGE	17.29	Mar 31	1997
INSTANTANEOUS LOW FLOW	.00	Many days	
ANNUAL RUNOFF (CFSM)	.15		
ANNUAL RUNOFF (INCHES)	2.04		
10 PERCENT EXCEEDS	2.1		
50 PERCENT EXCEEDS	.50		
90 PERCENT EXCEEDS	.00		

05381381 PIGEON CREEK BELOW PIGEON CREEK FLOWAGE NEAR MILLSTON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1996 to September 1997 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 1996 to September 1997 (discontinued).

INSTRUMENTATION.--Continuous water-temperature recorder July 1996 to September 1997.

REMARKS.--Water temperatures are for the flowage upstream of the dam. Water samples are of surface of flowage unless there is discharge from the outlet. All water samples are equal-width increment (EWI) samples unless indicated with an asterisk. Chemical analyses by the Wisconsin State Laboratory of Hygiene.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum observed, 31.5°C, July 18, 1997; minimum observed, 0.5°C, Oct. 31 and Nov. 2, 10-11, 1996.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 31.5°C, July 18; minimum observed, 0.5°C, Oct. 31 and Nov. 2, 10-11.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AM- MONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT 1996											
*07...	1632	0.0	20	5.4	14.0	11.1	1	0.057	<0.027	0.70	0.019
*30...	1658	0.0	29	5.3	6.0	12.2	26	0.146	0.020	0.80	0.040
APR 1997											
14...	1240	1.8	21	5.2	7.5	11.2	<5	0.025	<0.013	0.50	0.013
28...	1350	0.78	20	5.5	16.0	9.8	<5	<0.010	0.014	0.40	0.012
MAY											
12...	1325	1.5	23	5.2	14.0	10.1	<5	<0.010	<0.013	0.60	0.016
29...	1145	1.6	22	6.6	14.0	9.4	<5	<0.010	<0.013	0.40	0.024
JUN											
25...	1330	0.38	20	5.5	26.5	7.3	3	<0.010	<0.013	0.90	0.029
JUL											
*08...	1725	0.0	20	5.7	21.0	8.0	3	<0.010	<0.013	0.70	0.019
*23...	1150	0.0	20	5.4	24.5	7.4	<5	<0.010	<0.013	0.51	0.019

* Grab samples

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.0	14.5	16.5	2.0	1.0	1.5	4.5	3.5	4.0	2.5	2.5	2.5
2	17.0	14.0	15.5	2.5	.5	1.0	4.5	3.5	4.0	2.5	2.0	2.5
3	16.0	12.0	14.0	3.0	1.5	2.0	4.5	3.5	4.0	2.5	2.5	2.5
4	13.0	11.5	12.0	3.0	2.5	3.0	4.5	3.5	4.0	2.5	2.5	2.5
5	14.0	11.0	12.5	4.5	2.5	3.5	4.5	3.5	4.0	2.5	2.0	2.5
6	16.0	13.5	14.5	6.0	4.5	5.0	4.5	4.0	4.0	2.5	2.0	2.0
7	14.5	13.0	13.5	5.0	4.5	4.5	4.0	3.5	4.0	2.0	2.0	2.0
8	15.5	11.5	13.0	4.5	3.0	3.5	4.0	3.5	4.0	2.0	2.0	2.0
9	13.0	11.0	12.0	3.0	1.5	2.5	4.0	3.5	4.0	2.0	2.0	2.0
10	13.0	10.0	11.5	1.5	.5	.5	4.0	3.5	4.0	2.0	2.0	2.0
11	11.5	10.0	11.0	1.5	.5	1.0	4.0	3.5	3.5	2.0	2.0	2.0
12	14.5	10.5	12.5	2.5	1.5	2.0	3.5	3.5	3.5	2.0	2.0	2.0
13	16.5	12.0	14.5	3.5	2.5	3.0	3.5	3.5	3.5	2.0	2.0	2.0
14	14.5	12.5	13.5	4.0	3.5	4.0	3.5	3.5	3.5	2.0	2.0	2.0
15	15.5	11.5	13.5	4.0	3.5	4.0	3.5	3.5	3.5	2.0	2.0	2.0
16	17.0	12.0	14.5	4.0	3.5	4.0	3.5	3.5	3.5	2.0	1.5	2.0
17	16.5	13.5	15.0	4.0	3.5	3.5	3.5	3.0	3.5	2.0	1.5	1.5
18	13.5	10.5	12.0	4.0	3.0	3.5	3.5	3.0	3.0	1.5	1.5	1.5
19	10.5	9.5	10.0	4.0	3.5	4.0	3.5	3.0	3.0	1.5	1.5	1.5
20	10.0	8.0	9.0	4.0	4.0	4.0	3.5	3.0	3.0	1.5	1.5	1.5
21	9.5	9.0	9.5	4.0	4.0	4.0	3.0	3.0	3.0	1.5	1.5	1.5
22	9.5	9.0	9.0	4.0	3.5	4.0	3.0	3.0	3.0	1.5	1.5	1.5
23	9.5	8.5	9.5	4.0	3.5	4.0	3.0	3.0	3.0	2.0	1.5	1.5
24	8.5	7.0	8.0	4.0	3.5	4.0	3.0	3.0	3.0	2.0	1.5	1.5
25	9.0	6.5	7.5	4.0	3.5	4.0	3.0	3.0	3.0	2.0	1.5	1.5
26	11.0	8.0	9.5	4.0	3.5	4.0	3.0	2.5	3.0	1.5	1.5	1.5
27	11.0	10.0	11.0	4.0	3.5	4.0	3.0	2.5	2.5	1.5	1.5	1.5
28	10.0	8.5	9.0	4.0	3.5	4.0	2.5	2.5	2.5	1.5	1.5	1.5
29	9.0	7.5	8.0	4.0	3.5	4.0	2.5	2.5	2.5	1.5	1.5	1.5
30	8.0	3.0	6.5	4.5	3.5	4.0	2.5	2.5	2.5	1.5	1.5	1.5
31	3.5	.5	2.5	---	---	---	2.5	2.5	2.5	1.5	1.5	1.5
MONTH	18.0	.5	11.3	6.0	.5	3.3	4.5	2.5	3.4	2.5	1.5	1.8

BLACK RIVER BASIN

05381381 PIGEON CREEK BELOW PIGEON CREEK FLOWAGE NEAR MILLSTON, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1.5	1.5	1.5	3.0	2.5	2.5	5.5	4.0	5.0	16.0	11.5	13.5
2	1.5	1.5	1.5	3.5	2.5	3.0	6.0	5.0	5.5	15.0	12.5	13.5
3	1.5	1.5	1.5	4.0	3.5	3.5	6.5	4.0	5.5	14.5	11.5	13.0
4	1.5	1.5	1.5	4.0	3.5	3.5	7.5	5.0	6.5	15.5	12.0	14.0
5	1.5	1.5	1.5	3.5	3.0	3.5	9.0	7.5	8.5	17.0	13.5	15.5
6	1.5	1.5	1.5	3.5	2.5	3.0	9.0	4.5	7.5	17.5	14.0	16.0
7	1.5	1.5	1.5	3.0	3.0	3.0	5.0	2.0	3.5	16.5	14.0	14.5
8	1.5	1.0	1.5	3.5	3.0	3.0	3.5	1.0	2.5	16.0	13.5	14.5
9	1.5	1.0	1.5	3.5	3.0	3.5	5.5	3.0	4.0	15.5	12.0	13.5
10	1.5	1.5	1.5	4.5	3.5	4.0	5.5	4.0	4.5	17.5	13.0	14.5
11	1.5	1.5	1.5	5.0	4.0	4.5	6.5	4.0	5.5	17.0	14.5	15.5
12	1.5	1.0	1.5	5.5	5.0	5.0	5.5	4.0	5.0	15.0	12.0	13.5
13	1.5	1.0	1.5	5.0	4.0	4.5	7.5	3.5	5.5	15.5	12.0	13.5
14	1.5	1.0	1.5	5.0	3.5	4.0	9.0	5.0	7.0	14.5	12.0	13.5
15	1.5	1.0	1.5	4.0	3.0	3.5	11.0	7.0	8.5	12.0	10.5	11.5
16	1.5	1.0	1.0	3.5	3.0	3.0	9.5	6.0	7.5	12.5	10.0	11.0
17	1.0	1.0	1.0	3.5	3.0	3.0	10.0	5.5	7.5	15.5	10.5	13.0
18	1.5	1.0	1.5	3.5	3.0	3.0	9.0	8.0	8.5	16.5	12.5	14.0
19	1.5	1.0	1.5	3.5	3.0	3.0	10.5	8.5	9.0	15.5	13.5	15.0
20	2.0	1.5	1.5	3.5	3.0	3.0	12.0	9.0	10.5	15.0	13.5	14.0
21	2.0	1.5	1.5	4.0	3.0	3.5	15.0	10.5	12.5	18.5	13.0	15.5
22	2.0	1.5	1.5	4.5	3.5	4.0	16.0	11.5	14.0	20.0	14.5	17.0
23	2.5	2.0	2.0	4.5	4.0	4.5	14.5	13.0	13.5	20.0	17.5	18.5
24	2.5	2.0	2.0	5.0	4.0	4.5	15.0	12.5	14.0	19.0	16.5	17.5
25	2.5	2.0	2.5	4.5	3.5	4.0	16.0	13.0	14.5	16.5	15.0	16.0
26	3.0	2.5	2.5	4.5	3.5	4.0	16.0	13.5	14.5	15.5	14.0	15.0
27	3.0	2.5	2.5	4.5	4.0	4.5	16.5	15.0	15.5	16.0	13.0	15.0
28	3.0	2.5	2.5	4.5	4.0	4.5	19.5	14.5	16.0	15.5	14.5	15.0
29	---	---	---	4.0	2.5	3.5	20.5	16.0	18.0	14.5	14.0	14.0
30	---	---	---	3.0	2.5	3.0	19.5	13.5	16.5	18.0	13.5	15.0
31	---	---	---	5.0	2.5	4.0	---	---	---	21.5	15.0	18.0
MONTH	3.0	1.0	1.6	5.5	2.5	3.6	20.5	1.0	9.2	21.5	10.0	14.6
	JUNE			JULY			AUGUST			SEPTEMBER		
1	23.5	17.0	20.0	31.5	26.5	28.5	26.0	24.0	25.0	26.0	22.0	24.0
2	22.5	19.0	20.5	29.0	23.0	26.0	28.5	24.0	26.0	25.0	23.0	24.0
3	22.5	19.5	21.0	23.0	20.0	21.5	29.5	25.0	27.0	24.5	21.0	22.5
4	23.5	20.0	21.5	21.5	18.5	20.0	27.5	25.0	26.5	23.0	19.0	21.0
5	22.0	19.5	20.5	22.5	19.0	20.5	27.0	23.5	25.0	21.5	19.0	20.0
6	20.5	18.0	19.5	24.0	20.0	21.5	25.5	23.5	24.0	23.5	19.0	21.0
7	19.5	17.0	18.0	22.5	20.0	21.5	26.5	22.5	24.0	22.5	20.5	21.0
8	19.0	16.0	17.5	21.5	20.0	20.5	26.0	23.5	25.0	22.0	20.0	20.5
9	21.5	17.5	19.5	23.5	19.0	21.0	26.5	23.5	25.0	22.5	20.5	21.5
10	24.5	18.5	21.0	24.5	20.5	22.5	25.5	24.0	25.0	21.5	20.0	21.0
11	24.0	20.0	22.0	25.5	22.0	23.5	24.0	22.0	23.0	22.5	19.0	20.5
12	26.0	20.0	22.0	26.0	24.0	25.0	23.0	21.5	22.0	22.5	18.5	20.5
13	25.0	21.0	23.0	29.0	25.0	26.5	25.0	20.5	22.5	21.0	19.0	19.5
14	23.5	20.0	22.0	28.5	25.5	27.0	22.5	20.0	21.0	20.5	18.5	19.0
15	22.5	20.5	21.0	29.0	25.0	27.0	24.5	20.0	21.0	20.5	18.5	19.5
16	21.5	20.0	20.5	31.0	26.5	28.5	24.5	21.5	23.0	20.5	19.5	20.0
17	22.0	19.0	20.5	30.5	26.5	28.5	24.5	20.0	21.5	21.5	19.5	20.5
18	24.5	20.0	22.0	31.5	27.5	29.0	22.0	19.5	20.0	22.0	18.5	20.5
19	22.5	20.5	21.5	29.0	24.0	25.5	20.5	19.0	19.5	21.5	20.5	21.0
20	25.0	20.0	22.0	26.5	23.0	24.5	19.5	18.5	19.0	20.5	18.5	19.5
21	26.5	22.0	24.0	27.5	25.0	26.0	21.5	18.0	19.5	19.0	16.5	18.0
22	27.0	23.5	25.0	25.5	23.5	24.5	22.5	18.5	20.5	18.0	16.5	17.0
23	29.0	25.0	27.0	26.0	23.0	24.5	21.0	19.0	19.5	19.5	16.0	17.5
24	28.0	26.0	27.5	27.0	23.5	25.0	22.0	19.0	20.0	17.5	15.5	17.0
25	27.0	25.0	26.0	27.0	24.5	26.0	21.5	19.0	20.0	20.0	16.5	18.0
26	28.0	24.5	26.0	29.5	26.0	27.5	23.5	20.0	21.0	19.5	17.0	18.5
27	28.5	24.0	26.0	28.5	26.5	27.5	26.0	21.0	23.0	18.5	17.5	18.0
28	28.5	25.0	27.0	29.0	25.5	27.0	27.5	22.5	24.5	19.5	17.5	18.0
29	30.5	25.5	27.5	27.5	24.5	26.0	24.5	22.0	23.0	18.5	15.5	17.0
30	29.5	26.5	28.0	27.5	23.5	25.0	23.0	21.5	22.0	16.0	14.5	15.5
31	---	---	---	26.5	23.0	24.5	24.5	21.5	22.5	---	---	---
MONTH	30.5	16.0	22.6	31.5	18.5	24.9	29.5	18.0	22.6	26.0	14.5	19.7

BLACK RIVER BASIN
05381389 CLEAR CREEK NEAR MILLSTON, WI

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LOCATION.--Lat 44°09'22", long 90°42'46", in sec.2, T.19 N., R.3 W., Monroe County, Hydrologic Unit 07040007, on right bank 25 ft upstream from 14th Avenue, near Millston.

DRAINAGE AREA.--19.48 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to September 1997 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 870 ft, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 4-5, July 8, and ice-affected periods, Jan. 4-8, 10-15, and 26. Records fair (see page 11).
 Diurnal fluctuation caused by cranberry operation above station. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	6.1	18	10	9.5	16	71	24	22	10	.81	12
2	2.2	6.2	17	10	9.6	14	61	51	24	8.9	3.3	11
3	2.7	6.4	16	10	9.6	13	30	67	7.2	11	7.5	7.5
4	4.3	9.8	15	10	10	13	17	36	2.2	12	15	4.5
5	4.0	26	15	9.8	10	11	17	25	12	9.9	2.6	10
6	4.5	17	15	9.6	10	10	15	22	10	11	6.8	9.7
7	2.1	13	14	9.6	10	10	14	22	10	11	4.1	9.7
8	3.6	18	13	9.4	10	16	10	23	10	13	.25	11
9	2.0	12	13	9.3	10	15	11	23	15	6.9	.87	12
10	1.4	11	13	9.3	10	16	128	24	8.7	7.8	5.8	12
11	3.7	10	12	9.3	10	17	50	22	7.9	9.3	3.0	9.4
12	2.1	11	12	9.3	10	15	23	19	21	9.0	1.2	5.8
13	5.3	10	12	9.3	10	15	18	19	17	8.6	1.4	7.2
14	3.2	10	12	9.3	12	17	15	16	16	11	.28	12
15	1.6	15	14	9.3	13	15	25	19	17	9.2	11	5.1
16	2.2	23	12	9.3	12	45	26	24	17	9.2	13	12
17	2.4	20	9.0	45	13	25	17	17	16	11	9.9	13
18	2.6	17	5.4	23	18	17	14	13	15	4.2	5.3	9.9
19	1.3	15	6.7	15	17	18	12	12	15	7.1	8.1	9.3
20	5.2	14	11	13	14	17	12	16	13	8.4	9.6	8.3
21	4.1	15	9.4	11	11	25	11	19	14	20	9.1	13
22	4.1	13	8.9	15	10	35	15	20	13	19	6.1	9.0
23	4.6	14	105	11	10	38	25	13	12	3.1	7.9	8.3
24	3.0	14	33	11	10	23	11	14	15	.67	8.3	10
25	3.7	13	17	10	19	18	12	16	19	.72	6.8	6.6
26	5.9	13	14	10	18	68	11	15	6.8	2.6	13	10
27	5.4	13	13	10	12	30	11	15	7.3	6.1	9.3	9.4
28	3.7	13	12	10	14	21	10	12	11	17	7.0	6.9
29	3.8	13	12	9.8	---	26	9.9	17	11	8.4	5.7	4.7
30	4.9	18	11	9.8	---	26	14	19	13	7.2	16	12
31	5.4	---	11	9.7	---	39	---	17	---	2.7	14	---
TOTAL	109.0	409.5	501.4	366.1	331.7	684	715.9	671	398.1	275.99	213.01	281.3
MEAN	3.52	13.6	16.2	11.8	11.8	22.1	23.9	21.6	13.3	8.90	6.87	9.38
MAX	5.9	26	105	45	19	68	128	67	24	20	16	13
MIN	1.3	6.1	5.4	9.3	9.5	10	9.9	12	2.2	.67	.25	4.5
CFSM	.18	.70	.83	.61	.61	1.13	1.22	1.11	.68	.46	.35	.48
IN.	.21	.78	.96	.70	.63	1.30	1.37	1.28	.76	.53	.41	.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

	1996	1997	1997	1997	1997	1997	1997	1997	1997	1996	1996	1996
MEAN	3.52	13.6	16.2	11.8	11.8	22.1	23.9	21.6	13.3	10.1	7.23	8.03
MAX	3.52	13.6	16.2	11.8	11.8	22.1	23.9	21.6	13.3	16.0	7.59	9.38
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996	1996	1997
MIN	3.52	13.6	16.2	11.8	11.8	22.1	23.9	21.6	13.3	8.90	6.87	6.69
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996

SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1996 - 1997

ANNUAL TOTAL	4957.00	
ANNUAL MEAN	13.6	12.7
HIGHEST ANNUAL MEAN		13.6
LOWEST ANNUAL MEAN		7.94
HIGHEST DAILY MEAN	128	128
LOWEST DAILY MEAN	.25	.25
ANNUAL SEVEN-DAY MINIMUM	1.8	1.8
INSTANTANEOUS PEAK FLOW	240	240
INSTANTANEOUS PEAK STAGE	15.33	15.33
INSTANTANEOUS LOW FLOW	.03	.03
ANNUAL RUNOFF (CFSM)	.70	.65
ANNUAL RUNOFF (INCHES)	9.46	8.85
10 PERCENT EXCEEDS	22	21
50 PERCENT EXCEEDS	11	10
90 PERCENT EXCEEDS	4.1	4.2

BLACK RIVER BASIN
05381389 CLEAR CREEK NEAR MILLSTON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1996 to September 1997 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 1996 to September 1997 (discontinued).

DISSOLVED OXYGEN: July 1996 to September 1997 (discontinued).

INSTRUMENTATION.--Water-quality sampler July 1996 to September 1997; continuous water temperature recorder July 1996 to September 1997; dissolved oxygen recorder July 1996 to September 1997.

REMARKS.--Chemical analyses by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum observed, 24.5°C, June 23 and July 16, 1997; minimum observed, 0.0°C, Mar. 13 and 14, 1997.

DISSOLVED OXYGEN: Maximum observed, 14.8 mg/L, Dec. 24-27, 1996; minimum observed, 1.0 mg/L, July 17, 1997.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 24.5°C, June 23 and July 16; minimum observed, 0.0°C, Mar. 13 and 14.

DISSOLVED OXYGEN: Maximum observed, 14.8 mg/L, Dec. 24-27; minimum observed, 1.0 mg/L, July 17.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	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)
OCT 1996											
*08...	1228	6.8	64	6.2	9.0	12.9	6	0.059	0.110	0.40	0.360
*29...	1745	7.3	--	--	--	--	22	0.137	0.169	0.50	0.379
*30...	1238	4.2	61	6.4	8.5	10.4	6	0.123	0.146	0.50	0.245
APR 1997											
10...	0800	62	--	6.5	--	--	108	0.043	0.065	1.2	0.595
10...	0815	81	--	6.4	--	--	156	0.038	0.069	1.6	0.645
10...	0830	110	--	6.5	--	--	240	0.069	0.075	2.4	0.732
10...	0845	155	--	6.4	--	--	228	0.060	0.071	2.1	0.636
*15...	1155	15	43	6.4	--	--	6	0.078	0.112	0.50	0.123
*29...	1305	10	41	6.3	14.0	10.0	<5	0.053	0.142	0.50	0.109
MAY											
*13...	0950	24	48	6.2	7.5	10.7	12	0.051	0.084	0.40	0.277
*28...	1630	13	40	6.5	13.5	9.4	11	0.030	0.049	0.40	0.177
JUN											
*10...	1435	1.4	45	6.4	18.0	7.1	14	0.070	0.063	0.40	0.132
*24...	1515	12	42	6.6	23.0	7.2	7	0.034	0.091	0.40	0.216
JUL											
*08...	1400	16	60	6.4	15.5	7.6	6	0.059	0.133	0.60	0.202
*08...	1500	16	60	6.6	15.5	7.6	113	0.034	0.141	1.7	0.531
*22...	1415	12	49	6.5	20.0	7.1	10	0.052	0.121	0.80	0.161

COMPOSITE SAMPLE

BEGIN- NING DATE	BEGIN- NING TIME	ENDING DATE	ENDING TIME	RUNOFF MILLIONS OF CUBIC FEET (99905)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	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)
06-01-97	1430	06-02-97	0830	1.72	7.1	16	0.016	0.037	0.60	0.224

*Equal-width increment (EWI) sample

05381389 CLEAR CREEK NEAR MILLSTON, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	16.0	12.5	14.0	6.0	4.0	5.0	4.0	3.0	3.5	4.0	3.0	3.5
2	14.0	9.5	12.5	6.5	4.5	5.0	3.5	2.5	3.0	4.5	3.5	4.0
3	11.5	8.5	10.0	8.0	4.5	6.5	4.0	3.0	3.5	5.0	3.5	4.0
4	10.5	8.0	9.0	---	---	---	4.0	2.5	3.5	4.0	3.5	4.0
5	13.5	9.5	11.5	---	---	---	4.0	3.5	4.0	4.0	1.5	2.5
6	13.5	11.5	12.5	8.0	6.0	7.0	4.0	3.5	3.5	2.0	1.0	1.5
7	12.0	9.5	11.0	7.5	6.0	6.5	4.0	2.5	3.5	2.5	1.0	1.5
8	11.0	8.0	9.5	6.5	5.5	6.0	3.5	3.5	3.5	3.5	1.5	2.5
9	12.0	8.5	10.5	6.5	4.5	5.5	4.0	3.0	3.5	3.0	1.5	2.5
10	11.5	7.5	9.5	5.0	4.0	4.5	4.0	3.0	3.5	2.0	.5	1.5
11	10.5	7.5	9.0	4.5	3.5	4.0	4.5	3.5	4.0	1.0	.5	.5
12	13.0	8.5	11.0	4.0	2.5	3.0	4.5	4.0	4.0	1.0	.5	.5
13	15.0	10.5	12.5	5.0	2.0	3.0	5.0	4.0	4.5	1.5	.5	1.0
14	13.0	10.5	11.5	4.5	2.0	3.0	4.5	2.5	4.0	2.0	.5	1.0
15	15.0	9.0	11.5	3.5	2.0	3.0	4.0	2.5	3.5	2.0	1.5	2.0
16	15.0	8.0	11.5	5.5	3.5	4.5	3.5	2.0	3.0	1.5	.5	.5
17	15.0	10.5	13.0	6.0	3.5	5.0	3.5	1.5	2.5	.5	.5	.5
18	11.5	5.5	9.5	4.5	2.5	3.5	2.0	1.0	1.5	1.5	.5	1.0
19	11.0	4.0	8.0	4.0	3.0	3.5	2.5	1.0	2.0	2.0	1.0	1.5
20	11.0	8.0	9.5	4.0	3.0	3.5	2.0	1.0	1.5	2.5	1.0	2.0
21	10.5	10.0	10.0	4.0	2.5	3.5	3.5	2.0	2.5	3.0	1.5	2.5
22	10.5	9.5	10.0	4.5	4.0	4.5	3.5	3.0	3.0	3.0	1.5	2.5
23	10.5	9.5	10.0	4.5	3.0	4.0	3.0	.5	1.5	2.5	1.0	1.5
24	9.5	8.0	8.5	4.5	3.5	4.0	1.0	1.0	1.0	2.5	1.5	2.0
25	11.5	8.0	9.5	4.0	2.5	3.0	1.5	1.0	1.5	1.5	.5	1.0
26	12.5	10.0	11.5	3.5	2.0	2.5	2.0	1.0	1.5	1.5	.5	1.0
27	12.5	9.5	11.5	3.5	2.0	2.5	2.5	1.0	2.0	2.0	.5	1.0
28	10.5	7.5	9.0	4.5	3.0	3.5	3.5	2.5	3.0	1.5	.5	.5
29	10.0	7.0	8.5	4.5	3.5	4.0	3.0	2.0	2.5	1.5	.5	1.0
30	10.0	5.5	8.0	4.5	4.0	4.0	3.0	2.0	2.5	2.5	1.0	1.5
31	6.5	4.0	5.0	---	---	---	3.5	2.5	3.0	3.5	2.0	2.5
MONTH	16.0	4.0	10.3	---	---	---	5.0	.5	2.9	5.0	.5	1.8
FEBRUARY			MARCH			APRIL			MAY			
1	4.0	2.5	3.5	4.0	3.0	3.5	8.5	4.0	6.0	14.5	6.0	10.0
2	5.0	2.5	3.5	5.0	2.0	3.5	10.0	5.5	7.5	11.5	9.0	10.5
3	4.0	1.5	2.5	5.0	2.5	3.5	11.0	6.5	8.5	13.5	10.0	11.5
4	3.0	1.5	2.5	3.5	2.0	3.0	12.5	9.5	11.0	14.5	7.5	11.0
5	3.0	2.5	2.5	4.0	2.0	3.0	11.0	10.5	11.0	15.5	10.5	12.5
6	4.0	2.0	2.5	3.5	1.0	2.0	10.5	5.5	8.5	16.0	7.5	11.5
7	4.0	2.5	3.0	3.0	1.0	2.0	6.5	3.5	5.0	11.5	9.0	10.5
8	4.5	1.5	3.0	4.5	1.5	2.5	6.5	2.5	4.0	15.0	10.0	12.0
9	3.5	.5	2.0	5.5	3.0	4.0	7.0	2.5	4.5	15.0	9.5	11.5
10	3.5	2.0	2.5	6.0	2.5	4.0	6.5	3.0	5.0	16.5	7.5	12.0
11	4.0	2.5	3.0	6.0	3.5	4.5	7.5	5.0	6.0	15.5	11.5	13.0
12	3.5	.5	2.0	4.5	2.0	3.5	7.0	5.0	6.0	14.5	9.0	11.5
13	3.5	.5	2.0	2.0	.0	.5	10.0	4.0	6.5	13.5	6.0	10.0
14	3.5	1.0	2.0	2.0	.0	1.0	11.5	5.0	8.0	11.0	9.0	9.5
15	3.0	.5	1.5	2.5	.5	1.0	10.5	6.5	8.5	10.5	7.5	9.0
16	3.5	1.0	2.0	2.5	.5	1.0	9.0	5.5	7.0	12.0	6.5	9.0
17	4.5	1.5	2.5	5.0	1.0	3.0	12.0	4.5	7.5	16.5	7.5	11.5
18	5.0	3.0	3.5	5.0	2.0	3.0	8.5	6.5	7.5	14.5	9.5	12.0
19	4.5	2.0	3.0	6.0	1.5	3.5	9.5	7.5	8.0	13.0	10.5	12.0
20	4.0	2.0	3.0	7.5	2.5	4.5	12.5	7.0	9.5	13.0	8.0	10.5
21	4.0	2.0	3.5	7.0	3.0	4.5	14.5	7.5	10.5	16.0	6.5	11.0
22	4.5	1.0	2.5	6.0	3.0	4.0	14.5	7.5	10.5	17.0	8.0	12.5
23	3.5	1.0	2.0	6.0	2.5	4.0	11.5	9.5	11.0	17.0	11.0	14.0
24	3.5	.5	1.5	3.0	1.5	2.5	12.5	8.0	10.0	14.0	11.5	12.0
25	3.0	1.0	1.5	3.5	2.0	3.0	13.5	6.0	10.0	15.0	11.5	13.0
26	4.5	2.0	3.0	5.0	2.0	3.5	13.0	7.5	10.5	15.5	10.0	12.5
27	5.5	3.0	4.0	9.0	3.0	5.0	13.0	10.0	11.0	16.5	9.0	12.5
28	4.0	3.0	3.5	8.0	3.5	6.0	16.0	7.5	11.5	13.5	10.5	12.0
29	---	---	---	5.5	3.5	4.5	17.0	9.5	13.0	12.5	11.5	12.0
30	---	---	---	4.5	3.0	4.0	13.5	6.0	9.5	16.5	12.0	13.5
31	---	---	---	6.5	2.5	4.5	---	---	---	21.0	12.5	16.5
MONTH	5.5	.5	2.6	9.0	.0	3.3	17.0	2.5	8.4	21.0	6.0	11.7

BLACK RIVER BASIN
05381389 CLEAR CREEK NEAR MILLSTON, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	21.0	14.0	17.5	23.5	16.5	20.0	17.5	15.0	16.0	21.0	18.0	19.5
2	20.5	15.5	18.0	22.0	16.5	18.5	21.0	15.0	18.0	20.5	18.0	19.0
3	---	---	---	17.0	15.0	16.0	21.0	19.0	20.0	18.0	15.0	17.0
4	---	---	---	17.5	14.0	15.5	20.0	18.0	19.5	18.5	13.5	16.0
5	19.0	15.5	17.0	19.0	13.5	16.0	18.0	13.5	15.5	17.5	16.0	16.5
6	16.5	14.5	15.5	19.0	14.5	17.0	18.5	14.0	16.5	18.5	15.5	17.0
7	15.5	14.0	15.0	17.0	13.5	15.0	18.5	14.5	17.0	18.0	16.5	17.0
8	18.0	13.0	15.5	17.0	14.5	16.0	20.5	13.0	16.0	19.0	16.0	17.5
9	18.5	14.0	16.0	19.0	12.0	15.0	23.0	11.5	16.0	19.0	16.5	18.0
10	21.0	13.0	16.5	20.0	13.5	16.5	19.0	17.5	18.5	18.0	15.0	16.5
11	20.0	11.5	16.0	20.5	15.5	18.0	18.0	14.5	16.5	18.0	13.5	15.5
12	18.5	16.0	17.5	20.0	16.5	18.5	17.0	13.5	15.5	15.5	13.0	14.5
13	21.5	14.5	17.5	23.0	18.0	20.0	18.0	11.5	16.0	16.0	13.0	15.0
14	22.0	16.0	19.0	22.0	18.0	20.5	16.0	9.0	12.5	17.0	15.0	16.0
15	19.0	16.5	18.0	23.0	17.5	20.0	21.0	14.5	17.5	16.5	14.5	15.0
16	19.5	16.0	17.5	24.5	18.5	21.5	20.0	18.0	19.5	18.0	16.5	17.0
17	21.0	15.0	18.0	24.0	19.0	21.5	19.5	16.5	18.0	18.5	16.0	17.0
18	21.0	16.5	19.0	21.5	17.0	18.5	17.5	14.5	16.0	19.0	15.5	17.5
19	20.5	17.0	18.5	19.5	16.5	18.5	17.0	16.0	16.5	18.5	17.5	18.0
20	20.0	16.5	18.0	19.0	17.0	18.0	16.0	15.5	16.0	17.5	15.5	16.5
21	21.5	17.0	19.5	23.0	18.0	19.5	17.5	15.0	16.0	15.5	13.5	14.5
22	22.5	17.0	20.0	22.5	18.0	20.5	18.0	15.0	16.5	14.5	13.0	14.0
23	24.5	19.0	21.5	18.0	14.5	16.0	17.0	15.5	16.0	16.0	13.0	14.5
24	---	---	---	17.0	13.0	15.0	17.0	15.5	16.0	15.0	13.0	14.0
25	---	---	---	16.5	14.0	15.5	18.5	15.0	16.0	16.5	14.0	15.0
26	---	---	---	22.5	15.5	18.5	21.0	17.5	19.0	17.0	14.0	15.5
27	---	---	---	21.5	20.0	20.5	21.5	18.0	19.5	16.5	15.0	15.5
28	22.5	18.5	20.5	20.5	18.5	19.5	21.5	17.5	19.0	16.5	14.5	15.5
29	23.0	17.5	20.0	19.0	15.5	17.5	20.0	17.5	18.5	15.5	14.0	14.5
30	22.0	19.0	20.5	20.0	14.0	17.0	19.0	17.5	18.0	15.0	13.5	14.0
31	---	---	---	17.5	14.0	16.5	21.0	17.5	19.0	---	---	---
MONTH	---	---	---	24.5	12.0	18.0	23.0	9.0	17.1	21.0	13.0	16.1

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	12.6	11.7	12.2	13.7	13.1	13.4	12.8	12.1	12.4
2	---	---	---	12.1	11.4	11.8	14.0	13.7	13.8	12.5	11.9	12.2
3	---	---	---	11.7	10.0	11.0	14.0	13.7	13.8	12.4	12.1	12.3
4	---	---	---	---	---	---	14.2	13.7	13.9	12.2	11.8	12.1
5	---	---	---	---	---	---	13.7	13.3	13.5	13.3	11.9	12.6
6	---	---	---	13.0	11.7	12.2	13.7	13.4	13.5	13.6	13.2	13.4
7	---	---	---	12.4	11.1	12.1	14.0	13.6	13.8	13.7	13.3	13.5
8	---	---	---	12.6	9.2	12.1	13.9	13.7	13.8	13.5	12.0	13.0
9	---	---	---	12.8	12.1	12.4	14.0	13.5	13.8	13.6	11.5	12.7
10	---	---	---	13.2	12.8	13.0	13.8	13.5	13.7	13.8	12.6	13.4
11	---	---	---	13.8	13.1	13.4	13.6	13.0	13.4	13.8	13.4	13.6
12	---	---	---	14.2	13.4	13.8	13.3	12.9	13.1	13.6	12.9	13.2
13	---	---	---	14.3	13.2	13.8	13.3	12.6	13.1	13.4	13.0	13.2
14	---	---	---	14.4	13.1	13.7	13.8	12.6	13.2	13.4	12.7	13.1
15	---	---	---	14.5	11.2	13.3	13.6	12.0	12.9	12.8	12.1	12.4
16	---	---	---	12.5	11.1	11.8	12.9	11.3	12.4	12.8	12.2	12.5
17	---	---	---	13.1	10.7	11.8	12.6	10.9	11.8	13.1	9.9	11.8
18	---	---	---	13.3	12.0	12.7	13.7	11.6	12.5	12.6	12.0	12.4
19	---	---	---	13.6	12.8	13.1	12.8	11.4	12.0	12.7	12.4	12.5
20	---	---	---	13.6	12.8	13.3	14.1	12.6	13.4	12.7	12.3	12.5
21	---	---	---	14.4	13.3	13.6	13.7	12.8	13.2	12.7	11.7	12.2
22	---	---	---	13.4	13.0	13.2	12.8	11.9	12.3	12.6	11.7	12.1
23	---	---	---	13.4	13.0	13.3	13.7	11.5	12.6	12.9	12.4	12.6
24	---	---	---	13.6	13.3	13.4	14.8	12.6	14.2	12.6	11.7	12.1
25	---	---	---	13.9	13.5	13.8	14.8	14.5	14.7	12.3	11.0	11.6
26	---	---	---	14.3	13.9	14.0	14.8	14.4	14.7	12.0	10.5	11.1
27	---	---	---	14.4	13.8	14.1	14.8	13.9	14.3	11.2	10.7	10.9
28	---	---	---	13.9	13.3	13.6	14.1	13.6	13.8	11.2	10.7	11.0
29	---	---	---	13.4	12.2	13.1	14.3	14.0	14.1	10.9	10.5	10.7
30	---	---	---	13.2	12.2	12.9	14.2	13.6	13.8	10.6	9.0	9.7
31	12.2	11.5	11.8	---	---	---	13.8	12.8	13.3	10.0	8.9	9.3
MONTH	---	---	---	---	---	---	14.8	10.9	13.4	13.8	8.9	12.2

BLACK RIVER BASIN
05381389 CLEAR CREEK NEAR MILLSTON, WI--CONTINUED

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OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	10.6	10.0	10.4	11.6	11.1	11.3	11.9	5.8	10.6	10.8	9.1	10.0
2	10.2	7.9	8.7	11.7	11.1	11.4	11.4	9.4	10.6	10.2	9.7	10.0
3	9.1	8.1	8.7	11.5	10.9	11.2	10.8	8.6	9.9	10.5	9.6	10.1
4	11.7	8.6	10.0	11.8	11.1	11.4	9.6	8.5	8.8	10.5	9.5	9.9
5	11.8	9.4	10.6	11.9	11.2	11.5	9.0	8.7	8.9	9.8	9.1	9.5
6	9.7	9.1	9.4	12.1	11.5	11.8	10.1	8.9	9.4	10.4	9.0	9.6
7	9.6	8.5	8.9	12.2	11.4	11.8	11.2	10.1	10.7	9.9	9.4	9.7
8	8.9	8.5	8.7	11.9	9.3	11.4	11.4	10.6	11.0	9.8	9.1	9.5
9	11.9	8.8	9.9	11.3	10.7	11.1	11.4	10.6	11.0	10.6	9.7	10.0
10	11.8	10.3	11.0	11.6	10.7	11.2	11.7	10.6	11.2	10.7	8.8	9.7
11	11.4	9.6	10.3	11.5	10.8	11.1	11.1	10.4	10.8	9.7	8.9	9.4
12	11.8	11.1	11.5	12.1	10.9	11.4	10.9	10.5	10.7	10.8	9.2	9.7
13	12.0	10.8	11.5	12.6	11.7	12.3	11.2	9.8	10.6	10.9	8.9	9.8
14	12.5	10.6	11.4	12.6	11.4	12.2	10.9	9.3	10.2	9.9	9.1	9.5
15	12.4	11.6	12.0	12.5	12.0	12.3	10.9	9.6	10.3	10.8	9.5	10.0
16	12.2	11.5	11.8	12.3	9.2	11.5	11.1	10.4	10.8	10.9	8.9	10.0
17	11.9	11.1	11.5	11.7	10.9	11.2	11.5	9.8	10.7	10.0	8.2	9.1
18	11.5	10.8	11.2	12.0	11.2	11.6	10.7	10.2	10.5	9.6	8.3	8.9
19	11.6	11.0	11.3	12.2	10.8	11.5	10.5	10.2	10.3	9.7	8.3	9.0
20	11.5	10.8	11.2	11.6	10.2	11.0	10.6	9.6	10.1	10.1	9.0	9.4
21	11.4	10.9	11.1	11.2	10.2	10.9	10.4	9.2	9.8	10.8	8.4	9.5
22	11.8	11.1	11.5	11.4	10.5	11.3	10.4	9.5	10.1	10.3	8.2	9.2
23	12.2	11.3	11.8	11.5	10.6	11.3	10.6	10.0	10.4	9.7	8.0	8.8
24	12.5	11.7	12.1	11.6	10.3	11.0	10.6	9.6	10.1	8.7	8.0	8.4
25	12.8	11.4	11.8	11.6	10.8	11.1	11.1	9.8	10.5	9.6	8.4	8.9
26	12.1	11.0	11.4	11.5	9.7	11.0	10.9	9.8	10.3	10.2	8.8	9.4
27	11.3	10.8	11.0	11.8	7.7	10.1	10.3	9.6	9.9	10.2	8.6	9.3
28	11.7	10.9	11.4	10.3	3.9	8.2	10.7	8.5	9.6	9.9	8.6	9.1
29	---	---	---	12.1	7.4	10.9	9.8	8.3	9.0	9.0	8.7	8.8
30	---	---	---	12.2	11.6	11.9	10.4	8.5	9.4	9.5	8.5	8.9
31	---	---	---	12.2	11.1	11.7	---	---	---	9.4	7.3	8.4
MONTH	12.8	7.9	10.8	12.6	3.9	11.3	11.9	5.8	10.2	10.9	7.3	9.4
JUNE			JULY			AUGUST			SEPTEMBER			
1	8.8	7.3	8.0	8.1	7.3	7.6	7.0	6.8	6.9	8.0	7.0	7.5
2	8.7	7.2	7.8	8.6	7.3	8.0	7.4	6.9	7.2	8.1	6.9	7.2
3	---	---	---	9.2	8.1	8.6	7.6	7.2	7.3	8.0	7.1	7.5
4	---	---	---	9.3	7.6	8.8	7.3	5.6	6.6	8.4	7.3	7.8
5	---	---	---	8.6	6.6	7.9	6.8	6.1	6.5	8.2	7.4	7.7
6	8.1	7.4	7.7	9.2	8.3	8.6	7.5	6.6	7.0	7.9	7.4	7.7
7	8.5	8.0	8.2	9.3	1.0	6.0	7.0	6.2	6.7	7.9	7.2	7.6
8	8.5	7.1	8.0	10.3	2.6	8.1	6.8	5.8	6.4	7.9	7.2	7.6
9	8.4	7.7	8.1	7.4	5.8	7.2	7.1	5.2	6.5	7.8	6.8	7.4
10	8.8	6.6	7.4	7.8	6.7	7.4	7.3	6.9	7.1	7.5	6.1	6.8
11	8.9	7.3	8.1	7.7	7.2	7.5	7.2	6.4	6.9	7.6	6.7	7.3
12	8.5	6.2	7.7	7.6	7.2	7.4	7.2	5.9	6.9	7.8	6.5	7.1
13	7.9	6.1	7.1	7.3	6.7	7.0	7.5	6.8	7.1	8.4	6.3	7.8
14	8.8	7.4	8.0	7.6	6.7	7.1	7.8	6.3	7.0	8.6	7.2	8.1
15	8.8	7.5	8.1	7.4	6.8	7.1	7.2	5.5	6.7	8.6	7.2	7.6
16	8.9	7.7	8.2	7.4	6.6	7.0	7.2	6.2	6.6	8.8	7.4	8.3
17	9.2	7.5	8.3	6.8	5.7	6.6	6.9	6.4	6.7	8.1	7.0	7.6
18	8.8	7.3	8.0	6.6	6.3	6.5	7.5	6.2	6.9	7.7	7.1	7.4
19	8.7	7.3	7.9	7.4	6.3	7.1	7.4	6.8	7.0	7.3	6.8	7.1
20	8.4	7.2	7.8	7.5	6.8	7.1	7.1	6.6	6.8	7.9	7.0	7.5
21	8.4	7.1	7.6	7.3	6.2	7.0	7.1	6.8	6.9	8.5	7.1	7.9
22	8.4	6.9	7.6	7.6	6.6	6.8	7.2	6.7	6.9	8.3	7.8	8.1
23	8.0	6.6	7.2	6.7	6.2	6.5	7.3	6.8	7.1	8.4	8.0	8.2
24	---	---	---	7.1	6.1	6.5	7.3	6.7	7.0	8.7	7.6	8.3
25	---	---	---	6.8	6.2	6.4	7.4	6.2	6.9	8.5	7.9	8.2
26	---	---	---	6.8	6.1	6.4	7.5	7.1	7.3	8.9	7.7	8.1
27	---	---	---	7.1	6.7	6.9	7.3	6.8	7.2	8.2	7.5	7.9
28	9.0	8.3	8.8	7.2	5.3	6.6	7.3	6.6	7.0	8.2	7.6	7.9
29	8.6	7.9	8.3	7.1	5.3	6.5	7.6	6.6	7.1	8.2	7.9	8.0
30	8.8	7.6	8.3	7.4	6.6	7.1	7.5	7.1	7.4	8.6	7.8	8.1
31	---	---	---	7.5	6.7	7.1	7.6	7.3	7.5	---	---	---
MONTH	---	---	---	10.3	1.0	7.2	7.8	5.2	6.9	8.9	6.1	7.7

BLACK RIVER BASIN
05381392 STONY CREEK NEAR SHAMROCK, WI

LOCATION.--Lat 44°10'50", long 90°47'12", in sec.30, T.20 N., R.3 W., Jackson County, Hydrologic Unit 07040007, on right bank 25 ft upstream from County Trunk O, and 1 mi east of Shamrock.

DRAINAGE AREA.--8.59 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to September 1997 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 840 ft, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 2-19, 27, 30-31, Nov. 3, 5, and ice-affected period, Nov. 20 to Mar. 26. Records are good except for estimated daily discharges, which are fair (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	3.7	3.4	2.6	2.6	4.4	7.7	17	3.2	.84	.06	1.2
2	1.1	3.2	3.2	2.6	3.2	4.7	7.1	9.9	2.6	.76	.09	3.9
3	1.1	3.8	3.0	2.7	3.0	5.0	6.5	9.3	2.3	.71	.25	2.1
4	1.1	2.6	2.9	3.0	3.0	4.8	5.9	6.4	2.0	.94	.31	1.1
5	1.1	4.0	2.9	2.9	3.0	4.6	5.7	5.2	2.1	.82	.27	.84
6	1.7	.99	2.9	2.7	3.2	4.5	7.6	4.6	3.6	.76	.72	.82
7	1.6	.89	2.9	2.6	3.0	4.4	5.2	3.9	2.9	.70	.69	.73
8	1.5	.82	3.2	2.6	3.2	4.5	4.1	8.0	2.5	1.7	.38	.70
9	1.4	.72	3.0	2.5	3.0	4.4	3.6	5.7	1.9	1.1	.21	1.7
10	1.3	.74	2.8	2.9	3.2	5.0	3.5	4.0	1.6	.63	.25	1.5
11	1.2	.83	2.8	2.6	3.5	5.8	3.4	3.2	1.4	.46	.15	.95
12	1.9	1.2	3.0	2.5	3.8	5.6	3.4	2.9	1.4	.53	.39	.77
13	2.3	1.4	3.2	2.4	3.7	5.4	3.1	2.7	1.4	.51	.41	.64
14	2.1	1.6	3.0	2.4	3.4	5.2	3.0	2.8	1.1	1.1	.44	.75
15	1.4	1.6	2.9	2.4	4.1	4.8	2.9	3.7	1.1	.60	.78	.77
16	1.6	9.2	2.9	2.4	4.0	4.8	2.6	3.4	1.5	.31	7.1	1.4
17	2.0	20	2.5	2.4	3.9	4.9	2.5	3.1	1.2	.68	3.8	3.4
18	3.2	16	2.4	2.4	4.0	5.0	2.5	3.0	.85	.49	2.4	2.3
19	2.7	3.5	2.2	2.4	4.7	5.2	2.7	2.6	.72	.73	1.7	2.5
20	2.6	4.3	2.2	2.5	4.9	5.0	4.2	2.5	.80	.96	2.5	1.5
21	2.9	4.2	2.1	2.5	4.7	4.8	2.9	2.8	1.1	.68	2.2	.84
22	2.9	4.2	2.2	2.5	4.5	6.0	3.2	2.5	.93	.58	1.4	.57
23	3.9	4.1	2.3	2.9	4.2	7.0	2.7	2.5	.67	.39	1.2	.42
24	4.1	3.9	2.3	2.7	4.1	8.0	3.1	4.4	.93	.19	1.1	.36
25	4.0	3.5	2.2	2.6	4.0	6.4	2.7	9.6	3.4	.79	1.0	.44
26	1.9	3.2	2.1	2.5	4.1	7.8	2.5	5.3	1.8	.65	.92	.26
27	2.7	3.0	2.0	2.4	4.3	16	2.4	3.7	1.2	.52	.90	.29
28	2.7	3.0	2.3	2.3	4.4	23	2.5	3.2	.85	.53	.81	.56
29	2.2	3.0	2.3	2.2	---	19	2.4	5.0	.72	.66	.72	.66
30	7.0	3.5	2.4	2.2	---	11	4.6	7.2	.95	.18	2.0	1.0
31	6.8	---	2.5	2.4	---	8.4	---	4.4	---	.05	1.8	---
TOTAL	74.76	116.69	82.0	78.7	104.7	215.4	116.2	154.5	48.72	20.55	43.97	34.97
MEAN	2.41	3.89	2.65	2.54	3.74	6.95	3.87	4.98	1.62	.66	1.42	1.17
MAX	7.0	20	3.4	3.0	4.9	23	7.7	17	3.6	1.7	7.8	3.9
MIN	.76	.72	2.0	2.2	2.6	4.4	2.4	2.5	.67	.05	.06	.26
CFSM	.28	.45	.31	.30	.44	.81	.45	.58	.19	.08	.17	.14
IN.	.32	.51	.36	.34	.45	.93	.50	.67	.21	.09	.19	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

MEAN	2.41	3.89	2.65	2.54	3.74	6.95	3.87	4.98	1.62	.74	1.04	.76
MAX	2.41	3.89	2.65	2.54	3.74	6.95	3.87	4.98	1.62	1.08	1.42	1.17
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996	1997	1997
MIN	2.41	3.89	2.65	2.54	3.74	6.95	3.87	4.98	1.62	.66	.66	.35
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996	1996

SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1996 - 1997

ANNUAL TOTAL	1091.16	
ANNUAL MEAN	2.99	2.61
HIGHEST ANNUAL MEAN		2.99
LOWEST ANNUAL MEAN		.56
HIGHEST DAILY MEAN	23	23
LOWEST DAILY MEAN	.05	.05
ANNUAL SEVEN-DAY MINIMUM	.17	.17
INSTANTANEOUS PEAK FLOW	(a) 25	(a) 25
INSTANTANEOUS PEAK STAGE	(b) 11.11	(b) 11.11
INSTANTANEOUS LOW FLOW	.00	.00
ANNUAL RUNOFF (CFSM)	.35	.30
ANNUAL RUNOFF (INCHES)	4.73	4.13
10 PERCENT EXCEEDS	5.2	5.0
50 PERCENT EXCEEDS	2.5	2.3
90 PERCENT EXCEEDS	.66	.31

(a) Gage height, 10.93 ft

(b) Ice affected

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1996 to September 1997 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 1996 to September 1997 (discontinued).

INSTRUMENTATION.--Continuous water-temperature recorder July 1996 to September 1997.

REMARKS.--Chemical analyses by the Wisconsin State Laboratory of Hygiene. All water samples are equal-width increment (EWI) samples.

EXTREMES FOR PERIOD RECORD.--

WATER TEMPERATURE: Maximum observed, 27.0°C, Sept. 5, 1996; minimum observed, 0.0°C, Nov. 3, Nov. 10 to Dec. 31, 1996, Jan. 1-22, and Apr. 7-10, 13, 1997.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 26.5°C, June 23 and July 17; minimum observed, 0.0°C, Nov. 3, Nov. 10 to Dec. 31, Jan. 1-22, and Apr. 7-10, 13.

WATER-QUALITY DATA, OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	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)
OCT 1996												
08...	1253	1.5	--	94	7.1	7.5	13.8	<5	0.626	<0.027	0.30	0.025
30...	1530	--	7.6	116	6.7	6.0	12.2	<5	0.558	<0.027	0.70	0.083
APR 1997												
15...	0945	--	2.9	95	7.0	6.0	11.0	<5	1.33	0.032	0.50	0.035
29...	0955	--	2.0	93	7.3	11.5	10.7	<5	0.720	0.050	0.60	0.057
MAY												
12...	1530	--	2.5	86	7.4	15.5	9.8	<5	0.270	<0.013	0.60	0.054
29...	1000	--	4.3	85	7.2	12.0	10.4	9	0.349	0.031	0.60	0.089
JUN												
11...	0850	--	1.4	89	7.3	16.0	9.6	5	0.090	0.022	0.50	0.075
25...	1030	--	4.2	88	7.4	21.0	8.3	16	0.046	0.026	1.0	0.162
JUL												
09...	0950	--	1.1	82	7.3	14.0	10.1	7	0.044	0.016	0.50	0.096
23...	0955	--	0.42	96	7.5	19.0	8.4	29	0.044	0.023	0.62	0.142

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.5	12.0	13.5	2.0	.5	1.0	.0	.0	.0	.0	.0	.0
2	14.5	9.0	13.0	2.0	.5	1.0	.0	.0	.0	.0	.0	.0
3	9.0	5.0	7.0	3.0	.0	1.5	.0	.0	.0	.0	.0	.0
4	8.0	5.0	6.5	4.0	2.5	3.5	.0	.0	.0	.0	.0	.0
5	12.0	7.5	9.5	5.0	4.0	4.5	.0	.0	.0	.0	.0	.0
6	13.5	10.0	11.5	7.5	5.0	6.0	.0	.0	.0	.0	.0	.0
7	12.5	9.0	11.0	6.0	3.5	4.5	.0	.0	.0	.0	.0	.0
8	9.0	5.0	7.5	3.5	2.0	3.0	.0	.0	.0	.0	.0	.0
9	10.0	7.5	8.5	2.5	1.0	2.0	.0	.0	.0	.0	.0	.0
10	9.0	6.5	8.0	1.0	.0	.5	.0	.0	.0	.0	.0	.0
11	8.0	3.5	6.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	11.0	7.5	9.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	12.5	7.5	10.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	11.0	7.5	9.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	12.5	9.0	10.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	13.0	7.5	10.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
17	14.5	11.0	13.0	1.5	.0	.5	.0	.0	.0	.0	.0	.0
18	11.0	7.0	9.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	8.0	3.5	6.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	8.5	5.0	6.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	8.5	8.0	8.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	9.0	8.0	8.5	.0	.0	.0	.0	.0	.0	.5	.0	.0
23	9.0	8.5	9.0	.0	.0	.0	.0	.0	.0	.5	.5	.5
24	8.5	6.5	7.0	.0	.0	.0	.0	.0	.0	.5	.5	.5
25	9.0	5.5	7.0	.0	.0	.0	.0	.0	.0	.5	.5	.5
26	11.0	7.0	9.0	.0	.0	.0	.0	.0	.0	.5	.0	.5
27	11.0	8.5	10.5	.0	.0	.0	.0	.0	.0	.5	.5	.5
28	8.5	5.5	7.0	.0	.0	.0	.0	.0	.0	.5	.0	.0
29	7.5	5.0	6.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30	7.5	3.5	6.0	.0	.0	.0	.0	.0	.0	.5	.0	.0
31	3.5	1.5	2.5	---	---	---	.0	.0	.0	.5	.5	.5
MONTH	15.5	1.5	8.6	7.5	.0	.9	.0	.0	.0	.5	.0	.1

BLACK RIVER BASIN
05381392 STONY CREEK NEAR SHAMROCK, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	.5	.5	.5	---	---	---	10.5	3.0	7.0	13.5	4.0	8.5
2	.5	.5	.5	---	---	---	12.0	5.5	9.0	10.5	8.0	8.5
3	.5	.5	.5	---	---	---	12.5	7.0	10.0	14.0	7.0	10.0
4	.5	.5	.5	---	---	---	12.5	8.5	10.5	15.5	6.0	10.5
5	.5	.5	.5	---	---	---	11.0	9.5	10.5	17.5	10.0	13.5
6	.5	.5	.5	---	---	---	9.5	1.5	6.5	17.0	8.0	12.5
7	.5	.5	.5	---	---	---	5.5	.0	2.5	13.0	9.0	10.5
8	.5	.5	.5	---	---	---	4.5	.0	1.5	15.5	9.5	12.0
9	.5	.5	.5	---	---	---	6.5	.0	2.5	15.5	8.0	11.5
10	.5	.5	.5	---	---	---	4.5	.0	2.5	17.0	7.0	12.0
11	.5	.5	.5	---	---	---	6.5	1.0	4.0	17.5	11.0	14.0
12	.5	.5	.5	---	---	---	5.0	2.0	3.5	16.0	7.5	11.5
13	.5	.5	.5	---	---	---	8.5	.0	4.5	14.5	5.5	10.0
14	.5	.5	.5	---	---	---	10.0	1.0	5.5	10.5	8.5	9.5
15	.5	.5	.5	---	---	---	12.0	4.5	8.0	10.0	6.5	8.0
16	.5	.5	.5	---	---	---	7.5	2.5	4.5	11.5	5.0	8.0
17	.5	.5	.5	---	---	---	10.5	1.0	5.5	17.5	7.0	12.0
18	.5	.5	.5	---	---	---	7.0	4.0	5.5	16.0	10.5	13.5
19	.5	.5	.5	---	---	---	8.5	5.0	6.5	14.0	11.0	13.0
20	---	---	---	---	---	---	11.5	5.0	8.0	13.5	8.5	11.0
21	---	---	---	---	---	---	14.5	6.0	10.0	18.0	6.5	12.0
22	---	---	---	---	---	---	14.0	5.5	10.0	19.5	8.0	14.0
23	---	---	---	---	---	---	11.0	6.5	9.0	20.0	12.5	16.0
24	---	---	---	---	---	---	13.0	5.5	9.0	16.0	12.5	13.5
25	---	---	---	---	---	---	13.5	4.0	9.0	15.5	11.5	13.0
26	---	---	---	---	---	---	13.5	5.5	10.0	15.5	9.5	12.5
27	---	---	---	6.5	2.0	4.0	15.0	9.0	12.0	17.5	8.5	13.0
28	---	---	---	5.5	2.5	4.0	17.0	7.5	12.5	14.5	11.5	13.0
29	---	---	---	4.0	3.5	3.5	20.0	11.0	15.0	13.0	12.0	12.5
30	---	---	---	5.5	2.5	4.0	15.5	6.0	11.0	17.5	11.5	14.0
31	---	---	---	8.5	1.0	5.0	---	---	---	20.0	11.0	16.0
MONTH	---	---	---	---	---	---	20.0	.0	7.5	20.0	4.0	11.9
JUNE				JULY			AUGUST			SEPTEMBER		
1	21.5	12.5	17.0	26.0	19.0	22.5	21.0	18.5	20.0	21.0	16.0	18.5
2	22.5	13.0	17.5	24.5	19.0	21.5	23.5	18.5	21.0	19.5	17.0	18.5
3	22.0	14.0	18.0	19.5	17.0	18.5	23.5	20.0	22.0	17.0	13.0	15.0
4	22.0	15.5	19.0	18.5	15.5	17.0	22.5	18.5	20.5	16.0	10.5	13.5
5	21.5	16.5	18.5	19.0	13.0	16.0	20.0	14.5	17.5	15.5	12.5	14.0
6	18.5	14.0	16.5	20.0	15.0	17.5	19.0	16.5	18.0	18.5	14.0	16.0
7	17.0	14.5	15.5	17.0	11.0	14.5	21.5	14.5	18.0	17.0	14.5	15.5
8	20.5	12.0	16.0	16.5	15.5	16.0	22.0	16.5	19.5	19.0	15.5	17.0
9	21.0	12.5	17.0	20.0	13.0	16.5	20.5	16.5	19.0	18.5	16.0	17.0
10	23.0	14.0	18.5	21.0	12.5	17.0	22.0	19.0	20.0	17.0	13.0	15.0
11	20.5	15.5	18.0	21.5	15.0	18.0	19.5	16.0	18.0	15.5	10.5	13.5
12	22.0	14.5	18.5	21.5	17.5	19.5	18.5	17.0	17.5	15.5	10.0	13.0
13	23.0	15.5	19.0	25.0	20.0	22.5	20.5	16.5	18.0	14.0	11.5	13.0
14	22.0	14.0	18.0	24.5	20.0	22.5	17.5	12.5	14.5	16.5	13.5	15.0
15	19.5	15.5	17.5	25.0	18.0	21.5	20.0	16.5	18.0	16.0	13.5	15.0
16	20.0	15.5	17.5	26.0	20.0	23.0	20.5	18.0	19.0	17.5	15.0	16.0
17	21.5	12.0	16.5	26.5	21.5	24.5	19.0	16.5	17.5	18.5	15.0	16.5
18	21.0	15.5	18.5	24.5	20.5	22.5	17.5	15.5	16.5	20.0	13.0	16.5
19	20.0	16.5	18.5	23.5	19.0	20.5	17.0	14.5	16.0	18.5	17.0	18.0
20	22.0	17.5	19.5	22.5	19.0	20.5	17.0	15.5	16.0	17.5	13.5	16.0
21	24.0	19.0	21.0	23.0	20.0	21.5	17.5	14.5	16.0	15.0	9.0	12.0
22	24.0	17.0	21.0	21.0	18.5	20.0	18.0	13.0	15.5	13.5	10.5	12.0
23	26.5	19.5	23.0	22.5	18.5	20.5	16.0	12.0	14.5	15.5	11.5	13.5
24	25.5	21.0	23.0	22.5	18.5	20.5	17.0	15.0	16.0	14.5	8.5	11.5
25	24.5	20.5	22.0	23.5	20.0	21.5	18.0	14.0	16.0	17.0	12.0	14.5
26	24.0	17.0	20.5	24.5	21.0	22.5	19.0	14.5	16.5	15.5	10.5	13.5
27	25.0	16.5	20.5	23.5	21.0	22.5	20.0	15.5	18.0	16.0	13.0	14.5
28	25.0	18.0	21.5	23.5	19.0	21.0	20.0	15.0	17.5	17.5	14.5	16.0
29	25.5	19.5	22.0	21.0	15.5	18.5	18.5	15.0	17.0	15.5	13.5	14.5
30	24.5	20.5	22.5	19.5	14.5	17.0	18.5	17.0	18.0	15.5	13.0	14.0
31	---	---	---	21.0	15.5	18.0	20.5	17.0	18.5	---	---	---
MONTH	26.5	12.0	19.1	26.5	11.0	19.9	23.5	12.0	17.7	21.0	8.5	14.9

LA CROSSE RIVER BASIN
05382325 LA CROSSE RIVER AT SPARTA, WI

LOCATION.--Lat 43°56'15", long 90°48'38", in SE 1/4 NE 1/4 sec.23, T17 N., R.4 W., Monroe County, Hydrologic Unit 07040006, on left bank, 800 ft downstream from bridge on South Water Street, in Sparta, 0.35 mi downstream from Beaver Creek.

DRAINAGE AREA.--167 mi².

PERIOD OF RECORD.--July 1992 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 760.73 ft above sea level.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 26-28, Dec. 18-21, 24-28, Jan. 6-19, 25-29, and Feb. 12-16. Records fair (see page 11). Gage-height telemeter at station. Occasional regulation from two dams upstream from gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	133	159	137	137	156	196	254	150	118	115	136
2	111	128	146	140	142	164	197	216	142	114	115	149
3	109	127	139	140	135	155	192	207	139	115	146	136
4	115	131	131	164	136	150	186	182	138	118	125	126
5	119	135	135	180	135	146	187	170	150	119	116	126
6	115	131	134	130	131	141	192	161	184	137	115	125
7	116	128	132	120	130	145	181	157	161	125	118	121
8	113	124	131	130	130	138	177	179	151	145	113	121
9	114	123	129	140	120	166	170	160	142	137	110	133
10	113	122	129	140	133	193	163	152	137	125	111	127
11	112	120	130	130	130	190	168	147	136	120	111	121
12	112	117	130	130	120	186	179	145	136	117	126	119
13	112	115	131	130	110	171	171	141	132	116	127	120
14	111	111	132	130	120	156	166	145	130	140	127	124
15	112	124	142	130	120	154	162	155	141	124	157	123
16	113	203	137	120	120	154	161	149	163	114	155	160
17	131	203	132	120	128	162	159	145	147	175	148	295
18	131	171	110	120	167	175	160	146	140	146	133	192
19	120	149	100	130	178	149	161	146	138	134	126	157
20	117	138	100	131	152	161	160	139	140	146	127	143
21	118	136	130	132	149	204	160	137	150	140	125	136
22	125	135	150	154	144	272	155	136	143	133	120	134
23	146	139	144	150	140	239	154	134	132	129	117	136
24	145	137	130	141	130	204	155	147	136	124	120	131
25	134	131	100	130	131	190	151	164	147	129	120	129
26	127	110	110	120	142	186	151	146	131	132	117	127
27	124	110	120	120	144	227	151	138	119	133	118	125
28	121	130	140	120	141	265	151	138	116	151	129	124
29	140	142	144	130	---	262	149	163	115	128	116	121
30	168	160	138	128	---	227	187	194	118	120	166	120
31	148	---	136	132	---	198	---	166	---	115	164	---
TOTAL	3805	4063	4051	4149	3795	5686	5052	4959	4204	4019	3933	4137
MEAN	123	135	131	134	136	183	168	160	140	130	127	138
MAX	168	203	159	180	178	272	197	254	184	175	166	295
MIN	109	110	100	120	110	138	149	134	115	114	110	119
CFSM	.73	.81	.78	.80	.81	1.10	1.01	.96	.84	.78	.76	.83
IN.	.85	.91	.90	.92	.85	1.27	1.13	1.10	.94	.90	.88	.92

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1997, BY WATER YEAR (WY)

	MEAN	160	162	147	136	146	193	220	195	194	173	156	168
MAX	184	179	160	142	168	213	324	279	323	288	204	216	
(WY)	1996	1996	1995	1995	1994	1996	1993	1993	1993	1993	1993	1994	
MIN	123	135	131	133	133	182	168	160	140	130	111	112	
(WY)	1997	1997	1997	1993	1993	1993	1997	1997	1997	1997	1992	1996	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR			FOR 1997 WATER YEAR			WATER YEARS 1992 - 1997		
ANNUAL TOTAL	55733			51853					
ANNUAL MEAN	152			142			172		
HIGHEST ANNUAL MEAN							211		
LOWEST ANNUAL MEAN							142		
HIGHEST DAILY MEAN	543			Mar 25			295		
LOWEST DAILY MEAN	100			(a) Sep 26			(b) 100		
ANNUAL SEVEN-DAY MINIMUM	108			Sep 2			112		
INSTANTANEOUS PEAK FLOW							521		
INSTANTANEOUS PEAK STAGE							5.18		
ANNUAL RUNOFF (CFSM)	.91						.85		
ANNUAL RUNOFF (INCHES)	12.41						11.55		
10 PERCENT EXCEEDS	200						177		
50 PERCENT EXCEEDS	140						136		
90 PERCENT EXCEEDS	110						116		

(a) Also occurred Dec. 19, 20, and 25, ice affected
(b) Ice affected

MISSISSIPPI RIVER MAIN STEM
05389500 MISSISSIPPI RIVER AT MCGREGOR, IA

261

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 sea level. 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 discharges: Dec. 18 to Mar. 8 and June 29. Records good except those for estimated daily discharges, which are fair (see page 11). Minor flow regulation caused by navigation dams. U.S. Geological Survey satellite and telephone modem data collection platform at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1828, that of Apr. 24, 1965.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
1	24000	41800	45400	25800	26900	31700	89200	114000	46500	40100	76900	42000				
2	24500	41500	46500	26000	27600	31800	96900	109000	46200	39100	76700	41800				
3	24600	41000	47100	27800	28600	32200	103000	105000	45200	38800	76100	41800				
4	24500	40500	47600	29400	30000	32900	105000	102000	44300	39500	75100	43700				
5	23600	41300	46400	31600	31300	33600	108000	101000	44600	42800	73100	43500				
6	23100	42600	46100	32400	31600	33800	115000	96600	45000	49000	71000	42900				
7	21200	43600	46600	32500	31600	32200	123000	93200	45200	53700	66700	42800				
8	21400	42900	44900	31700	31600	33000	135000	92000	44200	59100	62900	42000				
9	21100	41400	43900	30800	31000	34500	148000	89600	42300	59600	59800	39800				
10	20000	39900	42200	29000	30200	36000	160000	86700	40300	58800	56400	36900				
11	19100	37500	41900	29400	29300	39000	171000	84000	39300	58000	50400	34200				
12	18200	35500	42000	30700	29000	41600	183000	81300	37400	57900	43700	31500				
13	18700	35200	42000	32200	28400	44100	191000	78100	35400	59100	40200	29900				
14	19300	34600	41800	32600	27900	43700	196000	75500	34100	59900	40100	29600				
15	20000	32400	42500	32200	28100	37800	199000	73100	33600	59200	39800	29500				
16	20300	34000	40900	31100	28800	37100	200000	68400	31000	57700	39100	29600				
17	21300	38000	37600	28700	28600	40000	197000	65300	31000	57200	38400	30600				
18	21200	42700	33000	27600	28800	46700	193000	62700	27600	58200	37700	34700				
19	22300	49000	26100	26500	28900	50200	187000	63700	27900	60800	36200	39700				
20	24900	53400	26000	27000	29800	51500	181000	63000	31000	64000	36700	42300				
21	28800	59100	23200	27300	31600	51600	174000	60200	32700	67700	37100	42000				
22	32800	66400	23600	27700	32700	51100	167000	56200	34000	68100	36700	42600				
23	34100	71500	25800	30000	33000	52300	160000	52500	34000	66600	38500	42600				
24	34400	74900	29300	31200	33200	56700	153000	51600	31800	64100	41500	40900				
25	34700	73200	31000	31400	32600	67500	146000	52500	30000	64200	46700	35600				
26	35400	56600	31300	30600	32000	71400	140000	52400	28700	67800	48300	32000				
27	36100	46200	32600	29300	32000	71500	134000	49800	25600	71100	48200	28600				
28	36700	40800	32900	28900	31400	72300	128000	46800	26100	73200	46500	28600				
29	37400	40000	32500	28400	---	75900	122000	45200	33000	74800	43300	29400				
30	40500	42700	30100	27300	---	80800	118000	45800	40300	75700	41400	31200				
31	41400	---	25400	27000	---	84000	---	46800	---	76300	41800	---				
TOTAL	825600	1380200	1148200	914100	846500	1498500	4523100	2264000	1088300	1842100	1567000	1102300				
MEAN	26630	46010	37040	29490	30230	48340	150800	73030	36280	59420	50550	36740				
MAX	41400	74900	47600	32600	33200	84000	200000	114000	46500	76300	76900	43700				
MIN	18200	32400	23200	25800	26900	31700	89200	45200	25600	38800	36200	28600				
AC-FT	1638000	2738000	2277000	1813000	1679000	2972000	8972000	4491000	2159000	3654000	3108000	2186000				
CFSM	.39	.68	.55	.44	.45	.72	2.23	1.08	.54	.88	.75	.54				
IN.	.45	.76	.63	.50	.47	.83	2.49	1.25	.60	1.02	.86	.61				
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1997, BY WATER YEAR (WY)																
MEAN	28880	29370	22270	19180	19710	39380	75370	61400	48950	40530	27930	29020				
MAX	114600	64840	59200	35700	48540	103800	164800	119200	112600	142200	84430	72890				
(WY)	1987	1983	1992	1983	1984	1983	1965	1975	1993	1993	1993	1986				
MIN	9874	10870	9506	7665	9934	13190	27780	18240	13420	11220	10330	10650				
(WY)	1937	1938	1937	1940	1940	1940	1990	1977	1988	1988	1964	1940				
SUMMARY STATISTICS																
FOR 1996 CALENDAR YEAR				FOR 1997 WATER YEAR				WATER YEARS 1936 - 1997								
ANNUAL TOTAL				17453200				18999900								
ANNUAL MEAN				47690				52050								
HIGHEST ANNUAL MEAN								36890								
LOWEST ANNUAL MEAN								64720								
HIGHEST DAILY MEAN				142000				Apr 27, 28				200000	Apr 16	276000	Apr 24 1965	
LOWEST DAILY MEAN				18200				Oct 12				18200	Oct 12	6200	Dec 9 1936	
ANNUAL SEVEN-DAY MINIMUM				19400				Oct 10				19400	Oct 10	6490	Dec 7 1936	
INSTANTANEOUS PEAK FLOW												201000	Apr 15			
INSTANTANEOUS PEAK STAGE												21.38	Apr 15			
ANNUAL RUNOFF (AC-FT)				34620000				37690000				25.38	Apr 15	26720000	25.38	Apr 24 1965
ANNUAL RUNOFF (CFSM)				.71				.77						.55		
ANNUAL RUNOFF (INCHES)				9.62				10.47						7.42		
10 PERCENT EXCEEDS				81600				92500				75700				
50 PERCENT EXCEEDS				36000				40900				27200				
90 PERCENT EXCEEDS				23100				27500				13100				

MISSISSIPPI RIVER MAIN STEM
05389500 MISSISSIPPI RIVER AT MCGREGOR, IA--CONTINUED

WATER-QUALITY RECORDS

LOCATION.--Samples collected from right bank dock 0.3 mi downstream from discharge station. Prior to April 1981 and Mar. 7 to Sept. 30, 1997, samples collected at bridge on U.S. Highway 18, 1.2 mi upstream from gage.

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1975 to current year.

WATER TEMPERATURE: 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 times of analysis.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,350 mg/L, Mar. 19, 1986; minimum daily mean, 1 mg/L, on many days in 1977-92.

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, 110 mg/L, July 7; minimum daily mean, 3 mg/L, Dec. 18-23.

SEDIMENT LOADS: Maximum daily, 28,500 tons, Apr. 14; minimum daily, 188 tons, Dec. 21.

SPECIFIC CONDUCTANCE MICROSIEMENS/CM AT 25 DEG C, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY INSTANTANOUES VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	403	---	---	446	---	---	---	414	---	408	394	---
2	---	---	392	---	---	---	399	---	---	409	---	---
3	---	633	---	---	460	---	---	424	---	---	---	446
4	---	---	---	---	---	---	376	---	---	---	420	---
5	406	397	---	449	---	---	---	---	388	458	429	444
6	---	---	432	---	---	---	---	437	---	---	419	---
7	---	---	---	---	430	---	---	---	402	456	---	---
8	418	362	---	---	---	---	410	---	---	---	---	---
9	---	---	---	447	---	---	---	---	409	444	395	415
10	---	---	390	---	429	366	375	417	---	---	---	---
11	396	378	---	---	---	---	422	---	---	446	---	418
12	---	---	398	445	---	381	---	---	---	---	---	415
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	439	380	380	450	437	---	---	427
15	383	384	---	---	---	---	---	---	438	---	---	---
16	---	---	379	456	---	---	366	---	402	---	450	427
17	---	---	---	---	446	378	360	---	413	418	---	420
18	486	396	---	---	---	---	---	---	---	---	---	---
19	---	---	418	---	---	410	---	---	---	417	---	422
20	---	---	---	---	---	---	---	447	---	---	---	---
21	375	---	---	---	390	408	404	---	---	---	---	---
22	---	366	---	---	---	---	---	452	---	431	---	422
23	---	---	444	---	---	---	408	---	437	---	---	---
24	---	---	---	450	---	422	---	---	---	432	---	399
25	---	300	---	---	---	414	---	---	441	---	---	---
26	---	---	441	---	---	402	---	---	---	438	---	396
27	---	---	---	---	---	415	418	---	---	426	458	---
28	---	---	---	436	---	---	---	452	---	---	---	---
29	382	371	---	---	---	---	420	---	---	---	458	392
30	---	---	---	446	---	---	---	455	---	432	---	---
31	---	---	---	---	---	395	---	---	---	---	---	---

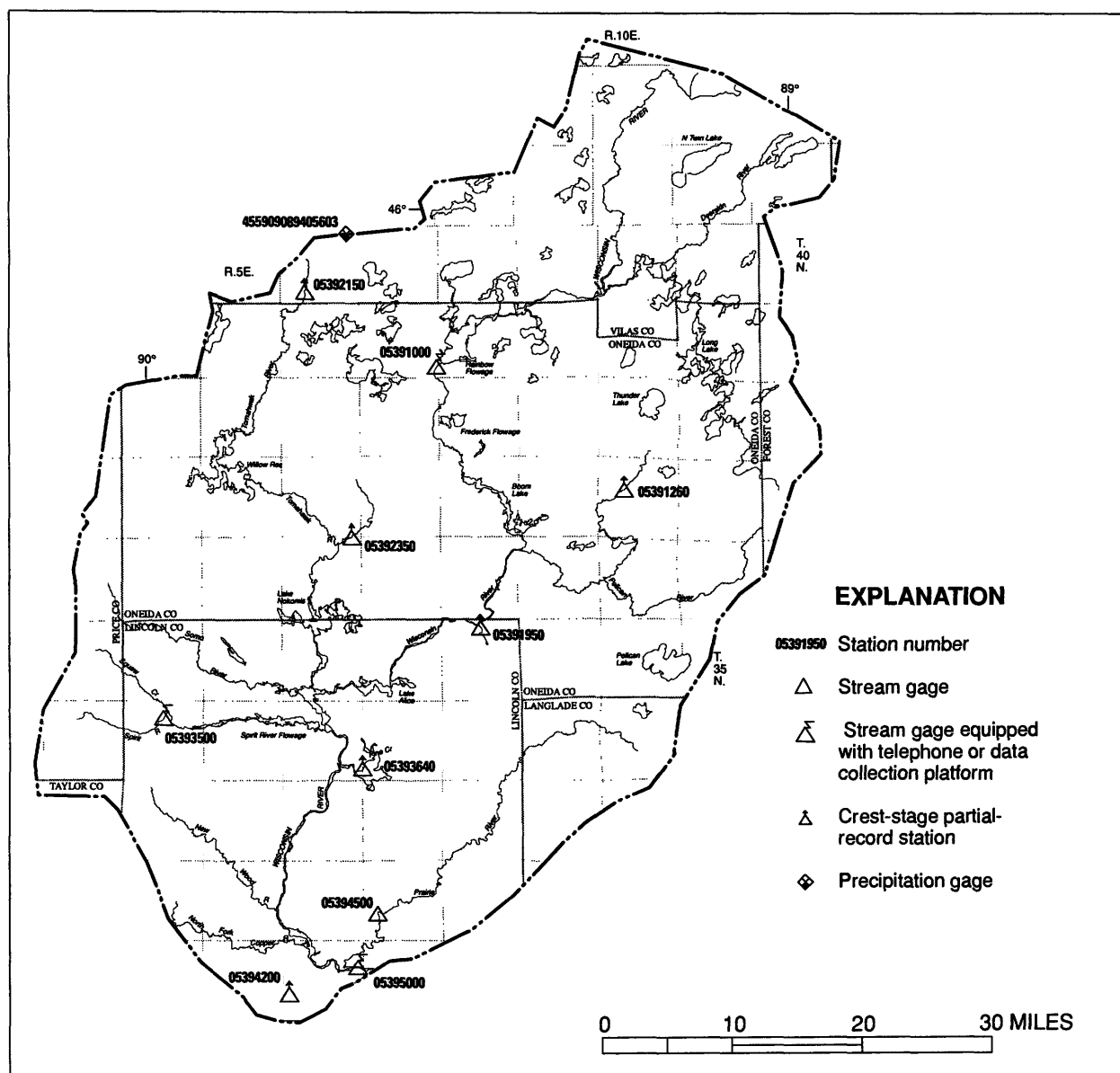
SUSPENDED-SEDIMENT WATER YEAR OCTOBER 1996 TO SEPTMEBER 1997

YEAR 1455132

MISSISSIPPI RIVER MAIN STEM
05389500 MISSISSIPPI RIVER AT MCGREGOR, IA--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	---	---	.0	---	---	---	13.0	---	25.0	26.0	---
2	---	---	.0	---	---	---	9.0	---	---	26.0	---	---
3	---	12.0	---	---	.0	---	---	11.0	---	---	---	24.0
4	---	---	---	---	---	---	10.5	---	---	---	27.0	---
5	11.0	---	---	.0	---	---	---	---	25.0	24.0	---	23.0
6	---	---	.0	---	---	---	---	14.0	---	---	27.0	---
7	---	---	---	---	.0	---	---	---	21.5	23.0	---	---
8	14.5	15.5	---	---	---	---	---	---	---	---	---	---
9	---	---	---	.0	---	---	---	---	20.0	25.0	25.0	19.0
10	---	---	.0	---	.0	2.0	5.0	14.0	---	---	---	---
11	15.0	13.0	---	---	---	---	8.0	---	---	26.0	---	19.0
12	---	---	.0	.0	---	2.0	---	---	---	---	---	20.0
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	.0	.0	8.0	14.0	14.0	---	---	22.0
15	14.0	.0	---	---	---	---	---	---	29.0	---	---	---
16	---	---	.0	.0	---	---	8.0	---	24.0	---	26.0	21.0
17	---	---	---	---	---	1.0	7.0	---	24.0	26.0	---	---
18	15.0	.0	---	---	---	---	---	---	---	---	---	---
19	---	---	.0	---	---	1.0	---	---	---	20.0	---	22.0
20	---	---	---	---	---	---	---	14.0	---	---	---	---
21	14.5	---	---	---	.0	3.0	11.0	---	---	---	---	---
22	---	.0	---	---	---	---	---	18.0	---	26.0	---	18.0
23	---	---	.0	---	---	---	11.5	---	25.0	---	---	---
24	---	---	---	.0	---	4.0	---	---	---	28.0	---	22.0
25	---	.0	---	---	---	5.0	---	---	24.0	---	---	---
26	---	---	---	---	---	5.0	---	---	---	29.0	---	21.0
27	---	---	---	---	---	5.0	13.0	---	---	26.0	24.0	---
28	---	---	---	.0	---	---	---	16.0	---	---	---	---
29	17.5	.0	---	---	---	---	14.0	---	---	---	24.0	17.0
30	---	---	---	.0	---	---	---	17.0	---	27.0	---	---
31	---	---	---	---	---	8.0	---	---	---	---	---	---



Base from U.S. Geological Survey 1:100,000 digital data;
modified by Wisconsin Department of Natural Resources.
Wisconsin Transverse Mercator projection.

UPPER WISCONSIN RIVER BASIN

WISCONSIN RIVER BASIN

05391000 WISCONSIN RIVER AT RAINBOW LAKE, NEAR LAKE TOMAHAWK, WI

LOCATION.--Lat 45°49'50", long 89°33'08", in NE 1/4 NE 1/4 sec.36, T.39 N., R.7 E., Oneida County, Hydrologic Unit 07070001, on right bank 500 ft downstream from Gilmore Creek, 0.4 mi downstream from Rainbow Lake, and 2.3 mi northeast of Lake Tomahawk.

DRAINAGE AREA.--757 mi².

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 sea level (levels by Wisconsin Valley Improvement Co.).

REMARKS.--No estimated daily discharges. Record good (see page 11). Flow regulated by Rainbow Lake and 12 smaller reservoirs upstream from station. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	624	374	1230	1020	1140	1020	487	681	676	751	539	784
2	617	374	1230	1020	1140	1010	492	679	666	542	587	786
3	610	377	1220	1020	1140	1010	409	676	722	390	586	789
4	597	379	1220	1020	1140	1010	340	678	741	390	585	782
5	600	378	1220	1020	1140	1070	331	678	720	394	541	834
6	599	379	1210	1020	1140	1150	320	799	723	407	513	915
7	594	382	1210	1020	1130	1150	299	890	748	541	528	941
8	581	428	1210	1020	1130	1140	298	886	765	631	529	931
9	563	562	1200	1020	1130	1140	302	876	754	758	509	829
10	561	563	1210	1010	1120	1130	300	882	741	845	499	605
11	560	560	1160	1010	1110	1120	303	882	750	847	497	917
12	558	658	1130	1010	1100	1110	313	887	770	842	482	917
13	557	721	1070	1010	1090	1100	324	927	780	844	465	917
14	562	722	1020	1010	1090	1090	334	938	772	858	465	914
15	569	750	1020	1000	1090	1080	340	935	794	752	468	885
16	556	892	1020	989	1080	1080	344	939	794	693	486	864
17	482	1140	1030	993	1080	1060	342	944	713	792	497	757
18	448	1260	1030	993	1060	1050	355	955	875	856	465	594
19	449	1270	1030	993	1020	1040	365	1040	975	741	446	412
20	453	1260	1040	990	1030	1020	363	1110	966	661	400	400
21	527	1250	1040	1010	1030	1000	365	1110	932	661	368	433
22	575	1240	1040	1040	1040	987	473	1110	908	661	382	573
23	514	1240	1030	1050	1040	972	553	1120	913	640	392	728
24	409	1250	1020	1050	1040	957	557	1120	928	681	393	780
25	371	1250	1020	1050	1040	939	634	1110	930	724	395	774
26	366	1240	1020	1050	1030	923	694	1100	825	580	394	726
27	368	1240	1020	1050	1020	684	710	989	757	481	480	693
28	389	1230	1020	1050	1020	469	713	906	746	475	603	690
29	491	1230	1020	1100	---	470	715	766	734	473	719	685
30	424	1230	1020	1190	---	474	699	680	745	473	766	613
31	375	---	1020	1170	---	480	---	680	---	475	722	---
TOTAL	15949	25829	33980	31998	30360	29935	13074	27973	23863	19859	15701	22468
MEAN	514	861	1096	1032	1084	966	436	902	795	641	506	749
MAX	624	1270	1230	1190	1140	1150	715	1120	975	858	766	941
MIN	366	374	1020	989	1020	469	298	676	666	390	368	400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1997, BY WATER YEAR (WY)

	MEAN	663	700	781	834	829	658	413	721	743	675	594	607
MAX	1445	1250	1178	1108	1161	1044	1330	1798	1863	1387	1472	1282	
(WY)	1952	1939	1955	1943	1952	1939	1973	1973	1939	1968	1938	1980	
MIN	263	170	330	371	417	322	138	173	228	237	243	268	
(WY)	1988	1949	1949	1990	1977	1990	1949	1949	1987	1988	1988	1948	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1936 - 1997

ANNUAL TOTAL	293010	290989	
ANNUAL MEAN	801	797	685
HIGHEST ANNUAL MEAN			1062
LOWEST ANNUAL MEAN			359
HIGHEST DAILY MEAN	1760	May 11, 12	2820
LOWEST DAILY MEAN	266	Apr 13	35
ANNUAL SEVEN-DAY MINIMUM	278	Apr 13	107
INSTANTANEOUS PEAK FLOW			3570
INSTANTANEOUS PEAK STAGE			3.61
10 PERCENT EXCEEDS	1220	1140	7.59
50 PERCENT EXCEEDS	732	792	660
90 PERCENT EXCEEDS	490	394	309

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. Datum of gage is 1,461.63 ft above sea level. Prior to Oct. 4, 1982, nonrecording gage 40 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Apr. 8, 9, and ice-affected period, Nov. 10-14 and Nov. 19 to Apr. 4. Records good except those for estimated daily discharges, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	247	80	29	36	29	500	148	91	175	24	35
2	23	157	68	30	36	30	780	128	67	437	21	70
3	21	119	60	31	35	30	1400	107	52	588	21	61
4	17	106	52	33	34	30	1800	89	42	429	33	41
5	16	117	44	34	33	31	2250	79	96	293	33	35
6	15	109	44	34	32	30	2540	81	258	160	26	30
7	15	104	43	33	32	30	1650	73	224	105	21	27
8	14	90	42	33	31	30	880	81	275	158	16	24
9	14	79	40	32	30	31	640	85	181	182	15	61
10	14	64	38	31	29	32	477	73	117	117	13	75
11	15	70	37	31	28	33	371	64	88	81	12	45
12	15	60	37	30	28	35	316	65	73	62	11	34
13	14	45	36	29	27	35	275	59	71	90	10	28
14	14	38	36	29	26	34	269	56	62	213	9.9	27
15	14	37	35	29	26	33	282	59	60	181	11	25
16	15	362	34	28	26	34	314	55	180	110	11	27
17	51	1300	33	27	27	35	268	56	135	113	32	138
18	110	1090	31	27	28	36	227	60	89	85	87	116
19	82	600	30	28	28	36	203	68	68	62	58	75
20	51	410	29	30	29	35	196	68	72	50	128	58
21	42	280	30	30	28	43	184	58	67	44	208	46
22	41	200	31	30	28	52	170	48	52	40	123	37
23	146	150	30	30	27	62	158	43	42	36	72	32
24	343	130	30	30	26	60	146	55	36	32	97	28
25	273	110	29	30	26	60	132	83	38	50	84	26
26	166	92	28	31	27	62	119	63	34	116	60	23
27	125	82	27	31	28	66	110	51	29	78	46	20
28	99	86	27	32	29	74	101	40	25	54	35	20
29	100	94	28	33	---	120	93	44	23	40	29	18
30	463	92	28	35	---	190	99	163	67	33	31	22
31	475	---	28	36	---	310	---	137	---	28	39	---
TOTAL	2832	6520	1165	956	820	1748	16950	2339	2714	4242	1416.9	1304
MEAN	91.4	217	37.6	30.8	29.3	56.4	565	75.5	90.5	137	45.7	43.5
MAX	475	1300	80	36	36	310	2540	163	275	588	208	138
MIN	14	37	27	26	26	29	93	40	23	28	9.9	18
CFSM	1.12	2.66	.46	.38	.36	.69	6.92	.92	1.11	1.68	.56	.53
IN.	1.29	2.97	.53	.44	.37	.80	7.73	1.07	1.24	1.93	.65	.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1997, BY WATER YEAR (WY)

	MEAN	74.0	77.3	38.9	20.8	18.9	109	327	151	97.0	47.6	36.0	78.5
MAX	306	338	293	71.8	69.8	467	697	408	398	209	359	396	
(WY)	1986	1992	1976	1960	1984	1946	1951	1973	1943	1968	1995	1942	
MIN	4.05	5.31	4.07	3.00	3.61	14.6	55.6	23.0	6.01	4.09	3.13	3.05	
(WY)	1977	1977	1977	1977	1977	1956	1946	1987	1988	1964	1944	1976	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1942 - 1997

ANNUAL TOTAL	49041.9	43006.9	
ANNUAL MEAN	134	118	88.9
HIGHEST ANNUAL MEAN			140
LOWEST ANNUAL MEAN			36.3
HIGHEST DAILY MEAN	2750	2540	3290
LOWEST DAILY MEAN	8.3	9.9	1.0
ANNUAL SEVEN-DAY MINIMUM	9.0	11	1.4
INSTANTANEOUS PEAK FLOW		(a) 2660	(b) 4180
INSTANTANEOUS PEAK STAGE		(c) 7.96	10.00
INSTANTANEOUS LOW FLOW		9.5	1.0
ANNUAL RUNOFF (CFSM)	1.64	1.44	1.09
ANNUAL RUNOFF (INCHES)	22.36	19.61	14.80
10 PERCENT EXCEEDS	282	225	220
50 PERCENT EXCEEDS	54	44	28
90 PERCENT EXCEEDS	17	25	8.1

(a) Gage height, 7.36 ft

(b) From rating curve extended above 2,500 ft³/s

(c) Ice affected

REMARKS.--Estimated daily discharges: Oct. 4-15, 17, Nov. 3-5, May 18-22, and ice-affected periods, Nov. 10-14, 17-30, Dec. 2-5, 9-11, and Dec. 15 to Mar. 27. Records good except those for estimated daily discharges, which are poor (see page 11). Gage-height telemeter at station.

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	110	286	145	110	120	110	453	312	186	199	109	117
2	106	218	130	120	120	100	640	308	157	299	103	138
3	103	190	130	120	120	100	1060	274	140	331	104	124
4	102	180	130	120	120	100	1520	232	129	307	101	112
5	103	170	130	110	120	100	1910	210	148	299	95	107
6	103	166	132	110	120	98	2260	212	168	222	94	106
7	103	166	131	110	120	96	2070	195	161	168	92	104
8	103	160	129	110	110	98	1400	213	162	195	90	101
9	105	150	120	110	110	100	969	214	145	242	89	167
10	105	130	120	110	110	110	735	189	129	199	91	213
11	105	120	120	100	110	110	580	177	122	155	90	184
12	106	110	125	100	110	100	493	176	129	134	94	148
13	106	110	125	100	100	96	427	175	141	131	94	128
14	106	110	124	100	110	90	399	193	126	131	92	123
15	108	117	120	100	100	90	405	206	120	123	100	117
16	111	320	120	100	100	92	430	198	170	160	95	134
17	169	620	110	100	100	96	421	200	189	550	186	352
18	210	600	110	100	110	98	384	202	155	422	288	352
19	181	520	110	100	110	100	371	226	139	240	238	275
20	152	340	110	110	110	100	356	220	138	170	301	216
21	139	240	110	120	110	110	339	187	139	141	430	182
22	142	180	120	120	100	110	315	177	127	126	379	157
23	195	170	110	120	100	100	297	160	135	120	286	145
24	243	150	110	110	98	100	280	184	128	116	223	133
25	222	140	100	110	100	110	262	260	132	125	184	125
26	187	120	100	100	110	120	245	229	121	158	157	120
27	164	130	100	100	110	140	233	185	108	154	140	116
28	150	130	100	100	110	197	227	162	103	141	126	117
29	169	130	100	100	---	284	214	167	101	139	117	116
30	384	140	100	110	---	313	226	254	100	129	115	114
31	370	---	110	110	---	356	---	236	---	116	117	---
TOTAL	4762	6313	3631	3340	3068	3924	19921	6533	4148	6142	4820	4643
MEAN	154	210	117	108	110	127	664	211	138	198	155	155
MAX	384	620	145	120	120	356	2260	312	189	550	430	352
MIN	102	110	100	100	98	90	214	160	100	116	89	101
CFSM	.83	1.14	.64	.59	.60	.69	3.61	1.15	.75	1.08	.85	.84
IN.	.96	1.28	.73	.68	.62	.79	4.03	1.32	.84	1.24	.97	.99

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

MEAN	168	171	113	93.2	89.8	188	437	259	212	137	133	174
MAX	527	388	199	169	158	676	899	723	598	401	494	656
(WY)	1942	1920	1992	1960	1930	1973	1916	1960	1993	1978	1926	1941
MIN	70.8	76.7	66.1	60.5	65.6	68.2	106	98.8	70.6	68.3	68.1	65.1
(WY)	1990	1951	1990	1925	1959	1956	1990	1931	1988	1989	1957	1989

WISCONSIN RIVER BASIN
05394500 PRAIRIE RIVER NEAR MERRILL, WI--CONTINUED

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SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	74854		71245		181	
ANNUAL MEAN	205		195		272	1942
HIGHEST ANNUAL MEAN					108	1931
LOWEST ANNUAL MEAN					4200	Aug 31 1941
HIGHEST DAILY MEAN	2420	Apr 20	2260	Apr 6	35	Oct 26 1947
LOWEST DAILY MEAN	94	Sep 2	89	Aug 9	52	Dec 28 1948
ANNUAL SEVEN-DAY MINIMUM	97	Sep 17	91	Aug 6	(a) 5800	Aug 31 1941
INSTANTANEOUS PEAK FLOW			2400	Apr 6	(b) 9.45	Aug 31 1941
INSTANTANEOUS PEAK STAGE			7.28	Apr 6	34	Oct 26 1947
INSTANTANEOUS LOW FLOW			(c) 71	Feb 25	.98	
ANNUAL RUNOFF (CFSM)	1.11		1.06		13.38	
ANNUAL RUNOFF (INCHES)	15.13		14.40		348	
10 PERCENT EXCEEDS	367		317		117	
50 PERCENT EXCEEDS	129		129		76	
90 PERCENT EXCEEDS	100		100			

(a) Based on rating curve extended above 2,200 ft³/s

(b) From floodmarks

(c) Result of freezeup

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 sea level. 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: July 14 and ice-affected periods, Dec. 14-17, 19, 20, and Dec. 22 to Mar. 30. Records good except for ice-affected periods, which are fair (see page 11). Flow regulated by 20 reservoirs and 9 powerplants upstream from station. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

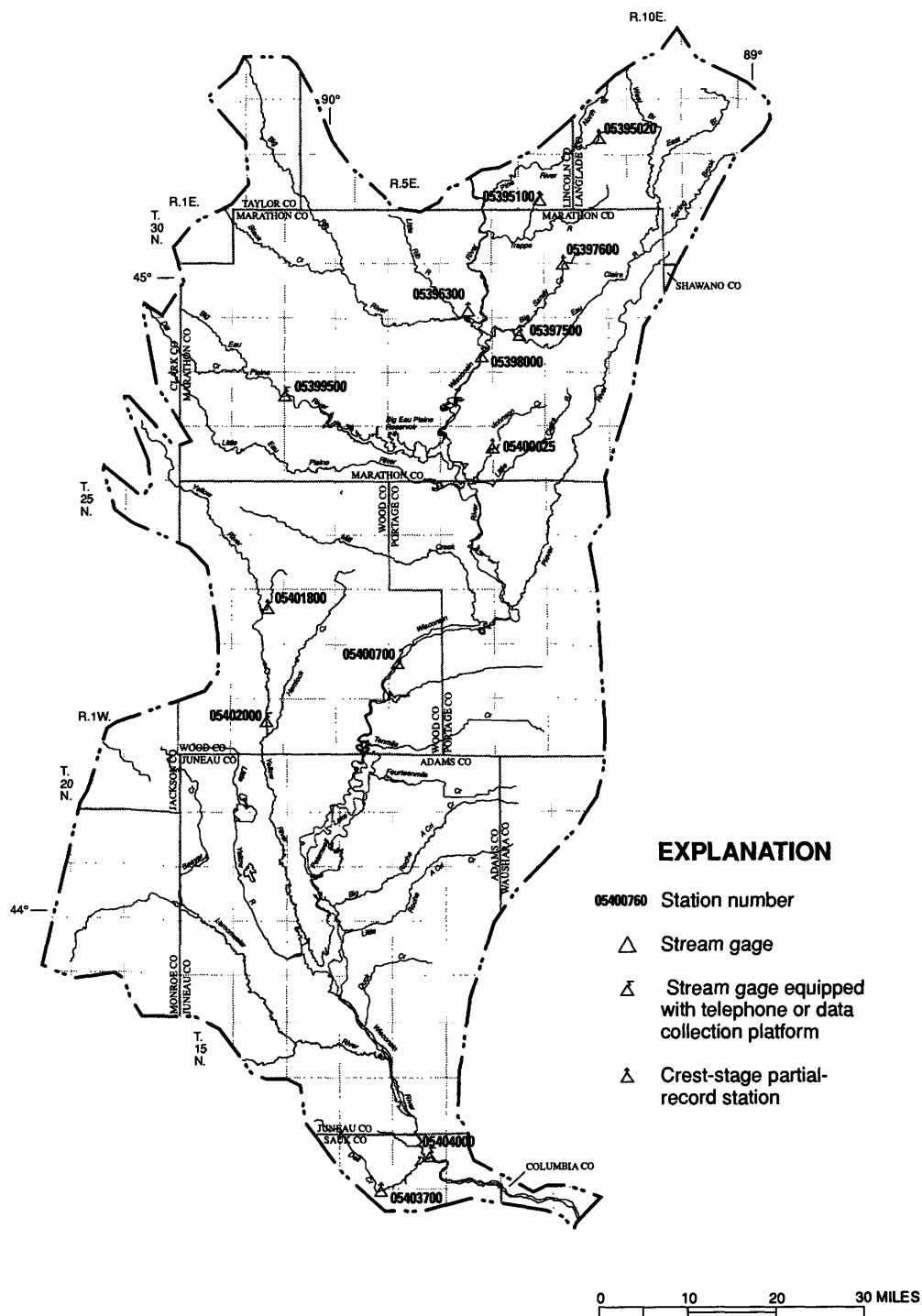
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2230	3860	3720	2600	2700	2800	5780	3350	2680	2310	1960	1960
2	2320	2810	3500	3000	2800	2800	7350	3760	2380	4090	1800	2480
3	1860	2360	3340	3000	3000	2900	10000	3410	2240	5370	2160	2120
4	2130	2290	3370	3400	2900	2800	13100	3170	2220	4710	2380	1810
5	2100	2520	3160	3000	2900	2800	16800	2950	2640	4660	1800	2060
6	2110	2430	3210	3100	2700	3000	20400	2940	2720	3940	2100	2310
7	2480	2340	3310	2600	2800	2700	19200	2780	2730	3230	1950	2460
8	1970	2340	3310	2500	2900	2500	13400	2720	2880	3120	1950	2250
9	2130	2280	3220	2900	2900	2800	8780	3020	3050	3190	1750	2600
10	2110	2270	3310	3000	2800	2900	6870	2760	2580	3170	2020	2700
11	1660	2460	3250	2900	2700	2800	5910	2630	2200	2870	2290	2450
12	1960	1880	3070	2900	2800	3000	5250	2670	2050	2690	1790	2100
13	1750	2160	2690	2800	2900	2700	4540	2410	2360	2950	1880	2030
14	2280	2410	3000	2600	2600	2600	4350	2530	2230	2900	2020	2400
15	2300	2490	3100	2400	2600	2700	4120	2620	2320	3350	1840	2420
16	1990	4770	3000	2900	2700	2600	4500	2590	3570	3060	1730	2560
17	2520	8140	2900	3200	2700	2800	4850	2520	3710	3310	2500	3670
18	2520	8880	2520	2700	3000	3100	4300	2880	3580	3510	2800	3070
19	1970	7130	3000	2800	2600	3000	4010	2720	3930	2630	2400	2740
20	1730	5280	3000	2800	2800	3000	3980	3030	3730	2600	2990	2440
21	2150	5240	2670	2800	2800	2900	3770	2680	3510	2510	3180	2360
22	2210	4180	2900	2900	2600	3000	3670	2990	3610	2400	2890	2640
23	2770	4420	2800	3000	2700	3000	3530	3080	3290	1890	2220	2270
24	3000	3950	2900	3100	2700	3100	3410	3160	2850	2200	2280	1830
25	3310	3740	2700	2800	2700	3400	3540	3490	2850	2340	2420	2310
26	2420	3340	2700	2800	2800	3100	3410	3330	2580	2720	1670	2240
27	2440	2920	2500	2900	2900	3400	3270	3070	2330	2260	1990	2150
28	1890	3190	2600	2900	2900	3800	2920	2630	1910	2070	2000	2440
29	2490	3240	2800	2800	---	4900	2740	2490	2200	2170	2350	2440
30	4340	3610	2800	2800	---	4900	2870	2970	2540	1970	1890	2310
31	3890	---	2800	2800	---	5330	---	3030	---	2140	2250	---
TOTAL	73030	108930	93150	88700	77900	97130	200620	90380	83470	92330	67250	71620
MEAN	2356	3631	3005	2861	2782	3133	6687	2915	2782	2978	2169	2387
MAX	4340	8880	3720	3400	3000	5330	20400	3760	3930	5370	3180	3670
MIN	1660	1880	2500	2400	2600	2500	2740	2410	1910	1890	1670	1810

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 1997, BY WATER YEAR (WY)

	MEAN	2563	2420	2096	1993	1935	2603	4761	3696	3128	2354	2097	2568
MAX	8654	4632	3887	3138	3063	6275	11510	8931	9923	5862	5451	9069	
(WY)	1912	1939	1992	1939	1932	1935	1916	1904	1905	1968	1912	1903	
MIN	760	775	830	820	820	980	1348	1082	810	724	719	873	
(WY)	1977	1977	1911	1911	1911	1909	1990	1987	1988	1988	1934	1987	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1903 - 1997
ANNUAL TOTAL	1204720	1144510	
ANNUAL MEAN	3292	3136	2670
HIGHEST ANNUAL MEAN			4558
LOWEST ANNUAL MEAN			1348
HIGHEST DAILY MEAN	21600	20400	36400
LOWEST DAILY MEAN	1660	1660	90
ANNUAL SEVEN-DAY MINIMUM	1980	1940	194
INSTANTANEOUS PEAK FLOW		21300	(a) 49400
INSTANTANEOUS PEAK STAGE		12.71	18.26
10 PERCENT EXCEEDS	5150	3960	4750
50 PERCENT EXCEEDS	2660	2800	2100
90 PERCENT EXCEEDS	2130	2090	1250

(a) From rating curve extended above 20,000 ft³/s



Base from U.S. Geological Survey 1:100,000 digital data;
modified by Wisconsin Department of Natural Resources.
Wisconsin Transverse Mercator projection.

CENTRAL WISCONSIN RIVER BASIN

REMARKS.--Estimated daily discharges: Ice-affected period, Nov. 11 to Apr. 3. Records good except those for ice-affected period, which is poor (see page 11). Gage-height telemeter at station.

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	430	160	110	120	130	900	332	269	111	100	121
2	100	320	150	110	120	140	1500	365	224	251	96	119
3	95	274	140	120	120	140	2200	367	194	278	93	118
4	94	236	140	120	120	140	3030	343	173	265	89	117
5	94	221	140	120	120	140	3760	300	165	251	87	110
6	93	211	140	120	110	140	4360	294	191	226	85	112
7	93	210	130	120	110	140	3980	278	205	178	82	106
8	91	205	130	120	110	130	2600	298	221	209	79	102
9	94	195	130	120	110	140	1470	312	231	233	76	104
10	94	183	120	120	110	150	986	282	197	215	76	111
11	94	170	120	110	110	160	700	242	165	172	76	135
12	96	160	120	110	100	160	588	223	148	145	82	117
13	97	150	130	110	100	150	528	206	160	129	84	106
14	96	150	130	110	100	150	480	203	147	123	85	101
15	96	140	130	110	100	140	467	213	131	117	89	98
16	98	230	120	110	100	140	460	230	131	114	89	113
17	146	400	120	110	100	150	458	234	130	342	89	614
18	266	660	120	110	110	160	418	240	125	370	92	572
19	275	520	110	110	110	170	402	253	120	281	162	476
20	207	400	110	120	110	190	396	266	124	197	182	362
21	175	300	120	130	110	190	381	245	128	151	256	291
22	163	220	120	130	110	190	360	218	134	133	331	234
23	193	190	120	130	110	180	341	189	153	123	292	201
24	267	160	120	120	100	180	329	196	174	114	241	180
25	287	150	110	120	110	200	320	252	187	112	193	164
26	245	140	110	110	110	220	301	291	171	119	166	153
27	215	120	110	110	120	260	286	249	142	131	146	145
28	197	140	110	110	130	380	275	213	122	148	132	140
29	192	150	110	110	---	860	263	204	111	131	120	138
30	359	160	110	110	---	1000	261	278	105	116	115	136
31	493	---	110	110	---	900	---	311	---	107	118	---
TOTAL	5209	7195	3840	3580	3090	7520	32800	8127	4878	5592	4003	5596
MEAN	168	240	124	115	110	243	1093	262	163	180	129	187
MAX	493	660	160	130	130	1000	4360	367	269	370	331	614
MIN	91	120	110	110	100	130	261	189	105	107	76	98
CFSM	.45	.64	.33	.31	.29	.65	2.92	.70	.43	.48	.34	.50
IN.	.52	.71	.38	.36	.31	.75	3.25	.81	.48	.55	.40	.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

MEAN	209	238	141	91.5	86.9	352	753	366	301	160	154	211
MAX	900	784	650	217	227	1456	1672	1146	1119	691	789	1095
(WY)	1942	1920	1966	1946	1981	1973	1922	1960	1943	1978	1926	1941
MIN	46.9	68.6	48.2	31.5	41.0	51.1	149	94.4	52.8	64.6	51.9	48.5
(WY)	1949	1977	1926	1926	1957	1956	1990	1977	1988	1989	1948	1989

WISCONSIN RIVER BASIN
05397500 EAU CLAIRE RIVER AT KELLY, WI--CONTINUED

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SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	110570		91430		255	
ANNUAL MEAN	302		250		440	1942
HIGHEST ANNUAL MEAN					131	1925
LOWEST ANNUAL MEAN					7180	Aug 21 1926
HIGHEST DAILY MEAN	3300	Apr 21	4360	Apr 6	(a)25	(b)Jan 6 1926
LOWEST DAILY MEAN	91	Oct 8	76	Aug 9-11	(a)26	Jan 10 1926
ANNUAL SEVEN-DAY MINIMUM	93	Oct 4	79	Aug 7	(c)8300	Aug 21 1926
INSTANTANEOUS PEAK FLOW			4470	Apr 6	(d)10.14	Mar 24 1991
INSTANTANEOUS PEAK STAGE			7.77	Apr 6	(e)8.0	Jul 17 1944
INSTANTANEOUS LOW FLOW			75	Aug 9-12	.68	
ANNUAL RUNOFF (CFSM)	.81		.67		9.22	
ANNUAL RUNOFF (INCHES)	10.97		9.07		540	
10 PERCENT EXCEEDS	557		366		130	
50 PERCENT EXCEEDS	170		140		60	
90 PERCENT EXCEEDS	105		100			

(a) Ice affected

(b) Also occurred Jan. 10-15,17,18,1926, ice affected, and Oct. 3, 1948

(c) From rating curve extended above 6,000 ft³/s, gage height, 8.4 ft, from graph based on gage readings

(d) Ice jam

(e) Probably result of temporary regulation

WISCONSIN RIVER BASIN

05398000 WISCONSIN RIVER AT ROTHSCILD, WI

LOCATION.--Lat 44°53'09", long 89°38'05", in sec.26, T.28 N., R.7 E., Marathon County, Hydrologic Unit 07070002, on left bank at Rothschild, 0.5 mi downstream from Rothschild Dam, 1.7 mi north of bridge on U.S. Highway 51, 2.0 mi downstream from Eau Claire River, and 5.0 mi upstream from Black Creek.

DRAINAGE AREA.--4,020 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,125.86 ft above sea level. 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: Ice-affected periods, Dec. 17 and Dec. 20 to Mar. 26. Records good except those for ice-affected periods, which are fair (see page 11). Flow regulated by 20 reservoirs and 12 powerplants upstream from station. Gage-height telemeter at station.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2180	5430	4220	2800	3000	2700	14700	4650	3940	3220	2260	2460
2	2120	4310	4000	2900	3000	2600	20900	5420	3680	5170	2460	2810
3	1990	3030	3400	3000	3000	2600	27200	4980	2880	7880	2220	2810
4	1570	3030	3420	3100	3000	2700	31100	4660	2990	7080	2690	2450
5	2010	3010	3440	3300	3000	2700	34700	4310	3120	6350	2400	2490
6	1850	3060	3500	3100	2800	2600	39000	3920	3660	5360	2160	2620
7	2030	3020	3470	3100	2700	2700	37300	3940	4310	4340	2510	2990
8	1770	2850	3490	2700	2700	2500	25900	3920	4250	4580	2240	3040
9	2000	2810	3400	2600	2900	2700	16100	4490	4440	4810	2100	3300
10	1730	2500	3410	2800	2800	2800	11300	4030	3830	4460	2210	3730
11	1770	2590	3470	2700	2800	2900	9330	3560	3030	3960	2410	3370
12	1700	2080	3500	2700	2500	2800	8130	3710	2820	3460	2140	2980
13	1560	2220	3130	2800	2700	2900	6940	3200	3280	3440	2260	2540
14	1830	2310	3080	2500	2800	2800	6750	3440	3070	3620	2290	2850
15	2210	2630	3370	2500	2500	2700	6400	3500	2980	3930	2360	2900
16	2230	5580	3130	2400	2400	2700	6440	3410	3770	3780	2120	3500
17	3010	13500	2900	2800	2500	2400	6860	3510	4380	4780	2660	7430
18	3590	13500	2670	2700	2500	2600	6340	3680	4140	4970	3190	7240
19	2930	10200	2500	2900	2800	2900	5900	3770	4720	3760	3260	4910
20	2200	7280	2700	2700	2600	2900	5870	3940	4370	3400	3470	3840
21	2200	6700	2700	2800	2600	2900	5500	3730	4440	3290	4610	3860
22	2530	5310	2700	2700	2700	3100	5450	3660	4480	2930	4390	3390
23	3320	5160	2800	2900	2500	3300	4950	3780	4410	2500	3330	3290
24	4200	4570	2800	3100	2700	3700	4940	3900	3940	2430	3290	2820
25	4240	4200	2800	3300	2600	3900	4810	4520	3580	2900	3310	2580
26	3270	3330	2800	3100	2600	4100	4690	4520	3430	3310	2600	2950
27	3130	3120	2800	3100	2700	4480	4550	4200	2880	2940	2430	2840
28	2680	3370	2700	3200	2600	6540	4300	3480	2820	3180	2390	2990
29	2590	3680	2700	3300	---	10900	3580	3290	2520	3050	2620	3050
30	6600	3850	2900	3300	---	14300	4080	4130	3280	2500	2400	2820
31	6530	---	2800	3100	---	14300	---	5150	---	2710	2700	---
TOTAL	83570	138230	96700	90000	76000	125720	374010	124400	109440	124090	83480	100850
MEAN	2696	4608	3119	2903	2714	4055	12470	4013	3648	4003	2693	3362
MAX	6600	13500	4220	3300	3000	14300	39000	5420	4720	7880	4610	7430
MIN	1560	2080	2500	2400	2400	2400	3580	3200	2520	2430	2100	2450

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1997, BY WATER YEAR (WY)

	MEAN	MAX	MIN
1945	3280	10020	1986
1946	3347	7262	1986
1947	2754	5484	1992
1948	2486	3787	1973
1949	2375	4051	1984
1950	4201	13300	1973
1951	7568	14640	1967
1952	4670	13930	1960
1953	3852	11920	1993
1954	2814	7219	1978
1955	2473	6973	1995
1956	2473	6973	1995
1957	2473	6973	1995
1958	2473	6973	1995
1959	2473	6973	1995
1960	2473	6973	1995
1961	2473	6973	1995
1962	2473	6973	1995
1963	2473	6973	1995
1964	2473	6973	1995
1965	2473	6973	1995
1966	2473	6973	1995
1967	2473	6973	1995
1968	2473	6973	1995
1969	2473	6973	1995
1970	2473	6973	1995
1971	2473	6973	1995
1972	2473	6973	1995
1973	2473	6973	1995
1974	2473	6973	1995
1975	2473	6973	1995
1976	2473	6973	1995
1977	2473	6973	1995
1978	2473	6973	1995
1979	2473	6973	1995
1980	2473	6973	1995
1981	2473	6973	1995
1982	2473	6973	1995
1983	2473	6973	1995
1984	2473	6973	1995
1985	2473	6973	1995
1986	2473	6973	1995
1987	2473	6973	1995
1988	2473	6973	1995
1989	2473	6973	1995
1990	2473	6973	1995
1991	2473	6973	1995
1992	2473	6973	1995
1993	2473	6973	1995
1994	2473	6973	1995
1995	2473	6973	1995
1996	2473	6973	1995
1997	2473	6973	1995

WISCONSIN RIVER BASIN

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05398000 WISCONSIN RIVER AT ROTHSCHILD, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1945 - 1997	
ANNUAL TOTAL	1615240		1526490		3585	
ANNUAL MEAN	4413		4182		5953	1973
HIGHEST ANNUAL MEAN					1686	1977
LOWEST ANNUAL MEAN					44500	Mar 31 1967
HIGHEST DAILY MEAN	35700	Apr 20	39000	Apr 6	575	Jun 16 1988
LOWEST DAILY MEAN	1560	Oct 13	1560	Oct 13	757	Nov 28 1976
ANNUAL SEVEN-DAY MINIMUM	1770	Oct 8	1770	Oct 8	49200	(a) Apr 12 1965
INSTANTANEOUS PEAK FLOW			40800	Apr 6	(b) 18.46	(a) Apr 12 1965
INSTANTANEOUS PEAK STAGE			26.73	Apr 6	575	Jun 16 1988
INSTANTANEOUS LOW FLOW					6600	
10 PERCENT EXCEEDS	7510		5700		2610	
50 PERCENT EXCEEDS	3090		3100		1500	
90 PERCENT EXCEEDS	2150		2400			

(a) Also occurred Mar. 31, 1967

(b) Datum then in use

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 for some periods published in WSP

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. Datum of gage is 1,154.24 ft above sea level. 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: Ice-affected periods, Nov. 11-14 and Nov. 22 to Apr. 1. Records good except those for ice-affected periods, which are poor, and discharges from Oct. 1 to Nov. 16 and July 5-29, which are fair (see page 11). Gage-height telemeter at station.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	302	38	25	22	31	5200	109	140	13	34	69
2	15	174	36	25	23	33	6620	128	94	1960	28	47
3	12	118	34	26	24	35	5900	133	63	566	34	59
4	10	90	31	26	24	36	3620	120	44	284	58	50
5	9.2	77	31	26	25	38	2480	90	50	162	42	40
6	9.2	74	31	26	25	38	2440	73	100	99	28	35
7	8.3	72	30	26	25	37	1040	63	67	64	21	30
8	7.9	69	29	25	24	37	471	173	71	341	18	26
9	7.0	62	28	25	24	39	286	204	68	432	15	26
10	5.6	54	27	24	24	42	207	121	70	248	14	95
11	7.1	48	27	23	24	45	158	86	51	147	12	108
12	10	42	27	23	23	50	134	67	63	86	14	65
13	9.8	36	27	22	23	50	118	55	109	58	24	51
14	9.2	31	27	22	23	49	103	49	178	46	29	40
15	10	29	26	21	23	49	94	49	105	38	43	32
16	11	2990	26	21	23	49	88	45	65	35	38	341
17	52	2800	25	20	23	49	81	42	56	28	29	3280
18	235	939	25	20	24	52	74	47	52	23	25	891
19	123	493	24	21	26	60	76	54	41	20	21	393
20	62	265	23	21	27	72	92	55	113	19	70	207
21	41	179	23	22	27	94	89	50	230	21	177	123
22	45	120	23	22	27	140	76	44	166	22	130	83
23	280	84	23	22	27	230	65	37	125	21	75	60
24	520	62	22	22	26	360	59	36	76	20	53	47
25	313	49	22	22	26	390	52	43	50	28	42	39
26	182	39	22	21	27	380	46	47	40	118	35	33
27	114	33	22	21	28	660	41	46	32	92	30	29
28	77	32	23	20	29	1300	38	36	24	78	32	27
29	155	35	23	20	---	4000	36	49	18	144	30	26
30	1340	37	24	21	---	3600	43	223	14	83	30	24
31	664	---	25	22	---	3300	---	241	---	49	132	---
TOTAL	4363.3	9435	824	703	696	15345	29827	2615	2375	5345	1363	6376
MEAN	141	315	26.6	22.7	24.9	495	994	84.4	79.2	172	44.0	213
MAX	1340	2990	38	26	29	4000	6620	241	230	1960	177	3280
MIN	5.6	29	22	20	22	31	36	36	14	13	12	24
CFSM	.63	1.40	.12	.10	.11	2.21	4.44	.38	.35	.77	.20	.95
IN.	.72	1.57	.14	.12	.12	2.55	4.95	.43	.39	.89	.23	1.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

MEAN	110	134	48.0	20.1	28.1	420	599	235	210	76.1	73.0	164
MAX	728	695	446	138	372	1202	1551	1016	1203	642	371	1572
(WY)	1942	1992	1966	1973	1984	1976	1951	1973	1980	1978	1978	1938
MIN	2.26	4.34	2.50	.40	.51	8.77	51.7	15.8	5.16	2.71	2.58	1.50
(WY)	1954	1954	1990	1977	1977	1956	1946	1977	1988	1988	1937	1953

05399500 BIG EAU PLEINE RIVER NEAR STRATFORD, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	77195.4		79267.3		177	
ANNUAL MEAN	211		217		355	1980
HIGHEST ANNUAL MEAN					47.6	1977
LOWEST ANNUAL MEAN					26100	Sep 9 1938
HIGHEST DAILY MEAN	3910	Apr 11	6620	Apr 2	(a).00	(b) Jan 22 1961
LOWEST DAILY MEAN	5.6	Oct 10	5.6	Oct 10	(a).00	Jan 22 1961
ANNUAL SEVEN-DAY MINIMUM	6.4	Sep 17	7.8	Oct 5	(c) 41000	Sep 9 1938
INSTANTANEOUS PEAK FLOW			8360	Apr 1	(d) 24.50	Sep 9 1938
INSTANTANEOUS PEAK STAGE			14.72	Apr 1	.00	(e) Aug 17 1947
INSTANTANEOUS LOW FLOW			5.1	Oct 11	.79	
ANNUAL RUNOFF (CFSM)	.94		.97		10.75	
ANNUAL RUNOFF (INCHES)	12.82		13.16		372	
10 PERCENT EXCEEDS	490		271		25	
50 PERCENT EXCEEDS	41		42		4.6	
90 PERCENT EXCEEDS	10		21			

(a) Occurred during ice-affected period

(b) Also occurred Jan. 23 to Feb. 5, 1961

(c) Based on rating curve extended above 24,000 ft³/s

(d) From floodmarks

(e) Also occurred Jan. 22 to Feb. 5, 1961, ice-affected period

COOPERATION.--Figures of daily discharges were provided by Consolidated Water Power Company and Wisconsin Valley Improvement Company. Records were reviewed by the Geological Survey.

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2930	6790	4640	3810	3900	3860	25600	4050	4640	4120	2840	2860
2	3020	4580	4650	3770	3950	3850	29500	7320	3800	8660	2560	2750
3	2590	3310	3770	4120	4390	3840	36500	6570	3520	11000	2220	3180
4	2270	3490	3670	4980	4630	3860	41700	5480	3210	9750	2960	2740
5	2470	3840	3970	3780	4560	3790	44400	5190	2940	5940	3080	2550
6	2890	3440	4190	3890	4040	3800	44700	3950	3570	5930	2970	3080
7	3020	3650	3880	3930	3750	3820	47300	3890	3820	5570	2890	3220
8	2950	3600	3880	3900	3980	3810	40100	5870	4330	5440	2730	3230
9	3000	3380	3970	3760	3940	4510	24700	5900	4610	5620	2670	3350
10	2350	3120	3990	3970	3970	3890	15700	4530	4400	5500	2760	3330
11	2750	3050	4110	3520	4050	4510	12000	3830	3290	4470	2770	3340
12	2950	2920	4200	3590	3960	4030	11400	4240	2830	3770	2990	3150
13	2660	2930	3860	3560	3940	3790	9170	3770	2850	4380	2760	2760
14	2130	2930	3710	3570	3890	4910	11400	3840	3240	3780	2770	2760
15	2320	2960	3550	3680	3940	3740	7490	4020	3240	3830	3810	2700
16	2920	5240	3920	3420	3970	3860	7120	3690	3840	3890	2550	3880
17	3270	12500	3790	3450	3990	3890	7870	3530	3900	3550	1680	6440
18	4100	15200	3460	3570	3960	3890	7150	3770	4570	4510	3980	8340
19	3760	12800	3030	3470	4000	3910	6920	4550	4160	4610	3650	6370
20	2590	8660	3040	3420	3980	4700	6270	3700	6630	3530	4080	4540
21	2630	7960	3380	3490	3990	4830	6110	4490	5740	3410	4280	5120
22	3350	7670	3290	4080	3970	4840	5850	4470	5240	3040	4350	5130
23	4910	5370	3530	3880	3970	4860	5490	4000	4800	2900	3830	4080
24	4290	4960	3450	3770	3960	5540	5190	4030	4670	2690	3790	3370
25	4730	4760	3450	4250	3790	6210	4960	4210	4140	3220	3750	3080
26	4360	3960	3110	3880	3930	7180	4700	4350	3780	3270	3250	2880
27	3120	3340	3130	3840	3830	7670	4690	4400	3270	3420	3170	3350
28	3330	3370	3250	3550	3840	12900	4620	4130	2280	3380	2580	3280
29	3300	4090	3320	3760	---	18900	4130	3970	2620	2840	2830	2890
30	5700	4990	2950	3800	---	23800	4530	3640	3410	2690	3410	3840
31	8850	---	3580	4060	---	25600	---	5120	---	2880	3160	---
TOTAL	105510	158860	113720	117520	112070	202590	487260	138500	117340	141590	97120	111590
MEAN	3404	5295	3668	3791	4003	6535	16240	4468	3911	4567	3133	3720
MAX	8850	15200	4650	4980	4630	25600	47300	7320	6630	11000	4350	8340
MIN	2130	2920	2950	3420	3750	3740	4130	3530	2280	2690	1680	2550

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

MEAN	4163	4451	3344	3069	3156	6436	11120	6971	6103	3546	3157	4391
MAX	13070	10270	7928	5589	6368	19180	25940	19730	19570	10820	9199	17670
(WY)	1987	1920	1966	1973	1984	1973	1922	1960	1943	1978	1926	1938
MIN	1075	1072	1141	1272	1333	1547	2579	1669	1308	1123	1173	1227
(WY)	1977	1977	1990	1990	1977	1924	1990	1987	1988	1988	1934	1976

05400760 WISCONSIN RIVER AT WISCONSIN RAPIDS, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	2210120		1903670			
ANNUAL MEAN	6039		5216		4984	
HIGHEST ANNUAL MEAN					8499	1973
LOWEST ANNUAL MEAN					2107	1977
HIGHEST DAILY MEAN	46400	Apr 21	47300	Apr 7	63600	Jun 21 1993
LOWEST DAILY MEAN	1820	Aug 24	1680	Aug 17	165	Aug 12 1934
ANNUAL SEVEN-DAY MINIMUM	2550	Sep 13	2580	Oct 10	790	Jun 18 1988
INSTANTANEOUS PEAK FLOW			48100	Apr 7	(a) 70400	Sep 12 1938
10 PERCENT EXCEEDS	11800		7000		9700	
50 PERCENT EXCEEDS	3890		3860		3390	
90 PERCENT EXCEEDS	2890		2860		1790	

(a) From rating curve extended above 58,000 ft³/s

WISCONSIN RIVER BASIN
05404000 WISCONSIN RIVER NEAR WISCONSIN DELLS, WI

LOCATION.--Lat 43°36'22", long 89°45'25" in NW 1/4 sec.14, T.13 N., R.6 E., Sauk County, Hydrologic Unit 07070003, on right bank 0.5 mi 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 sea level (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: Ice-affected period, Dec. 20 to Feb. 25. Records good (see page 11). Flow regulated by 24 reservoirs above station. In 1938, when the maximum of record occurred, there were 21 reservoirs above station, the two large reservoirs, Petenwell and Castle Rock, were not in existence. Diurnal fluctuation is caused by powerplant of Wisconsin Power and Light Company at Wisconsin Dells. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4240	6790	6870	5400	6200	5350	29000	7180	6130	5120	4050	4550
2	3780	7340	6550	5000	6200	5380	34800	7510	6430	6150	3870	4600
3	3810	7100	6340	5400	6200	5620	35900	7890	6760	8260	4260	5450
4	3780	5270	6080	5400	6000	5790	35800	7970	6760	8500	4820	4440
5	3430	5400	5240	5200	6200	7410	35700	9280	5840	8410	4520	4110
6	3500	5740	5660	5800	6200	8100	36100	9130	5230	8330	3720	3680
7	3640	5750	5050	6000	6000	7960	36400	8910	5930	8230	3680	3860
8	4170	5780	4970	6200	6000	8290	37000	8020	6410	8600	4170	4630
9	4130	5800	5000	6200	5600	8320	37200	8340	7120	8580	4570	4530
10	4310	4610	5110	6000	5800	8270	33300	8660	7190	8380	4450	4880
11	3870	4700	5240	5000	6000	6990	23900	7230	7330	8380	4830	4790
12	3700	4770	5430	4800	6000	6790	20300	6950	7270	8170	4060	4850
13	3500	4850	5380	5400	6000	7150	19800	7080	6980	7320	4250	4680
14	3460	4830	5360	5400	6000	6410	15300	7130	5590	6930	4290	4650
15	3700	4920	5710	5600	6200	7020	10100	7130	5010	5680	4670	3980
16	3540	4460	6020	5800	6200	6430	7840	7160	4850	5690	5180	3860
17	3960	6120	5850	5600	6200	6250	6420	6490	4790	5860	5060	4450
18	4480	11900	5590	6000	6400	6110	6810	6620	5360	5840	4440	7470
19	5020	14500	5080	6000	6400	6340	6200	6630	5490	5970	4020	7680
20	4880	13100	4500	6000	6400	7560	6380	7160	6630	5900	4170	7480
21	4600	11100	4000	6000	6000	7810	7670	6540	7850	5740	5160	6510
22	3760	8900	4400	6000	6400	7450	7710	6560	8860	5420	5900	6740
23	4670	9010	4100	6200	6000	7630	7490	6510	8670	5550	5820	7700
24	6690	9080	3900	6200	6400	8320	7470	5630	8300	5220	5730	7420
25	7880	8090	4000	6200	6400	9200	7520	5730	6400	3870	7370	6020
26	6170	6790	3800	5800	6380	9530	7290	6500	7220	3460	5330	4980
27	6060	6680	3600	6000	5820	10500	6910	6400	6290	3490	4970	3910
28	5970	4890	4500	6000	5450	12100	6970	6080	5510	4410	4490	4190
29	4860	4720	4200	6200	---	16600	7190	6230	4190	5580	4000	4750
30	7510	5280	4600	6200	---	22800	6790	6420	3920	5000	3770	3920
31	7010	---	6000	6200	---	23700	---	5870	---	4140	4070	---
TOTAL	144080	208270	158130	179200	171050	273180	547260	220940	190310	196180	143690	154760
MEAN	4648	6942	5101	5781	6109	8812	18240	7127	6344	6328	4635	5159
MAX	7880	14500	6870	6200	6400	23700	37200	9280	8860	8600	7370	7700
MIN	3430	4460	3600	4800	5450	5350	6200	5630	3920	3460	3680	3680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 1997, BY WATER YEAR (WY)

	MEAN	5962	6373	5150	4788	5045	8284	13070	9555	8576	5337	4341	6002
MAX	19120	13900	10740	7831	9614	25620	25050	26990	27090	13350	10700	25900	
(WY)	1987	1983	1966	1992	1984	1973	1951	1960	1993	1978	1995	1938	
MIN	1683	1688	1746	2434	2432	2945	2939	3361	1826	1713	1634	1754	
(WY)	1977	1977	1990	1945	1945	1940	1964	1977	1988	1988	1988	1976	

SUMMARY STATISTICS

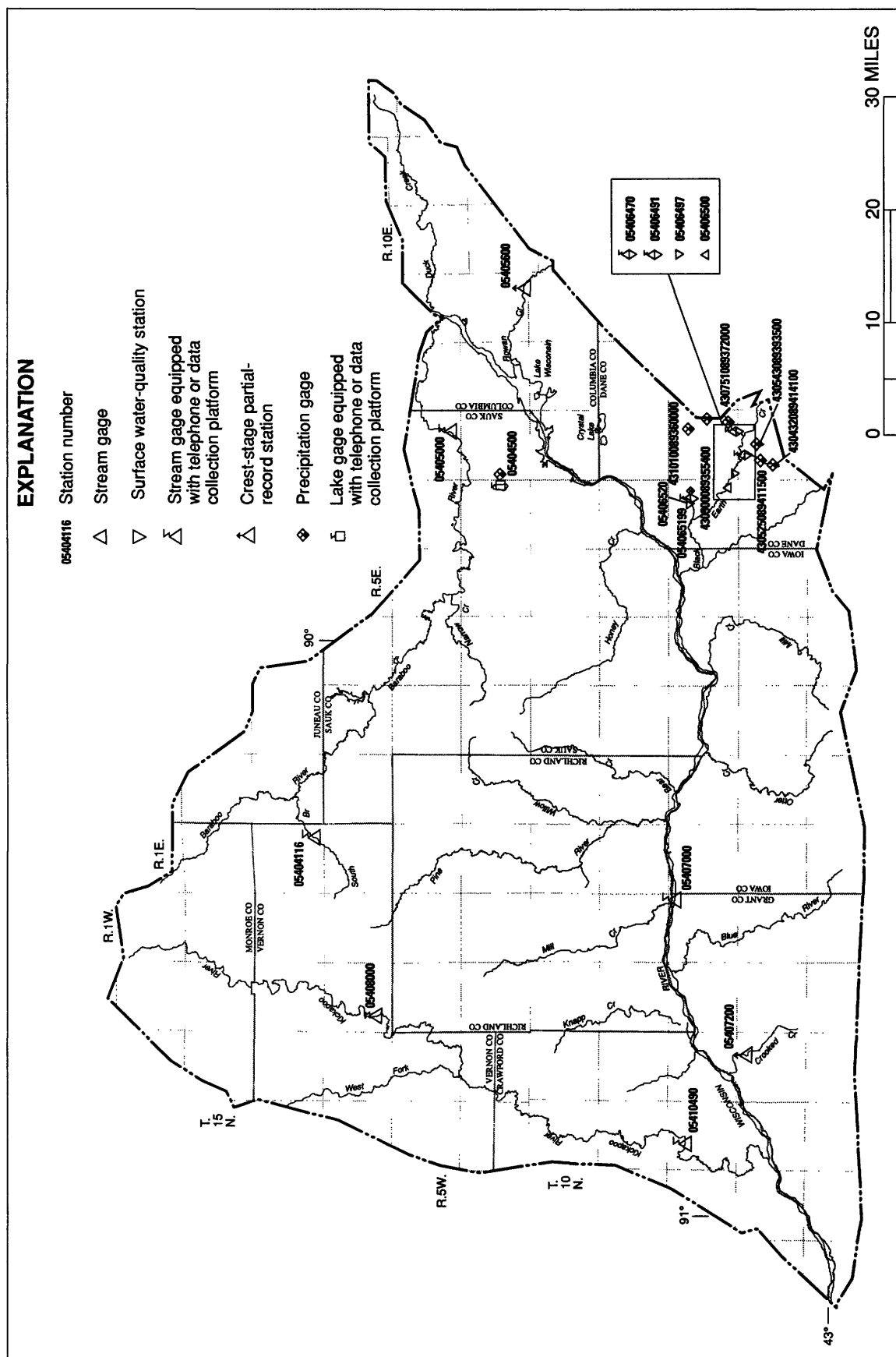
FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1935 - 1997

ANNUAL TOTAL	2945190	2587050	
ANNUAL MEAN	8047	7088	6870
HIGHEST ANNUAL MEAN			12420
LOWEST ANNUAL MEAN			2993
HIGHEST DAILY MEAN	43800	37200	71200
LOWEST DAILY MEAN	2590	3430	1060
ANNUAL SEVEN-DAY MINIMUM	2980	3680	1210
INSTANTANEOUS PEAK FLOW		37700	72200
INSTANTANEOUS PEAK STAGE		14.27	(a) 23.83
10 PERCENT EXCEEDS	14600	8590	12200
50 PERCENT EXCEEDS	6000	6000	5200
90 PERCENT EXCEEDS	3850	4060	2890

(a) Present datum



LOWER WISCONSIN RIVER BASIN

Base from U.S. Geological Survey 1:100,000 digital data; modified by Wisconsin Department of Natural Resources. Wisconsin Transverse Mercator projection.

WISCONSIN RIVER BASIN

05040116 SOUTH BRANCH BARABOO RIVER AT HILLSBORO, WI

LOCATION.--Lat 43°39'10", long 90°20'09", in NE 1/4 NE 1/4 sec.35, T.14 N., R.1 E., Vernon County, Hydrologic Unit 07070004, on left bank 220 ft upstream from County Highway FF at Hillsboro, and 6.3 mi upstream from mouth.

DRAINAGE AREA.--39.1 mi².

PERIOD OF RECORD.--July 1988 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 927.28 ft above sea level (levels by Mid-State Associates, Baraboo, WI).

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 25-27, Dec. 19-22, 25-30, Jan. 6-20, Jan. 25 to Feb. 2, Feb. 12-16, and Mar. 14-17. Records good except those for ice-affected periods, which are fair (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	14	20	14	12	34	32	80	14	13	12	11
2	12	14	16	15	13	36	30	39	13	13	13	11
3	11	14	16	16	14	28	28	47	13	13	13	11
4	12	15	14	27	15	22	26	28	13	13	13	11
5	13	16	16	29	14	20	27	24	17	13	12	11
6	13	16	16	15	14	19	34	22	26	14	12	11
7	13	15	15	13	14	17	23	21	18	13	12	11
8	12	15	15	13	14	17	21	29	18	30	11	11
9	12	14	15	13	12	36	20	21	15	14	10	12
10	12	14	15	13	14	43	20	19	14	13	11	11
11	12	13	15	13	14	48	21	18	14	13	10	11
12	12	12	15	12	12	35	22	17	14	13	12	11
13	12	12	15	12	11	21	23	17	14	13	12	11
14	12	11	16	12	12	20	22	18	14	14	11	11
15	12	13	33	12	12	19	20	20	15	13	12	11
16	12	15	20	11	12	20	19	18	19	13	12	12
17	18	21	17	11	13	22	18	17	16	32	11	30
18	14	16	13	11	47	28	18	19	15	13	12	11
19	12	14	12	11	61	24	19	19	15	14	11	11
20	12	13	11	12	31	31	19	16	15	14	12	11
21	13	15	11	14	40	134	18	15	20	13	12	11
22	17	14	12	30	31	109	17	15	17	13	11	11
23	29	16	15	20	23	54	17	14	15	13	10	11
24	16	15	14	17	18	37	16	17	15	13	11	11
25	14	12	12	13	17	36	16	19	15	14	11	11
26	13	11	11	12	19	51	16	15	14	15	11	11
27	13	11	11	11	21	75	16	14	14	14	11	11
28	12	14	11	11	19	92	16	14	13	13	11	11
29	34	15	12	11	---	67	16	20	13	13	10	10
30	26	23	12	11	---	45	51	21	14	13	13	10
31	16	---	13	11	---	36	---	16	---	13	12	---
TOTAL	453	433	459	446	549	1276	661	689	462	448	357	349
MEAN	14.6	14.4	14.8	14.4	19.6	41.2	22.0	22.2	15.4	14.5	11.5	11.6
MAX	34	23	33	30	61	134	51	80	26	32	13	30
MIN	11	11	11	11	11	17	16	14	13	13	10	10
CFSM	.37	.37	.38	.37	.50	1.05	.56	.57	.39	.37	.29	.30
IN.	.43	.41	.44	.42	.52	1.21	.63	.66	.44	.43	.34	.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1997, BY WATER YEAR (WY)

MEAN	15.0	18.0	14.5	14.6	17.1	38.9	33.5	24.7	31.4	18.1	14.8	23.9
MAX	26.1	28.6	22.9	26.8	28.4	50.8	70.9	52.5	75.3	52.3	28.2	95.3
(WY)	1994	1993	1993	1996	1994	1989	1993	1993	1990	1993	1993	1992
MIN	6.79	8.14	4.42	8.95	6.91	25.7	8.47	13.2	8.38	5.83	6.69	6.12
(WY)	1990	1991	1990	1991	1989	1991	1990	1989	1989	1989	1988	1990

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1988 - 1997
ANNUAL TOTAL	8732	6582	
ANNUAL MEAN	23.9	18.0	22.3
HIGHEST ANNUAL MEAN			35.1
LOWEST ANNUAL MEAN			13.0
HIGHEST DAILY MEAN	1060	Jun 17	1190
LOWEST DAILY MEAN	(a) 11	(b) Jan 6, 7	(d) 1.2
ANNUAL SEVEN-DAY MINIMUM	12	Aug 1	(d) 1.4
INSTANTANEOUS PEAK FLOW		349	(e) 4010
INSTANTANEOUS PEAK STAGE		9.63	(f) 15.60
ANNUAL RUNOFF (CFSM)	.61	.46	.57
ANNUAL RUNOFF (INCHES)	8.31	6.26	7.75
10 PERCENT EXCEEDS	29	29	34
50 PERCENT EXCEEDS	16	14	15
90 PERCENT EXCEEDS	12	11	6.8

(a) Ice affected

(b) Also occurred Mar. 7, 8, Nov. 26, 27, Dec. 20, 21, 26-28, ice affected, and Sept. 5-7, 12, 14, 18, 19, Oct. 3 and Nov. 14

(c) Also occurred Aug. 11, 23, 29, Sept. 29 and 30

(d) Result of closing dam gates to fill lake 0.35 mi upstream

(e) From rating curve extended above 1,100 ft³/s, on basis of contracted-area measurement

(f) From floodmark on gage house

WISCONSIN RIVER BASIN
05404500 DEVILS LAKE NEAR BARABOO, WI

283

LOCATION.--Lat 43°25'35", long 89°43'40", in SW 1/4 SE 1/4 sec.13, T.11 N., R.6 E., Sauk County, Hydrologic Unit 07070004, in Devils Lake State Park, 3.5 mi south of Baraboo; prior to Nov. 19, 1996, at lat 43°25'18", long 89°43'38".

DRAINAGE AREA.--4.79 mi². Area of Devils Lake, 361 acres.

GAGE-HEIGHT RECORD

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.--Water-stage recorder installed July 17, 1991. Datum of gage is 955.00 ft, above sea level.

REMARKS.--Records good (see page 11). Lake has no surface outlet.

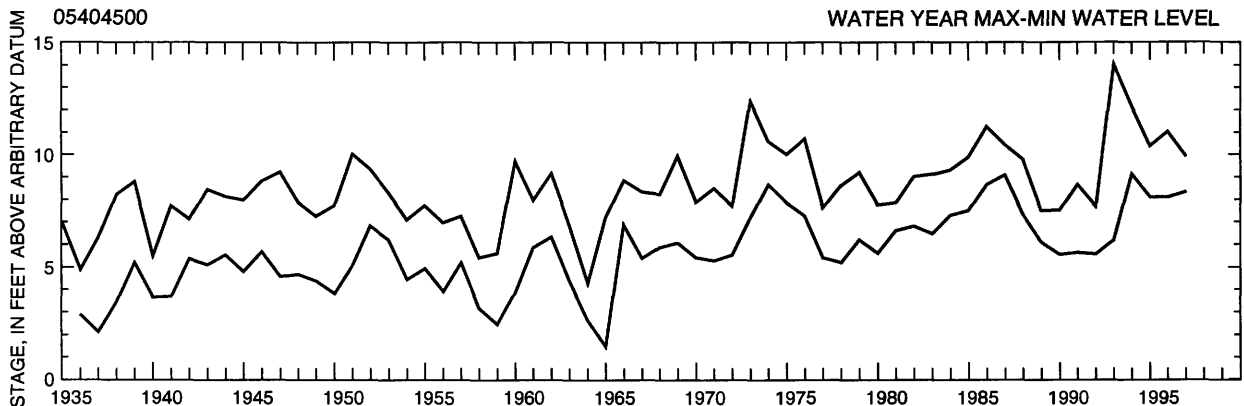
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 14.13 ft, July 18, 1993; minimum observed, 1.49 ft Feb. 8, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 9.95 ft, May 8, 9, and 11; minimum recorded, 8.29 ft, Jan. 31.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.98	8.66	8.42	8.37	8.36	8.47	9.35	9.74	9.65	9.59	---	9.08
2	8.95	8.63	8.41	8.36	8.35	8.47	9.38	9.79	9.63	9.67	---	9.07
3	8.93	8.63	8.41	8.36	8.35	8.47	9.41	9.85	9.61	9.63	---	9.04
4	8.91	8.62	8.40	8.38	8.39	8.47	9.43	9.87	9.60	9.59	---	9.01
5	8.88	8.61	8.41	8.39	8.40	8.46	9.47	9.88	9.59	9.57	---	8.99
6	8.86	8.60	8.41	8.39	8.40	8.46	9.51	9.89	9.59	9.57	---	8.96
7	8.87	8.60	8.40	8.38	8.39	8.45	9.51	9.90	9.59	9.54	---	8.95
8	8.85	8.59	8.39	8.38	8.39	8.45	9.49	9.93	9.61	9.64	---	8.94
9	8.84	8.57	8.38	8.38	8.38	8.48	9.49	9.93	9.59	9.65	---	8.93
10	8.82	8.55	8.38	8.39	8.38	8.49	9.49	9.93	9.57	9.64	---	8.90
11	8.81	8.53	---	8.38	8.38	8.50	9.49	9.92	9.56	9.61	---	8.88
12	8.78	8.51	---	8.38	8.38	8.51	9.53	9.90	9.54	9.59	---	8.86
13	8.76	8.50	---	8.37	8.38	8.59	9.55	9.89	9.52	9.58	---	8.84
14	8.75	8.49	---	8.37	8.37	8.64	9.55	9.88	9.49	9.59	---	8.83
15	8.74	8.50	---	8.38	8.37	8.64	9.56	9.87	9.49	9.56	9.30	8.82
16	8.72	8.48	---	8.38	8.37	8.64	9.56	9.86	9.70	9.54	9.28	8.82
17	8.74	8.48	---	8.36	8.37	8.64	9.56	9.85	9.69	9.59	9.29	8.89
18	8.72	8.46	---	8.36	8.37	8.64	9.56	9.84	9.66	9.59	9.30	8.87
19	8.70	8.45	---	8.36	8.37	8.64	9.57	9.83	9.65	9.57	9.28	8.85
20	8.68	8.44	---	8.36	8.38	8.65	9.58	9.82	9.64	9.55	9.27	8.83
21	8.66	8.46	---	8.36	8.43	8.67	9.58	9.80	9.70	9.57	9.25	8.81
22	8.66	8.45	---	8.36	8.45	8.72	9.58	9.79	9.72	---	9.23	8.79
23	8.71	8.45	---	8.36	8.45	8.75	9.57	9.77	9.71	---	9.22	8.79
24	8.70	8.44	---	8.36	8.45	8.78	9.58	9.75	9.70	---	9.20	8.76
25	8.69	8.43	---	8.38	8.44	8.82	9.57	9.74	9.68	---	9.18	8.74
26	8.67	8.41	---	8.39	8.44	8.84	9.57	9.71	9.66	---	9.16	8.72
27	8.66	8.41	---	8.38	8.46	8.89	9.56	9.69	9.63	---	9.15	8.70
28	8.62	8.40	---	8.38	8.47	9.03	9.55	9.67	9.60	---	9.14	8.70
29	8.66	8.40	---	8.38	---	9.18	9.54	9.69	9.57	---	9.12	8.68
30	8.71	8.43	8.38	8.37	---	9.25	9.56	9.68	9.59	---	9.11	8.64
31	8.68	---	8.37	8.36	---	9.31	---	9.66	---	---	9.10	---
MEAN	8.76	8.51	---	8.37	8.40	8.68	9.52	9.82	9.62	---	---	8.86
MAX	8.98	8.66	---	8.39	8.47	9.31	9.58	9.93	9.72	---	---	9.08
MIN	8.62	8.40	---	8.36	8.35	8.45	9.35	9.66	9.49	---	---	8.64



WISCONSIN RIVER BASIN
05404500 DEVILS LAKE NEAR BARABOO, WI--CONTINUED

PRECIPITATION QUANTITY

PERIOD OF RECORD.--October 1996 to September 1997 (non-frozen precipitation).

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established on July 17, 1991. Prior to Oct. 1, 1996, record was not published. Rainfall estimated to be 0.00 on Nov. 21, 23, 28, 29, Dec. 5, Jan. 1, 2, 20-23, 31, Feb. 6-12, 14, 16, 23-25, Mar. 14, 16, 17, 25, and Apr. 11, 12, because recorded precipitation interpreted as collector snowmelt. Rainfall data missing for periods Dec. 10-31 and July 21 to Aug. 15.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.77 in., Apr. 30.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.05	.01	.21	.00	.00	---	.05
2	.00	.00	.00	.00	.00	.00	.00	.41	.02	.00	---	.01
3	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	---	.00
4	.00	.16	.00	.39	.00	.00	.01	.00	.00	.00	---	.00
5	.00	.00	.00	.00	.00	.00	.15	.04	.44	.00	---	.02
6	.36	.14	.00	.00	.00	.00	.05	.00	.00	.00	---	.00
7	.00	.00	.00	.00	.00	.00	.00	.26	.82	.00	---	.01
8	.00	.00	.00	.00	.00	.00	.00	.01	.00	.04	---	.08
9	.05	.00	.00	.00	.00	.45	.00	.00	.00	.00	---	.06
10	.08	.00	---	.00	.00	.00	.00	.00	.00	.00	---	.00
11	.00	.00	---	.00	.00	.00	.00	.00	.03	.00	---	.00
12	.01	.00	---	.00	.00	.00	.00	.00	.00	.00	---	.00
13	.00	.00	---	.00	.00	.00	.26	.00	.00	.00	---	.04
14	.00	.00	---	.00	.00	.00	.00	.08	.00	.00	---	.00
15	.00	.00	---	.00	.00	.00	.00	.05	.35	.00	---	.00
16	.00	.00	---	.00	.00	.00	.00	.00	.49	.00	.00	1.01
17	.31	.17	---	.00	.00	.00	.02	.00	.04	.00	.60	.00
18	.00	.00	---	.00	.00	.05	.11	.10	.01	.00	.00	.00
19	.00	.00	---	.00	.00	.00	.04	.00	.01	.00	.06	.08
20	.00	.00	---	.00	.12	.00	.01	.00	.00	.00	.09	.00
21	.10	.00	---	.00	.27	.00	.00	.00	.00	---	.10	.00
22	.70	.00	---	.00	.33	.00	.00	.00	.00	---	.00	.22
23	.22	.00	---	.00	.00	.00	.10	.00	.00	---	.02	.01
24	.00	.00	---	.00	.00	.00	.01	.06	.00	---	.00	.00
25	.00	.00	---	.00	.00	.00	.00	.00	.00	---	.00	.00
26	.00	.00	---	.00	.00	.00	.00	.00	.00	---	.00	.00
27	.00	.00	---	.00	.42	.00	.00	.00	.00	---	.22	.00
28	.00	.00	---	.00	.02	.19	.00	.24	.00	---	.01	.27
29	1.55	.00	---	.00	---	.00	.00	.14	.00	---	.00	.00
30	.00	.00	---	.00	---	.08	1.77	.00	.00	---	.20	.00
31	.00	---	---	.00	---	.00	---	.00	---	---	.00	---
TOTAL	3.38	0.47	---	0.39	1.16	0.82	2.54	1.66	2.21	---	---	1.86

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.

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	247	463	340	292	310	577	1230	727	365	298	329	260
2	229	426	374	287	310	712	1080	957	363	408	283	296
3	210	347	368	291	300	786	888	1090	321	362	287	275
4	210	303	366	336	300	758	761	1090	297	311	330	240
5	206	290	329	386	300	657	706	983	289	277	413	220
6	211	293	322	492	290	535	690	802	308	289	387	220
7	235	308	315	632	290	460	660	634	332	286	328	215
8	226	307	319	699	290	421	610	590	382	442	288	219
9	229	306	310	605	280	546	560	567	408	640	264	228
10	229	297	305	514	280	768	490	541	399	567	256	228
11	223	287	305	400	270	935	452	508	369	447	248	226
12	221	273	306	370	270	956	448	453	334	341	321	226
13	220	262	308	330	260	889	462	417	324	274	385	220
14	220	208	312	300	270	776	500	398	315	295	381	213
15	220	230	359	280	270	542	548	389	292	299	333	206
16	223	263	394	270	270	489	515	385	474	299	334	219
17	238	285	449	260	270	584	465	385	448	378	397	310
18	242	290	362	260	350	580	434	385	409	376	354	343
19	259	309	300	260	713	561	431	379	352	448	310	373
20	271	322	300	260	782	607	427	372	317	460	305	393
21	264	308	300	260	879	822	425	371	429	483	286	311
22	263	293	300	280	949	1270	416	355	499	752	284	257
23	316	286	290	350	843	1370	402	335	494	660	277	249
24	345	290	270	400	747	1260	390	323	422	450	266	240
25	379	294	280	380	599	1230	377	318	372	382	255	245
26	375	220	290	350	467	1190	366	319	325	445	248	241
27	331	230	290	310	450	1200	356	335	303	595	248	234
28	290	270	300	300	438	1350	347	346	291	563	254	234
29	316	296	300	310	---	1460	343	333	274	584	240	230
30	368	319	299	310	---	1390	354	320	291	529	241	237
31	431	---	296	310	---	1310	---	329	---	403	242	---
TOTAL	8247	8875	9958	11084	12047	26991	16133	15736	10798	13343	9374	7608
MEAN	266	296	321	358	430	871	538	508	360	430	302	254
MAX	431	463	449	699	949	1460	1230	1090	499	752	413	393
MIN	206	208	270	260	260	421	343	318	274	274	240	206
CFSM	.44	.49	.53	.59	.71	1.43	.88	.83	.59	.71	.50	.42
IN.	.50	.54	.61	.68	.74	1.65	.99	.96	.66	.82	.57	.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

MEAN	282	329	245	248	330	821	704	434	418	316	255	316
MAX	842	942	519	945	1135	1759	2588	1518	1332	1495	1018	1285
(WY)	1973	1986	1993	1946	1966	1948	1993	1973	1920	1993	1980	1965
MIN	117	116	76.2	78.3	89.3	170	253	138	112	112	95.8	100
(WY)	1959	1959	1959	1959	1959	1964	1946	1958	1958	1965	1958	1958

WISCONSIN RIVER BASIN
05405000 BARABOO RIVER NEAR BARABOO, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	169128		150194		391	
ANNUAL MEAN	462		411		824	1993
HIGHEST ANNUAL MEAN					158	1958
LOWEST ANNUAL MEAN					7540	Mar 26 1917
HIGHEST DAILY MEAN	3070	Jun 19	1460	Mar 29	26	Oct 6 1950
LOWEST DAILY MEAN	206	Oct 5	206	(a) Oct 5	72	Dec 8 1958
ANNUAL SEVEN-DAY MINIMUM	212	Sep 15	218	Oct 2	(b) 7900	Mar 26 1917
INSTANTANEOUS PEAK FLOW			1460	Mar 29	22.78	Jul 18 1993
INSTANTANEOUS PEAK STAGE			12.23	Mar 29	.64	
ANNUAL RUNOFF (CFSM)	.76		.68		8.73	
ANNUAL RUNOFF (INCHES)	10.33		9.17		776	
10 PERCENT EXCEEDS	794		708		242	
50 PERCENT EXCEEDS	345		329		138	
90 PERCENT EXCEEDS	229		239			

(a) Also occurred Sept. 15

(b) Gage height, 17.50 ft, estimated, site and datum then in use, from rating curve extended above 6,000 ft³/s

WISCONSIN RIVER BASIN

287

431010089360000 BREWERY CREEK RAIN GAGE #1 NEAR CROSS PLAINS, WI

LOCATION.--Lat 43°10'10", long 89°36'00", in NE 1/4 SE 1/4 sec.13, T.8 N., R.7 E., Dane County, Hydrologic Unit 07070005, on Whip-porwill Road, 0.5 mi south of intersection with County Trunk K.

PERIOD OF RECORD.--October 1989 to current year (non-frozen precipitation).

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established Oct. 27, 1989. Rainfall estimated to be 0.00 for Nov. 21, 28, Dec. 3, 5, 11, 13, 28, Jan. 14, 31, Feb. 5, 8, 12, Mar. 16, and Apr. 11 because recorded precipitation interpreted as collector snowmelt.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 4.09 in., July 5, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 2.13 in., June 21.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.04	.00	.03	.00	.13	.00	.00	.04	.00
2	.00	.00	.00	.29	.00	.00	.00	.34	.00	.01	.00	.01
3	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.33	.00
4	.00	.12	.00	.51	.00	.00	.05	.00	.00	.01	.10	.00
5	.00	.01	.00	.00	.00	.00	.13	.03	.54	.21	.00	.03
6	.13	.24	.00	.00	.00	.00	.04	.00	.01	.46	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.58	.24	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.01	.01	1.10	.00	.06
9	.00	.00	.00	.00	.00	.53	.00	.00	.00	.00	.00	.10
10	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.05	.00
13	.00	.00	.00	.00	.00	.00	.09	.00	.00	.02	.00	.00
14	.00	.00	.10	.00	.00	.00	.00	.06	.00	.15	.01	.00
15	.00	.00	.13	.00	.00	.00	.00	.04	1.04	.00	.12	.00
16	.07	.00	.00	.00	.00	.00	.00	.00	.75	.46	.00	.49
17	.30	.21	.00	.00	.00	.00	.00	.00	.00	.66	.47	.00
18	.00	.00	.00	.00	.00	.00	.08	.18	.00	.06	.00	.00
19	.00	.00	.00	.00	.00	.00	.05	.01	.02	.24	.01	.07
20	.00	.00	.00	.00	.26	.00	.01	.00	.01	.04	.12	.00
21	.03	.00	.00	.02	.44	.00	.00	.00	2.13	1.43	.01	.00
22	.75	.00	.00	.02	.00	.00	.00	.00	.07	.00	.00	.31
23	.07	.00	.01	.00	.00	.00	.04	.00	.00	.10	.00	.01
24	.00	.00	.00	.00	.00	.22	.00	.02	.25	.00	.00	.00
25	.00	.00	.00	.00	.00	.13	.00	.00	.05	.70	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
27	.00	.00	.00	.00	.06	.00	.00	.00	.00	.38	.00	.04
28	.00	.00	.00	.00	.04	.54	.00	.04	.00	.01	.00	.13
29	1.27	.30	.00	.00	---	.00	.00	.27	.05	.00	.00	.00
30	.01	.01	.00	.00	---	.12	1.17	.00	.17	.00	.21	.00
31	.00	---	.00	.00	---	.00	---	.01	---	.00	.01	---
TOTAL	2.64	0.89	0.24	0.88	0.80	1.57	1.66	1.73	5.34	6.04	2.51	1.26

WISCONSIN RIVER BASIN

430900089355400 BREWERY CREEK RAIN GAGE #2 NEAR CROSS PLAINS, WI

LOCATION.--Lat 43°09'00", long 89°35'54", in SW 1/4 SW 1/4 sec.19, T.8 N., R.8 E., Dane County, Hydrologic Unit 07070005, at the intersection of County Trunk P and County Trunk K.

PERIOD OF RECORD.--October 1989 to current year (non-frozen precipitation).

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established Oct. 28, 1989. Rainfall estimated to be 0.00 for Jan. 20, 31, Feb. 5, 8, 16, 17, Mar. 16-18, and Apr. 11 because recorded precipitation interpreted as collector snowmelt. Rainfall data missing for the period Oct. 25 to Jan. 14. Unpublished rainfall data collected at this site during 1985-86 water years are available for inspection at the District Office.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 4.60 in., July 5, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.91 in., June 21.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	---	---	---	.00	.04	.00	.05	.00	.00	.03	.02
2	.00	---	---	---	.00	.00	.00	.40	.00	.00	.00	.01
3	.00	---	---	---	.00	.00	.00	.01	.00	.00	.23	.00
4	.00	---	---	---	.00	.00	.04	.00	.00	.01	.22	.00
5	.00	---	---	---	.00	.00	.10	.04	.35	.26	.00	.02
6	.18	---	---	---	.00	.00	.04	.00	.01	.35	.00	.00
7	.01	---	---	---	.00	.00	.00	.45	.23	.00	.00	.00
8	.00	---	---	---	.00	.00	.00	.01	.00	1.24	.00	.07
9	.00	---	---	---	.00	.50	.00	.00	.00	.00	.00	.09
10	.01	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	---	---	---	.00	.00	.00	.00	.00	.00	.04	.00
12	.00	---	---	---	.00	.00	.00	.00	.00	.00	.97	.00
13	.00	---	---	---	.00	.00	.23	.00	.00	.01	.00	.00
14	.00	---	---	---	.00	.00	.00	.09	.00	.12	.00	.00
15	.00	---	---	.00	.00	.00	.00	.04	1.58	.00	.15	.00
16	.08	---	---	.00	.00	.00	.00	.00	.33	.20	.00	.68
17	.28	---	---	.00	.00	.00	.00	.00	.00	.53	.40	.00
18	.00	---	---	.00	.00	.00	.07	.14	.00	.07	.00	.00
19	.00	---	---	.00	.00	.00	.04	.01	.02	.27	.00	.05
20	.00	---	---	.00	.24	.00	.01	.00	.00	.08	.10	.00
21	.03	---	---	.02	.88	.00	.00	.00	1.91	1.57	.00	.00
22	.87	---	---	.01	.01	.00	.00	.00	.00	.00	.00	.32
23	.05	---	---	.00	.00	.00	.05	.00	.00	.03	.00	.01
24	.00	---	---	.00	.00	.27	.01	.04	.38	.00	.00	.00
25	---	---	---	.00	.00	.26	.00	.00	.06	.33	.00	.00
26	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	---	---	---	.00	.23	.00	.00	.00	.00	.45	.00	.03
28	---	---	---	.00	.03	.43	.00	.04	.00	.00	.00	.10
29	---	---	---	.00	---	.00	.00	.28	.04	.00	.00	.00
30	---	---	---	.00	---	.12	1.39	.01	.13	.00	.14	.00
31	---	---	---	.00	---	.00	---	.00	---	.00	.01	---
TOTAL	---	---	---	---	1.39	1.62	1.98	1.61	5.04	5.52	2.29	1.40

430751089372000 BREWERY CREEK RAIN GAGE #3 NEAR CROSS PLAINS, WI

LOCATION.--Lat 43°07'51", long 89°37'20", in NE 1/4 NE 1/4 sec.35, T.8 N., R.7 E., Dane County, Hydrologic Unit 07070005, on County Trunk P, 1.9 mi north of intersection with U.S. Highway 14.

PERIOD OF RECORD.--October 1989 to current year (non-frozen precipitation).

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established Oct. 28, 1989. Rainfall estimated to be 0.00 for Nov. 21, Dec. 5-7, 11-12, 26, 28, Jan. 13, 20, 31, Feb. 4, 5, 7, 8, 13, 17, Mar. 16-17, and Apr. 11-12 because recorded precipitation interpreted as collector snowmelt.

EXTREMES FOR PERIOD OR RECORD.--Maximum daily rainfall, 4.41 in., July 5, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.72 in., June 21.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.04	.00	.04	.00	.04	.00	.00	.03	.00
2	.00	.00	.00	.34	.00	.00	.00	.42	.00	.00	.00	.02
3	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.39	.00
4	.00	.06	.00	.59	.00	.00	.05	.00	.00	.01	.30	.00
5	.00	.00	.00	.00	.00	.00	.06	.04	.34	.33	.00	.01
6	.25	.25	.00	.00	.00	.00	.04	.00	.01	.19	.00	.00
7	.01	.00	.00	.00	.00	.00	.00	.37	.23	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.01	.01	1.51	.00	.06
9	.01	.00	.00	.00	.00	.46	.00	.00	.00	.00	.01	.09
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.98	.00
13	.00	.00	.00	.00	.00	.01	.25	.00	.00	.01	.00	.00
14	.00	.00	.09	.00	.00	.01	.00	.07	.00	.17	.00	.00
15	.00	.00	.13	.00	.00	.00	.00	.04	1.55	.00	.14	.00
16	.11	.00	.00	.00	.00	.00	.00	.00	.38	.22	.00	.52
17	.31	.20	.00	.00	.00	.00	.00	.00	.00	.38	.37	.00
18	.00	.00	.00	.00	.00	.00	.07	.12	.00	.21	.00	.00
19	.00	.00	.00	.00	.00	.00	.02	.00	.01	.09	.00	.08
20	.00	.00	.00	.00	.24	.00	.09	.00	.02	.01	.09	.00
21	.04	.00	.00	.02	.97	.00	.00	.00	1.72	1.20	.06	.00
22	.67	.00	.00	.02	.01	.00	.00	.00	.01	.00	.00	.30
23	.06	.00	.08	.00	.00	.00	.05	.00	.00	.07	.00	.02
24	.00	.00	.00	.00	.00	.27	.01	.08	.36	.00	.00	.00
25	.00	.00	.00	.00	.00	.24	.00	.00	.06	.28	.00	.01
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	.01	.00
27	.00	.00	.00	.00	.25	.00	.00	.00	.00	.89	.00	.02
28	.00	.00	.00	.00	.03	.38	.00	.04	.00	.00	.00	.09
29	1.32	.36	.00	.00	---	.00	.00	.25	.07	.00	.00	.00
30	.01	.02	.00	.00	---	.13	1.37	.01	.25	.00	.15	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.01	---
TOTAL	2.79	0.89	0.30	1.01	1.50	1.54	2.01	1.50	5.02	5.64	2.58	1.22

WISCONSIN RIVER BASIN
05406470 BREWERY CREEK AT CROSS PLAINS, WI

LOCATION.--Lat 43°07'09", long 89°38'25", in SW 1/4 SW 1/4 sec.35, T.8 N., R.7 E., Dane County, Hydrologic Unit 07070005, on right bank 60 ft upstream of culvert on Brewery Road, 0.75 mi upstream from Black Earth Creek.

DRAINAGE AREA.--10.5 mi², of which 2.80 mi² is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1984 to September 1986, October 1989 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 900 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 12, 14, 25-28, Dec. 18-21, 25-30, Jan. 5-9, 13-21, 26-31, Feb. 9, 10, 13-17, 24-26, Mar. 6, 7, 15-18, and Apr. 6-9. Records fair except those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	2.2	2.0	1.7	1.9	34	2.3	5.2	1.5	1.5	1.2	1.2
2	1.6	2.1	2.0	1.7	2.5	6.3	2.1	3.5	1.5	1.5	1.2	1.2
3	1.6	2.1	2.0	1.8	2.2	2.8	2.1	3.5	1.5	1.5	1.2	1.1
4	1.6	2.1	2.0	17	2.0	2.4	2.1	2.7	1.5	1.4	1.3	1.2
5	1.7	2.0	2.0	3.6	1.9	2.3	2.1	2.6	1.6	1.4	1.2	1.1
6	1.7	2.1	1.9	2.5	1.8	2.2	2.1	2.4	1.6	1.6	1.1	1.1
7	1.8	2.1	1.8	2.3	1.8	2.1	2.4	2.4	1.6	1.4	1.1	1.1
8	1.8	2.1	1.8	2.1	1.8	2.0	2.5	2.7	1.6	5.6	1.1	1.1
9	1.8	2.0	1.8	2.0	1.8	18	2.3	2.4	1.6	2.3	1.1	1.2
10	1.8	1.9	1.8	1.9	1.8	3.4	2.2	2.3	1.4	1.8	1.1	1.1
11	1.8	1.9	1.8	1.9	1.8	2.9	2.2	2.3	1.4	1.6	1.1	1.1
12	1.9	1.9	1.8	1.9	1.8	2.6	2.3	2.4	1.4	1.5	1.6	1.1
13	1.9	1.8	1.8	1.9	1.7	2.4	2.5	2.4	1.4	1.4	1.5	1.1
14	1.9	1.8	1.8	1.9	1.7	2.3	3.0	2.4	1.4	1.4	1.2	1.1
15	1.8	1.8	2.5	1.9	1.6	2.2	2.9	2.5	1.7	1.3	1.2	1.1
16	1.8	1.8	2.2	1.9	1.6	2.2	2.7	2.4	4.4	1.2	1.2	1.1
17	2.2	2.1	2.1	1.8	1.8	2.3	2.5	2.5	2.0	1.3	1.2	1.5
18	2.0	2.1	2.0	1.8	50	2.3	2.4	2.6	1.8	1.4	1.2	1.2
19	1.9	2.0	1.9	1.7	5.8	2.3	2.4	2.6	1.6	1.3	1.2	1.2
20	2.0	2.0	1.9	1.7	8.4	2.5	2.4	2.5	1.6	1.4	1.2	1.2
21	2.1	1.9	1.8	2.5	32	2.9	2.4	2.4	7.5	6.8	1.1	1.1
22	2.2	1.9	1.8	25	6.5	2.7	2.3	2.3	3.0	2.1	1.1	1.1
23	2.9	1.9	1.8	2.4	3.0	2.4	2.3	2.0	2.2	1.6	1.1	1.2
24	2.2	1.9	1.7	2.0	2.8	2.4	2.2	2.1	2.0	1.5	1.1	1.2
25	2.1	1.9	1.7	1.7	2.5	3.5	2.2	2.1	2.0	1.4	1.1	1.1
26	2.0	1.9	1.7	1.6	2.4	3.1	2.1	1.9	1.8	1.5	1.2	1.1
27	2.0	1.8	1.7	1.6	2.4	2.8	2.1	1.7	1.6	2.3	1.2	1.1
28	1.9	1.8	1.7	1.5	2.5	3.6	2.1	1.6	1.6	2.0	1.2	1.1
29	3.9	1.8	1.7	1.5	---	3.5	2.1	1.8	1.5	1.5	1.2	1.1
30	3.7	1.9	1.7	1.7	---	2.7	2.7	1.8	1.7	1.3	1.2	1.1
31	2.4	---	1.7	2.2	---	2.5	---	1.7	---	1.2	1.2	---
TOTAL	63.6	58.6	57.9	98.7	149.8	131.6	70.0	75.7	59.0	57.0	36.9	34.3
MEAN	2.05	1.95	1.87	3.18	5.35	4.25	2.33	2.44	1.97	1.84	1.19	1.14
MAX	3.9	2.2	2.5	25	50	34	3.0	5.2	7.5	6.8	1.6	1.5
MIN	1.6	1.8	1.7	1.5	1.6	2.0	2.1	1.6	1.4	1.2	1.1	1.1
CFSM	.27	.25	.24	.41	.69	.55	.30	.32	.26	.24	.15	.15
IN.	.31	.28	.28	.48	.72	.64	.34	.37	.29	.28	.18	.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1997, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	1.98	2.24	1.65	1.73	2.89	4.15	2.42	2.01	2.54	3.70	2.13	2.19	
MAX	4.10	4.73	3.82	3.22	5.43	10.5	3.66	3.33	4.76	13.4	6.83	5.15	
(WY)	1994	1986	1994	1994	1985	1993	1993	1994	1996	1993	1993	1993	
MIN	.25	.16	.12	.011	.15	1.08	.64	.47	.40	.22	.22	.11	
(WY)	1991	1991	1991	1991	1991	1992	1990	1992	1991	1990	1990	1990	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1985 - 1997
ANNUAL TOTAL	948.7	893.1	
ANNUAL MEAN	2.59	2.45	2.47
HIGHEST ANNUAL MEAN			4.30
LOWEST ANNUAL MEAN			.58
HIGHEST DAILY MEAN	55 Jun 17	50 Feb 18	142 Jul 25 1985
LOWEST DAILY MEAN	1.4 (a) Jan 4-6	1.1 (b) Aug 6-11	.00 (c) Jul 18 1991
ANNUAL SEVEN-DAY MINIMUM	1.4 (d) Jan 30	1.1 Sep 10	.00 Jul 31 1991
INSTANTANEOUS PEAK FLOW		185 Feb 18	420 Jul 6 1993
INSTANTANEOUS PEAK STAGE		12.91 Feb 18	15.05 Jul 6 1993
INSTANTANEOUS LOW FLOW			.00 (e) Aug 9 1990
ANNUAL RUNOFF (CFSM)	.34	.32	.32
ANNUAL RUNOFF (INCHES)	4.58	4.31	4.35
10 PERCENT EXCEEDS	2.9	2.7	4.0
50 PERCENT EXCEEDS	1.9	1.9	1.9
90 PERCENT EXCEEDS	1.5	1.2	.27

(a) Also occurred Feb. 2-5, 17, 18, Sept. 7 and 12; days listed for Jan. and Feb. were ice affected

(b) Also occurred Aug. 21-25, Sept. 3, 5-8, 10-16, 21, 22, and 25-30

(c) Occurred on many days July to September 1991

(d) Ice affected

(e) Also occurred many days during 1991 water year

05406470 BREWERY CREEK AT CROSS PLAINS, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1984 to September 1986, October 1989 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1984 to September 1986, October 1989 to current year.

DISSOLVED OXYGEN: April 1990 to June 30, 1991.

SUSPENDED-SOLIDS DISCHARGE: October 1989 to September 1992.

TOTAL-NITROGEN DISCHARGE: October 1984 to September 1985.

SUSPENDED-SEDIMENT DISCHARGE: October 1984 to June 1986, October 1989 to current year.

TOTAL-PHOSPHORUS DISCHARGE: October 1984 to June 1986, October 1989 to current year.

INSTRUMENTATION.--Water-quality sampler December 1984 to June 1986, October 1989 to current year; continuous water temperature recorder November 1984 to September 1986, October 1989 to current year; dissolved oxygen recorder April 1990 to June 1991.

REMARKS.--Total-nitrogen discharge was published for the period October 1984 to June 1986. Suspended-solids discharge were published for the period October 1989 to September 1991. Chemical analyses by the Wisconsin State Laboratory of Hygiene. Suspended-sediment analyses by U.S. Geological Survey Laboratory. Samples are point samples unless otherwise indicated.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum observed, 33.0°C, May 28 and July 22, 1991; minimum observed, 0.0°C, on many days during 1985, 1986, 1990, 1991, 1992, 1993, 1994, 1995, 1996, and 1997 winter periods.

DISSOLVED OXYGEN: Maximum observed, 21.8 mg/L, Apr. 5, 1990; minimum observed, 0.0 mg/L, Aug. 19, 1990.

SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 243 tons, June 29, 1990; minimum daily, 0.00 ton, Aug. 23 to Sept. 9, 1990; Dec. 25-31, 1990, Jan. 1-31, Feb. 1-8, 10-20, May 20, 22-23, June 12-13, 28-30, July 12-20, 23-27, 30-31, Aug. 1-6, Aug. 18 to Sept. 11, Sept. 13, 21-22, and 24-30, 1991.

TOTAL-NITROGEN DISCHARGE: Maximum daily, 4,550 lb, July 25, 1985; minimum daily, 10 lb, May 24-25, 1985.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 917 tons, July 5, 1993; minimum daily, 0.0 ton Oct. 1-2, 1991, and Dec. 6, 1992.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 2,450 lb, July 5, 1993; minimum daily, 0.00 lb, July 20, 24-27, 31, Aug. 1-6, 22-29, 31, Sept. 1-2, and 4-10, 1991.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 24.5°C, June 2 and July 16; minimum observed, 0.0°C, Nov. 10-15, 18-21, 24-29, Dec. 1-2, 4-5, 7, 17-21, 24-30, Jan. 5-9, 11-31, Feb. 3-4, 8-10, 12-18, 21-25, Mar. 1-2, 6-7, 14-16, 19, and Apr. 6-9, 13.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 172 tons, Feb. 18; minimum observed, 0.07 ton, July 16-17, 19.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 881 lb, Feb. 18; minimum daily, 0.64 lb, Dec. 24-26 and Apr. 3-5.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
OCT 1996							
*11...	1350	--	1.9	160	0.047	0.091	41
*28...	0855	--	1.9	160	0.092	0.137	84
29...	1700	--	5.6	--	0.447	1.36	335
*29...	1701	--	5.6	--	0.587	0.670	--
*30...	1020	--	3.3	91000	--	--	72
NOV							
*22...	1220	--	1.9	100	0.097	0.098	90
DEC							
*20...	1150	1.9	--	10	0.082	0.067	32
JAN 1997							
04...	1030	--	8.2	--	3.11	3.00	1150
04...	1145	--	14	--	2.95	3.58	1400
04...	1315	--	25	--	2.55	4.40	1750
04...	1400	--	33	--	2.34	4.28	1990
04...	1445	--	46	--	2.32	5.00	2280
04...	1930	--	33	--	1.68	2.60	867
04...	2045	--	22	--	1.52	2.20	469
04...	2230	--	12	--	1.34	1.73	291
*05...	1145	3.6	--	3000	0.300	0.395	123
*14...	1600	1.9	--	<10	0.102	0.075	89
21...	2330	--	9.2	--	0.368	0.475	293
22...	0115	--	23	--	0.813	1.03	400
22...	0300	--	41	--	1.48	1.64	374
22...	0400	--	51	--	2.33	2.34	762
22...	0900	--	37	--	5.15	2.37	313
22...	1115	--	25	--	4.44	2.05	285

* Equal-width increment (EWI) sample

WISCONSIN RIVER BASIN
05406470 BREWERY CREEK AT CROSS PLAINS, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
FEB 1997								
*13...	1200	1.7	--	10	0.103	0.088	65	--
18...	1115	--	9.2	--	1.38	1.58	1090	--
18...	1200	--	29	4000	3.48	4.18	2690	--
18...	1230	--	67	--	3.03	3.18	2060	--
18...	1300	--	107	11000	3.35	4.48	2840	--
18...	1315	--	117	--	3.44	4.40	2990	--
*18...	1316	--	118	6000	3.34	4.56	2210	--
18...	1330	--	133	13000	3.49	4.28	2810	--
18...	1400	--	149	--	3.48	4.65	3560	69
18...	1515	--	176	8000	3.24	3.62	1980	80
18...	1533	--	184	2800	3.12	3.94	2410	75
*18...	1534	--	183	--	2.64	3.21	1390	--
18...	1815	--	111	4700	2.86	3.34	1300	--
18...	2130	--	43	--	2.64	2.52	546	--
19...	0330	--	9.4	--	1.73	1.32	197	--
19...	0935	--	4.1	--	1.04	0.592	85	--
20...	1830	--	16	--	3.37	3.59	892	--
20...	2030	--	32	--	2.63	3.63	1490	--
20...	2300	--	23	--	2.31	2.73	534	--
21...	0515	--	29	--	2.19	2.61	671	--
21...	0615	--	58	--	2.48	4.37	1860	--
21...	0630	--	68	--	2.31	5.12	2680	90
21...	0730	--	84	--	1.95	4.29	2690	72
21...	0800	--	92	--	1.90	4.26	5150	49
*21...	0915	--	76	--	2.05	6.82	--	--
*22...	1245	--	4.6	--	--	--	65	--
MAR								
01...	0915	--	8.7	15000	2.36	1.69	303	--
01...	1130	--	22	--	2.23	2.79	1030	--
01...	1230	--	39	--	2.12	3.41	1760	--
01...	1400	--	73	22000	2.71	4.43	2480	90
01...	1430	--	80	26000	2.73	4.24	2360	92
01...	1900	--	69	13000	2.04	2.92	1190	93
01...	2100	--	44	16000	1.79	2.40	721	--
*02...	1035	--	4.0	2000	0.796	0.682	80	--
*07...	1510	2.1	--	10	0.183	0.118	57	--
09...	0845	--	17	11000	--	--	2660	--
09...	0945	--	36	43000	1.71	4.12	2070	--
09...	1015	--	44	--	0.748	1.58	--	--
09...	1045	--	53	10000	1.78	5.25	3090	--
09...	1400	--	40	17000	2.12	4.08	1300	--
09...	1900	--	13	--	0.761	1.07	--	--
09...	2100	--	8.0	5800	0.956	1.64	452	--
*10...	0915	--	2.9	170	0.278	0.320	90	--
APR								
*01...	1150	--	2.2	20	0.064	0.057	98	--
*18...	1910	--	2.4	530	0.026	0.057	17	--
*24...	1235	--	2.2	<10	0.024	0.077	48	--
MAY								
01...	0115	--	8.0	1900	0.412	1.29	537	--
*01...	1240	--	4.5	4500	0.173	0.291	40	--
*16...	0920	--	2.4	190	0.026	0.094	32	--
*29...	1140	--	1.9	1600	0.082	0.179	90	--
JUN								
*12...	1100	--	1.4	940	0.165	0.063	61	--
16...	0345	--	7.8	85000	0.338	2.12	412	--
21...	0800	--	10	81000	0.113	0.749	282	--
*21...	0955	--	17	850000	0.406	2.69	--	--
21...	1000	--	17	1600000	0.472	3.28	982	--
21...	1700	--	8.0	--	0.112	0.856	140	--
*30...	1115	--	1.7	3000	0.033	0.142	43	--
JUL								
08...	0500	--	8.7	--	0.041	0.357	236	--
08...	0745	--	8.0	--	<0.013	0.527	174	--
08...	1520	--	6.6	--	0.045	0.754	90	--
*17...	1235	--	1.3	--	<0.013	0.213	20	--
21...	0130	--	7.6	--	0.037	0.555	265	--
21...	0530	--	7.3	--	0.787	3.68	802	--
21...	0630	--	14	--	0.797	3.56	491	--
*21...	0855	--	16	--	0.145	1.54	344	--
21...	0910	--	16	--	0.117	1.50	318	--
21...	1500	--	5.2	--	0.011	1.15	86	--
31...	1100	--	1.2	--	0.049	0.165	37	--
AUG								
*12...	1220	--	1.4	29000	0.085	0.435	56	--
12...	1235	--	1.4	32000	0.094	0.438	93	--
*26...	1035	--	1.1	1000	0.055	0.145	45	--
SEP								
*12...	1025	--	1.1	800	0.077	0.170	62	--
*26...	1020	--	1.1	440	0.072	0.201	126	--

* Equal-width increment (EWI) sample

WISCONSIN RIVER BASIN
05406470 BREWERY CREEK AT CROSS PLAINS, WI--CONTINUED

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WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	17.0	10.5	13.0	5.0	1.5	3.0	2.5	.00	1.5	4.5	2.0	3.0
2	14.0	9.5	12.0	5.5	2.0	3.0	2.0	.00	.50	5.5	3.0	4.0
3	12.5	6.5	9.0	6.5	1.5	3.5	3.5	.50	1.5	5.5	3.5	4.0
4	12.0	6.5	9.0	5.5	3.0	4.5	2.5	.00	1.0	4.0	.50	1.5
5	14.5	8.0	10.5	7.0	5.0	6.0	3.5	.00	2.0	2.0	.00	1.0
6	16.5	9.5	12.5	9.0	6.0	7.0	4.0	1.5	3.0	.50	.00	.00
7	14.0	8.5	11.0	6.5	3.5	5.0	3.0	.00	1.0	.50	.00	.00
8	12.5	6.5	9.0	5.0	2.5	3.5	2.5	1.0	1.5	.50	.00	.00
9	11.0	7.0	8.5	4.5	2.0	3.0	3.5	1.0	2.0	2.0	.00	.50
10	12.0	7.5	9.0	3.5	.00	2.0	4.5	1.0	2.5	2.5	.50	1.5
11	12.0	5.5	8.0	3.0	.00	1.0	4.5	2.5	3.5	.50	.00	.00
12	14.5	8.5	10.5	2.0	.00	.00	4.5	2.5	3.5	.50	.00	.00
13	16.0	8.5	11.5	2.5	.00	.50	5.0	1.5	3.5	.50	.00	.00
14	14.0	8.5	10.5	1.0	.00	.00	4.5	3.0	3.5	.50	.00	.00
15	14.5	9.0	11.0	2.0	.00	1.0	4.5	1.5	3.5	.50	.00	.00
16	16.0	10.0	12.5	7.5	1.5	4.0	3.5	.50	1.5	.50	.00	.00
17	14.5	9.0	12.5	5.5	.50	4.0	2.5	.00	1.5	.50	.00	.00
18	11.0	6.5	8.5	3.0	.00	1.0	.50	.00	.00	.50	.00	.00
19	11.0	4.5	7.0	2.0	.00	1.0	.50	.00	.00	.50	.00	.00
20	10.5	5.0	7.5	2.5	.00	.50	.50	.00	.00	.50	.00	.00
21	11.0	7.5	9.0	4.5	.00	2.0	2.0	.00	.50	.50	.00	.00
22	10.5	9.0	9.5	3.5	1.5	2.0	4.0	1.5	3.0	.50	.00	.00
23	11.0	7.5	8.5	3.0	1.0	2.0	3.5	1.5	2.5	.50	.00	.00
24	9.5	6.0	7.5	2.5	.00	1.0	2.5	.00	.50	2.5	.00	1.0
25	11.5	5.5	8.0	1.5	.00	.00	.50	.00	.00	.50	.00	.00
26	11.5	8.0	9.5	.00	.00	.00	.50	.00	.00	.50	.00	.00
27	12.0	8.0	10.5	.00	.00	.00	.50	.00	.00	.50	.00	.00
28	9.5	5.0	7.0	1.5	.00	.00	3.5	.00	1.5	.50	.00	.00
29	8.0	5.0	6.5	3.5	.00	1.5	3.5	.00	2.0	.50	.00	.00
30	8.0	3.0	6.0	4.0	2.5	3.0	3.5	.00	1.5	.50	.00	.00
31	5.0	2.0	3.0	---	---	---	3.0	.50	2.0	2.5	.00	.50
MONTH	17.0	2.0	9.3	9.0	.00	2.2	5.0	.00	1.6	5.5	.00	.55
	FEBRUARY			MARCH			APRIL			MAY		
1	4.5	2.0	3.0	3.0	.00	1.5	15.0	3.0	8.0	16.5	5.0	9.5
2	3.5	1.0	2.5	6.0	.00	2.0	15.0	4.5	9.0	9.0	7.0	8.0
3	4.0	.00	2.0	6.0	.50	2.5	16.5	7.0	11.0	15.5	7.0	10.0
4	2.5	.00	1.5	4.5	2.0	3.0	15.5	6.5	10.5	18.5	5.0	10.5
5	4.5	1.5	2.5	5.5	1.0	3.0	11.5	8.5	10.0	19.5	7.5	12.5
6	4.5	1.0	2.5	5.5	.00	1.5	8.5	.00	6.0	19.5	7.0	12.5
7	4.5	.50	2.0	7.0	.00	2.5	10.5	.00	3.5	11.5	7.0	9.5
8	5.0	.00	2.5	9.0	1.5	4.0	9.5	.00	3.5	20.5	9.0	13.0
9	4.0	.00	1.5	3.0	.50	1.5	13.0	.00	5.0	17.5	7.5	11.0
10	4.0	.00	2.0	9.0	.50	4.0	8.0	1.5	4.5	21.0	5.5	12.0
11	4.5	.50	2.0	9.0	2.5	5.0	6.5	1.5	4.0	19.0	9.0	12.5
12	3.0	.00	1.0	6.5	1.5	3.5	3.5	1.0	2.0	18.0	6.5	11.5
13	.50	.00	.00	3.5	.50	2.0	14.5	.00	6.0	19.0	6.0	11.5
14	2.0	.00	.50	5.0	.00	1.5	14.5	1.5	6.5	10.5	8.0	9.0
15	3.5	.00	1.0	3.5	.00	.50	15.0	3.0	8.0	11.0	6.0	8.5
16	4.0	.00	1.5	5.0	.00	1.5	8.0	4.0	5.5	13.5	4.5	8.5
17	5.5	.00	2.0	7.5	1.0	4.0	15.5	2.0	7.5	21.0	6.0	12.5
18	3.5	.00	1.5	7.0	1.5	3.5	9.0	3.5	6.5	13.0	7.5	10.0
19	5.5	.50	2.5	10.0	.00	4.5	9.0	6.0	7.0	16.0	9.0	11.5
20	3.5	.50	1.5	13.0	2.5	6.5	14.0	5.0	8.5	17.5	6.5	11.5
21	1.5	.00	.50	12.0	4.0	7.0	17.0	6.5	10.5	21.0	5.5	12.5
22	5.0	.00	1.5	8.0	3.5	5.0	15.5	4.0	9.0	22.5	6.5	13.5
23	5.5	.00	2.0	8.5	2.0	4.5	14.0	5.0	9.0	21.0	8.5	14.5
24	4.0	.00	1.0	3.5	1.0	2.0	16.0	5.0	10.0	14.5	9.5	12.0
25	4.0	.00	1.0	5.5	2.5	3.5	18.5	4.0	10.5	15.0	9.5	12.0
26	4.5	1.0	2.5	12.5	2.0	6.0	16.0	5.0	10.0	16.5	7.0	11.0
27	6.5	.50	3.5	15.0	3.0	8.0	16.5	7.0	10.5	18.5	6.5	11.5
28	5.0	2.5	3.5	8.0	6.0	7.0	21.0	5.5	12.0	16.0	9.0	12.0
29	---	---	---	7.5	5.0	6.0	21.5	7.5	13.0	13.5	11.0	12.0
30	---	---	---	10.0	4.5	6.5	12.0	5.5	9.5	15.0	10.5	12.0
31	---	---	---	14.0	3.0	7.5	---	---	---	23.0	8.5	15.0
MONTH	6.5	.00	1.8	15.0	.00	3.9	21.5	.00	7.9	23.0	4.5	11.4

WISCONSIN RIVER BASIN
05406470 BREWERY CREEK AT CROSS PLAINS, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	24.0	9.0	15.5	22.5	18.0	20.0	17.0	15.0	16.0	19.0	13.5	16.0
2	24.5	9.5	16.5	22.0	18.5	20.5	21.0	15.0	17.5	16.5	14.0	15.5
3	18.0	11.0	14.5	18.5	16.0	17.0	20.5	16.5	18.0	16.0	12.0	13.5
4	21.5	9.5	15.0	17.5	15.0	16.0	20.0	16.0	17.5	15.5	9.5	12.5
5	16.0	11.0	13.5	18.5	14.0	16.0	19.0	14.5	16.5	13.5	10.5	12.0
6	18.5	11.5	14.5	19.0	16.0	17.5	18.0	14.5	16.0	18.5	12.0	14.5
7	15.0	12.0	13.5	19.0	14.5	16.5	19.0	13.5	16.0	15.0	13.0	14.0
8	22.0	10.0	15.0	18.5	15.5	17.0	19.5	14.0	16.5	15.5	13.5	14.5
9	24.0	10.0	16.5	18.5	16.0	17.0	18.0	14.5	16.0	16.5	13.0	14.5
10	24.0	11.0	17.0	19.0	14.5	16.5	17.5	16.0	16.5	16.5	12.5	14.0
11	21.5	12.0	16.5	20.0	16.0	18.0	16.0	15.0	15.5	15.0	10.5	12.5
12	22.5	12.5	17.0	19.5	17.0	18.5	16.0	14.5	15.0	15.5	10.0	12.5
13	23.0	12.0	17.5	22.0	17.5	19.5	18.5	15.0	16.0	13.5	10.5	12.0
14	22.5	12.0	17.0	23.5	19.0	21.0	16.5	13.5	15.0	16.0	12.5	14.0
15	20.0	11.5	16.0	23.5	17.5	20.5	20.5	15.5	17.5	17.0	12.5	14.5
16	20.0	14.5	17.0	24.5	18.5	21.0	20.0	16.0	17.5	17.5	13.0	15.0
17	21.5	12.5	16.5	22.5	19.5	20.5	17.5	15.0	16.0	18.0	14.0	16.0
18	21.5	13.0	17.0	20.5	18.0	19.0	15.5	14.0	15.0	17.5	11.5	14.5
19	19.0	13.5	16.5	18.5	17.0	17.5	14.5	13.5	14.0	17.0	15.0	16.0
20	21.5	15.0	18.5	20.0	16.0	18.0	15.0	13.5	14.5	15.5	12.0	14.0
21	21.5	16.0	19.0	20.0	17.0	19.0	17.5	13.0	15.0	14.5	9.0	11.5
22	22.0	15.5	18.5	20.0	17.0	18.5	17.0	12.5	14.5	12.0	10.0	11.0
23	23.5	15.5	19.5	19.0	17.0	18.0	15.0	12.0	13.5	14.5	11.0	12.5
24	23.0	16.5	20.0	20.5	15.5	17.5	16.0	13.5	14.5	14.5	8.0	11.0
25	21.5	17.0	19.5	20.0	16.5	18.0	16.0	12.5	14.0	16.5	10.0	12.5
26	21.0	15.0	18.5	22.5	17.5	20.0	17.0	12.5	14.5	16.0	10.0	12.5
27	21.0	15.5	19.0	20.0	17.5	18.5	18.0	14.5	16.0	15.0	11.0	13.0
28	22.0	17.0	19.5	20.5	16.5	18.5	18.5	13.5	16.0	17.0	12.5	14.0
29	21.0	18.0	19.0	19.0	16.0	17.5	17.0	13.0	15.0	15.0	10.5	12.5
30	20.5	17.0	18.5	19.0	14.5	16.5	15.0	14.0	14.5	15.5	11.5	12.5
31	---	---	---	19.5	14.0	16.5	18.5	14.0	16.0	---	---	---
MONTH	24.5	9.0	17.1	24.5	14.0	18.3	21.0	12.0	15.7	19.0	8.0	13.5

05406470 BREWERY CREEK AT CROSS PLAINS, WI--CONTINUED

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	.42	.35	.16	.40	141	.59	2.6	.35	.18	.13	.16
2	.21	.41	.34	.16	.63	5.9	.50	.98	.32	.17	.14	.16
3	.21	.41	.32	.17	.49	.57	.45	.98	.31	.16	.14	.16
4	.21	.41	.31	65	.40	.46	.40	.29	.31	.16	.15	.17
5	.21	.41	.30	1.6	.38	.40	.37	.26	.31	.16	.15	.16
6	.21	.42	.27	.80	.36	.37	.33	.24	.32	.18	.14	.17
7	.22	.44	.25	.71	.36	.33	.35	.24	.30	.16	.15	.17
8	.21	.43	.25	.63	.35	.32	.33	.27	.30	1.9	.14	.17
9	.20	.42	.24	.58	.34	84	.27	.24	.28	.19	.15	.18
10	.20	.41	.23	.54	.33	1.1	.24	.22	.25	.14	.15	.18
11	.20	.41	.22	.52	.33	.70	.21	.21	.24	.11	.16	.18
12	.22	.41	.21	.48	.33	.63	.20	.22	.24	.10	.35	.18
13	.23	.40	.20	.48	.30	.60	.20	.22	.24	.09	.39	.19
14	.24	.40	.20	.47	.30	.58	.66	.22	.22	.09	.30	.20
15	.24	.40	.66	.53	.28	.55	.60	.22	.58	.08	.28	.21
16	.25	.41	.22	.63	.28	.55	.50	.21	3.6	.07	.25	.23
17	.49	.48	.20	.71	.32	.57	.13	.24	.37	.07	.24	.32
18	.39	.48	.18	.85	172	.58	.12	.27	.31	.08	.24	.28
19	.30	.48	.17	.95	1.9	.58	.13	.28	.28	.07	.21	.29
20	.33	.47	.16	.36	12	.62	.15	.30	.27	.08	.20	.30
21	.36	.46	.15	.60	142	.73	.18	.31	8.2	5.7	.18	.30
22	.39	.47	.16	29	1.5	.69	.21	.32	.41	.33	.16	.31
23	.94	.44	.16	.69	.51	.62	.25	.31	.29	.24	.15	.34
24	.49	.43	.15	.51	.48	.60	.28	.34	.26	.21	.14	.36
25	.41	.41	.15	.44	.42	1.5	.29	.38	.25	.20	.13	.36
26	.42	.40	.15	.40	.40	1.1	.28	.37	.22	.20	.14	.37
27	.43	.36	.15	.39	.39	.72	.28	.35	.20	.42	.15	.34
28	.43	.35	.15	.36	.52	1.6	.29	.37	.19	.29	.15	.30
29	2.8	.34	.15	.35	---	1.5	.29	.43	.18	.18	.16	.26
30	1.2	.35	.16	.39	---	.70	.88	.42	.19	.15	.16	.23
31	.46	---	.16	.47	---	.67	---	.40	---	.13	.16	---
TOTAL	13.32	12.53	6.97	109.93	338.30	250.84	9.96	12.71	19.79	12.29	5.74	7.23

WTR YR 1997 TOTAL 799.61

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.83	1.1	.93	.67	.92	539	.71	19	1.5	1.2	1.1	.98
2	.82	1.1	.94	.70	8.1	38	.65	8.3	1.4	1.1	1.2	.99
3	.82	1.1	.91	.74	6.6	9.8	.64	8.3	1.4	1.1	1.3	.97
4	.83	1.1	.90	294	.95	4.5	.64	2.0	1.4	1.1	1.5	.98
5	.85	1.0	.88	12	.92	3.0	.64	1.8	1.5	1.1	1.6	.96
6	.86	1.1	.83	4.5	.89	2.1	.68	1.6	1.5	1.8	1.6	.97
7	.94	1.1	.79	3.4	.89	1.4	.79	1.5	1.5	1.1	1.7	.98
8	.88	1.1	.78	2.6	.89	1.1	.79	1.7	1.5	21	1.8	.99
9	.87	1.0	.77	2.1	.87	296	.74	1.5	1.4	2.4	1.9	1.0
10	.87	1.0	.76	1.7	.86	14	.69	1.4	1.3	1.9	2.1	1.0
11	.90	.99	.75	1.4	.88	4.5	.69	1.3	1.2	1.6	2.3	.97
12	.96	.98	.74	1.1	.88	3.7	.72	1.3	1.3	1.6	3.6	.98
13	.99	.96	.73	.95	.80	3.3	.76	1.3	1.2	1.5	3.2	.99
14	1.0	.94	.72	.80	.78	2.9	5.5	1.3	1.1	1.5	2.4	1.0
15	.99	.92	2.0	.77	.71	2.5	5.0	1.3	3.7	1.4	2.2	1.0
16	1.0	.94	1.5	.77	.69	2.4	.83	1.3	28	1.4	1.9	1.1
17	1.5	1.1	.79	.73	.75	2.3	.77	1.3	2.0	1.5	1.8	1.6
18	1.2	1.1	.74	.73	881	2.1	.75	1.5	1.6	1.6	1.8	1.2
19	1.2	1.1	.70	.69	32	2.0	.77	1.5	1.4	1.4	1.5	1.2
20	1.2	1.0	.69	.69	127	1.9	.81	1.5	1.3	1.4	1.4	1.2
21	1.3	1.0	.66	1.3	658	2.1	.86	1.6	55	57	1.3	1.1
22	1.4	1.0	.68	234	20	1.8	.87	1.6	4.5	2.1	1.1	1.2
23	2.9	.98	.68	1.6	9.1	1.5	.90	1.5	3.0	1.6	1.0	1.2
24	1.5	.98	.64	1.0	8.5	1.4	.92	1.6	2.5	1.4	.96	1.3
25	1.4	.97	.64	.88	7.6	14	.88	1.7	2.3	1.4	.89	1.2
26	1.4	.95	.64	.80	7.3	12	.81	1.6	1.9	1.4	.94	1.2
27	1.4	.89	.65	.80	7.2	1.3	.77	1.5	1.6	3.5	.97	1.2
28	1.3	.88	.66	.75	8.7	1.5	.73	1.5	1.5	2.7	.97	1.1
29	9.0	.89	.66	.75	---	1.4	.69	1.7	1.3	1.3	.98	1.0
30	3.7	.92	.67	.84	---	.96	2.8	1.7	1.3	1.1	1.0	.99
31	1.2	---	.67	1.1	---	.84	---	1.6	---	1.0	1.0	---
TOTAL	46.01	30.19	25.10	574.86	1793.78	975.30	33.80	78.3	132.1	123.2	49.01	32.55

WTR YR 1997 TOTAL 3894.20

WISCONSIN RIVER BASIN

430432089414100 GARFOOT CREEK RAIN GAGE #1 NEAR CROSS PLAINS, WI

LOCATION.--Lat 43°04'32", long 89°41'41", in SW 1/4 SE 1/4 sec.17, T.7 N., R.7 E., Dane County, Hydrologic Unit 07070005, on Garfoot Road, 2.8 mi south of intersection with County Trunk KP.

PERIOD OF RECORD.--October 1989 to current year (non-frozen precipitation).

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established Oct. 13, 1989. Rainfall estimated to be 0.00 for Nov. 21-22, 24, 28, Dec. 3, 5-7, 13, 21-22, 28, Jan. 14, 20, 31, Feb. 4-9, 12, 14-17, 23-26, Mar. 12-13, 16-17, and Apr. 11 because recorded precipitation interpreted as collector snowmelt. Rainfall data missing for the period May 1 to June 7.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.48 in., Aug. 10, 1994.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.73 in., June 15.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.02	.00	.05	.00	---	---	.00	.06	.01
2	.00	.00	.00	.54	.00	.00	.01	---	---	.00	.00	.02
3	.00	.00	.00	.00	.00	.00	.00	---	---	.00	.56	.00
4	.00	.05	.00	.58	.00	.00	.07	---	---	.02	.05	.00
5	.00	.01	.00	.01	.00	.00	.12	---	---	.21	.00	.01
6	.16	.27	.00	.00	.00	.00	.02	---	---	.09	.00	.00
7	.01	.00	.00	.00	.00	.00	.00	---	---	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	---	.00	1.70	.00	.12
9	.01	.00	.00	.00	.00	.42	.00	---	.00	.00	.00	.09
10	.01	.00	.00	.00	.00	.00	.00	---	.00	.00	.00	.00
11	.00	.00	.02	.00	.00	.00	.00	---	.01	.00	.07	.00
12	.00	.00	.00	.00	.00	.00	.00	---	.00	.00	1.11	.00
13	.00	.00	.00	.00	.00	.00	.56	---	.01	.05	.00	.00
14	.00	.00	.12	.00	.00	.00	.00	---	.00	.09	.00	.00
15	.00	.00	.15	.00	.00	.00	.00	---	1.73	.00	.12	.00
16	.14	.00	.00	.00	.00	.00	.00	---	.39	.01	.00	.29
17	.43	.21	.00	.00	.00	.00	.00	---	.00	.28	.35	.01
18	.00	.00	.00	.00	.00	.00	.08	---	.00	.72	.00	.00
19	.00	.00	.00	.00	.00	.00	.04	---	.00	.05	.00	.06
20	.00	.00	.00	.00	.26	.00	.48	---	.00	.01	.12	.00
21	.07	.00	.00	.03	.51	.00	.01	---	1.24	1.01	.28	.00
22	.61	.00	.00	.03	.08	.00	.00	---	.00	.00	.00	.29
23	.04	.00	.03	.00	.00	.00	.06	---	.00	.24	.00	.02
24	.00	.00	.00	.00	.00	.23	.00	---	.30	.00	.00	.00
25	.00	.00	.00	.00	.00	.53	.00	---	.15	.35	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	---	.00	.06	.00	.01
27	.00	.00	.00	.00	.37	.00	.00	---	.00	1.01	.01	.02
28	.00	.00	.00	.00	.03	.47	.00	---	.00	.00	.00	.09
29	1.43	.49	.00	.00	---	.00	.00	---	.05	.00	.00	.00
30	.00	.03	.00	.00	---	.05	1.44	---	.42	.00	.32	.00
31	.00	---	.00	.00	---	.00	---	---	---	.00	.00	---
TOTAL	2.91	1.06	0.32	1.21	1.25	1.75	2.89	---	---	5.90	3.05	1.04

430525089411500 GARFOOT CREEK RAIN GAGE #2 NEAR CROSS PLAINS, WI

LOCATION.--Lat 43°05'25", long 89°41'15", in SW 1/4 SW 1/4 sec.8, T.7 N., R.7 E., Dane County, Hydrologic Unit 07070005, on Garfoot Road, 1.6 mi south of intersection with County Trunk KP.

PERIOD OF RECORD.--October 1989 to current year (non-frozen precipitation).

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established Oct. 12, 1989. Rainfall estimated to be 0.00 for Nov. 21, Dec. 5-7, 22, 28, Mar. 13-17, and Apr. 11 because recorded precipitation interpreted as collector snowmelt. Rainfall data missing for the periods Jan. 14 to Mar. 2 and July 31 to Aug. 27. Unpublished rainfall data collected at this site during 1985-86 water years are available for inspection at the District office.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 3.89 in., July 5, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.61 in., Apr. 30.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	---	---	.00	.03	.00	.00	---	.01
2	.00	.00	.00	.33	---	---	.00	.48	.00	.00	---	.01
3	.00	.00	.00	.00	---	.00	.00	.01	.00	.00	---	.00
4	.00	.05	.00	.49	---	.00	.08	.00	.00	.01	---	.00
5	.00	.00	.00	.00	---	.00	.10	.03	.39	.33	---	.01
6	.23	.25	.00	.00	---	.00	.03	.00	.05	.23	---	.01
7	.01	.00	.00	.00	---	.00	.00	.30	.08	.00	---	.00
8	.00	.01	.00	.00	---	.00	.00	.01	.01	1.41	---	.08
9	.00	.00	.00	.00	---	.43	.00	.00	.00	.00	---	.11
10	.01	.00	.00	.00	---	.00	.00	.00	.00	.00	---	.00
11	.00	.00	.02	.00	---	.00	.00	.00	.01	.00	---	.00
12	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	---	.01
13	.00	.00	.00	.00	---	.00	.37	.00	.00	.07	---	.00
14	.00	.00	.13	---	---	.00	.00	.06	.00	.17	---	.00
15	.00	.00	.15	---	---	.00	.00	.04	1.39	.00	---	.00
16	.13	.00	.00	---	---	.00	.00	.00	.50	.00	---	.23
17	.38	.18	.00	---	---	.00	.00	.00	.00	.32	---	.00
18	.00	.00	.00	---	---	.00	.07	.12	.00	.45	---	.00
19	.00	.00	.00	---	---	.00	.04	.00	.00	.05	---	.10
20	.00	.00	.00	---	---	.00	.69	.00	.01	.01	---	.00
21	.06	.00	.00	---	---	.00	.00	.00	1.23	.83	---	.00
22	.61	.00	.00	---	---	.00	.00	.00	.00	.00	---	.30
23	.03	.00	.07	---	---	.00	.05	.00	.00	.19	---	.02
24	.01	.00	.00	---	---	.20	.01	.06	.31	.00	---	.00
25	.00	.00	.00	---	---	.53	.00	.00	.12	.32	---	.00
26	.00	.00	.00	---	---	.00	.00	.00	.00	.07	---	.00
27	.00	.00	.00	---	---	.01	.00	.00	.00	1.05	---	.02
28	.00	.00	.00	---	---	.42	.00	.11	.00	.00	.00	.11
29	1.35	.45	.00	---	---	.00	.00	.28	.05	.00	.00	.00
30	.00	.03	.00	---	---	.03	1.61	.00	.43	.00	.30	.00
31	.00	---	.00	---	---	.00	---	.00	---	---	.01	---
TOTAL	2.82	0.97	0.37	---	---	---	3.05	1.53	4.58	---	---	1.02

WISCONSIN RIVER BASIN

430543089393500 GARFOOT CREEK RAIN GAGE #3 NEAR CROSS PLAINS, WI

LOCATION.--Lat 43°05'43", long 89°39'35", in NW 1/4 SW 1/4 sec.10, T.7 N., R.7 E., Dane County, Hydrologic Unit 07070005, on Stage Coach Road, 0.5 mi west of intersection with County Trunk P.

PERIOD OF RECORD.--October 1989 to current year (non-frozen precipitation).

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established Oct. 27, 1989. Rainfall estimated to be 0.00 for Nov. 21, 23, 28, Dec. 5-7, 10, 22, 28, Jan. 13, 20, 31, Feb. 5, 8, 17, 25-26, Mar. 13, 16-17, and Apr. 11 because recorded precipitation interpreted as collector snowmelt. Rainfall data missing for the period July 20-31.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 3.60 in., July 5, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.55 in., Apr. 30.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.06	.00	.06	.00	.04	.00	.00	.03	.01
2	.00	.00	.00	.42	.00	.00	.00	.56	.00	.01	.00	.02
3	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.43	.00
4	.00	.03	.00	.64	.00	.00	.09	.00	.00	.01	.08	.00
5	.00	.00	.00	.00	.00	.00	.14	.02	.33	.24	.01	.01
6	.21	.27	.00	.00	.00	.00	.03	.00	.03	.28	.00	.00
7	.01	.00	.00	.00	.00	.00	.00	.32	.10	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.01	1.42	.00	.12
9	.00	.00	.00	.00	.00	.45	.00	.00	.00	.00	.08	.10
10	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.07	.00
12	.00	.00	.01	.00	.00	.00	.00	.00	.02	.00	1.15	.00
13	.00	.00	.00	.00	.00	.00	.49	.00	.00	.11	.00	.01
14	.00	.00	.11	.00	.00	.00	.00	.06	.00	.20	.00	.00
15	.00	.00	.15	.00	.00	.00	.00	.02	1.41	.00	.12	.00
16	.12	.00	.00	.00	.00	.00	.00	.00	.54	.04	.00	.31
17	.38	.23	.00	.00	.00	.00	.00	.00	.00	.29	.55	.00
18	.00	.00	.00	.00	.00	.00	.08	.14	.00	.26	.00	.00
19	.00	.00	.00	.00	.00	.00	.02	.00	.00	.01	.01	.10
20	.00	.00	.00	.00	.27	.00	.59	.00	.01	---	.10	.00
21	.04	.00	.00	.03	.71	.00	.00	.00	1.23	---	.25	.00
22	.74	.00	.00	.02	.07	.00	.00	.00	.00	---	.01	.33
23	.06	.00	.01	.00	.00	.00	.05	.00	.00	---	.00	.02
24	.00	.00	.00	.00	.00	.15	.03	.08	.35	---	.00	.00
25	.00	.00	.00	.00	.00	.59	.00	.00	.10	---	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	.00	---
27	.00	.00	.00	.00	.27	.00	.00	.00	.00	---	.03	---
28	.00	.00	.00	.00	.09	.40	.00	.17	.00	---	.00	---
29	1.26	.49	.00	.00	---	.00	.00	.31	.02	---	.00	---
30	.00	.04	.00	.00	---	.03	1.55	.00	.26	---	.21	---
31	.00	---	.00	.00	---	.00	---	.00	---	---	.01	---
TOTAL	2.83	1.06	0.31	1.17	1.41	1.68	3.07	1.74	4.41	---	3.14	---

WISCONSIN RIVER BASIN
05406491 GARFOOT CREEK NEAR CROSS PLAINS, WI

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LOCATION.--Lat 43°06'37", long 89°40'46", in NW 1/4 SW 1/4 sec.4, T.7 N., R.7 E., Dane County, Hydrologic Unit 07070005, 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, October 1989 to May 1994, August 1994 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 860 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 24, Jan. 12, 16-18, 28, and Feb. 13. Records are fair (see page 11).
Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	4.4	5.9	4.7	4.9	23	6.1	13	4.5	7.4	3.8	3.7
2	4.5	4.6	4.9	4.9	5.4	9.5	5.8	8.4	4.5	6.6	4.0	3.4
3	4.8	4.5	4.7	5.0	5.1	6.5	5.8	8.2	4.3	5.8	4.2	3.3
4	4.9	4.6	4.5	13	4.9	5.9	5.8	6.2	4.3	5.8	4.6	3.2
5	5.3	4.5	4.5	7.9	4.7	5.5	6.2	5.7	4.3	5.5	4.4	3.0
6	5.4	4.9	4.5	5.7	4.7	4.9	6.7	5.5	4.5	6.1	4.3	2.9
7	5.8	5.3	4.5	5.2	4.7	4.9	7.4	5.5	4.2	5.6	4.3	2.8
8	5.8	5.0	4.5	4.9	4.6	4.9	8.3	6.1	3.9	9.3	4.1	3.2
9	5.6	4.5	4.5	4.9	4.5	13	9.0	5.5	3.7	6.2	4.0	3.7
10	5.6	4.5	4.5	4.9	4.5	7.6	8.1	5.4	3.6	5.3	4.0	3.7
11	5.5	4.5	4.5	4.7	4.5	6.9	8.2	5.3	3.6	4.9	4.0	3.5
12	5.4	4.3	4.6	4.6	4.5	6.0	9.5	5.1	3.6	4.9	6.1	3.4
13	5.4	4.1	4.7	4.5	4.5	5.6	10	5.1	3.6	4.9	5.0	3.2
14	5.0	3.9	4.9	4.5	4.5	5.5	9.6	5.1	3.8	4.8	4.5	3.2
15	4.9	3.8	6.9	4.5	4.3	5.1	6.3	5.1	3.9	4.4	4.4	2.8
16	4.8	3.8	5.5	4.5	4.3	5.0	5.1	5.1	8.4	4.3	4.3	2.8
17	6.5	4.0	5.0	4.5	4.3	6.3	4.8	5.1	4.5	4.4	4.7	2.9
18	5.9	3.8	4.7	4.5	28	6.1	4.7	5.0	4.1	4.6	4.5	2.6
19	5.8	3.8	4.5	4.5	10	5.6	4.7	5.1	3.9	4.6	4.3	2.6
20	5.8	3.9	4.5	4.5	9.3	6.2	5.8	5.0	3.8	4.4	4.3	2.7
21	6.1	3.8	4.3	4.6	31	6.9	7.2	4.9	7.1	7.1	4.5	2.8
22	6.6	3.9	4.3	11	9.5	6.5	5.6	4.9	4.9	4.9	4.8	2.6
23	8.5	3.7	4.3	5.3	6.5	5.8	5.1	4.9	4.5	4.8	4.6	2.6
24	6.8	3.9	4.3	4.9	5.8	5.5	4.9	4.9	6.0	4.6	4.5	2.7
25	6.5	3.9	4.3	4.9	5.4	9.1	4.8	4.9	6.7	4.7	4.3	2.5
26	5.9	3.7	4.3	4.7	5.6	7.4	4.7	4.9	6.7	4.6	4.3	2.5
27	5.6	3.5	4.3	4.7	5.7	6.9	4.6	4.8	6.7	8.3	4.3	2.5
28	5.3	3.8	4.8	4.5	5.8	8.8	4.5	4.6	6.8	6.0	4.1	2.6
29	9.4	4.1	4.7	4.3	---	8.4	4.5	5.1	6.9	4.8	4.0	2.8
30	7.1	6.0	4.7	4.3	---	6.9	5.5	4.9	7.6	4.3	4.0	3.3
31	4.7	---	4.7	4.6	---	6.5	---	4.7	---	4.0	3.9	---
TOTAL	179.5	127.0	145.8	164.2	201.5	222.7	189.3	174.0	148.9	167.9	135.1	89.5
MEAN	5.79	4.23	4.70	5.30	7.20	7.18	6.31	5.61	4.96	5.42	4.36	2.98
MAX	9.4	6.0	6.9	13	31	23	10	13	8.4	9.3	6.1	3.7
MIN	4.3	3.5	4.3	4.3	4.3	4.9	4.5	4.6	3.6	4.0	3.8	2.5
CFSM	1.07	.79	.87	.98	1.34	1.33	1.17	1.04	.92	1.00	.81	.55
IN.	1.24	.88	1.01	1.13	1.39	1.54	1.31	1.20	1.03	1.16	.93	.62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1997, BY WATER YEAR (WY)

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	4.84	5.07	4.25	4.02	5.09	6.87	6.25	5.48	5.49	5.85	4.70	4.42	
MAX	6.53	8.76	5.55	5.30	7.61	12.8	11.6	7.77	10.0	15.0	8.64	7.22	
(WY)	1994	1986	1994	1997	1994	1993	1993	1995	1996	1993	1993	1993	
MIN	2.19	2.59	2.10	2.10	2.72	3.29	2.74	3.38	3.33	2.44	2.56	2.06	
(WY)	1991	1991	1990	1991	1991	1996	1990	1990	1992	1990	1990	1990	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1985 - 1997
ANNUAL TOTAL	2026.6	1945.4	
ANNUAL MEAN	5.54	5.33	5.12
HIGHEST ANNUAL MEAN			7.69
LOWEST ANNUAL MEAN			3.18
HIGHEST DAILY MEAN	64 Jun 17	31 Feb 21	81 Jul 25 1993
LOWEST DAILY MEAN	2.0 Mar 11	2.5 Sep 25-27	1.7 (a) Dec 24, 25 1989
ANNUAL SEVEN-DAY MINIMUM	(b) 2.2 Mar 6	2.6 Sep 22	1.8 Sep 26 1990
INSTANTANEOUS PEAK FLOW		71 Feb 18	(c) 128 Jul 25 1985
INSTANTANEOUS PEAK STAGE		5.34 Feb 18	7.57 Jul 5 1993
INSTANTANEOUS LOW FLOW			1.6 (d) Dec 21 1989
ANNUAL RUNOFF (CFSM)	1.03	.99	.95
ANNUAL RUNOFF (INCHES)	13.99	13.43	12.91
10 PERCENT EXCEEDS	7.0	7.1	7.3
50 PERCENT EXCEEDS	4.7	4.8	4.6
90 PERCENT EXCEEDS	3.8	3.7	2.6

- (a) Also occurred Aug. 9, 10, Sept. 30, Oct. 1, 2, 1990
(b) Ice affected
(c) Gage height, 5.84 ft
(d) Also occurred Oct. 17, 1990

WISCONSIN RIVER BASIN
05406491 GARFOOT CREEK NEAR CROSS PLAINS, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1984 to September 1986, October 1989 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1984 to September 1986, October 1989 to current year.

DISSOLVED OXYGEN: April 1984 to September 1985, April 1990 to current year.

SUSPENDED-SOLIDS DISCHARGE: October 1989 to September 1991.

TOTAL-NITROGEN DISCHARGE: October 1984 to September 1985.

SUSPENDED-SEDIMENT DISCHARGE: October 1984 to June 1986, October 1991 to current year.

TOTAL-PHOSPHORUS DISCHARGE: October 1984 to June 1986, October 1989 to current year.

INSTRUMENTATION.--Water-quality sampler December 1984 to June 1986, October 1989 to current year; continuous water temperature recorder November 1984 to September 1986, October 1989 to current year; dissolved oxygen recorder April 1984 to September 1985, April 1990 to current year.

REMARKS.--Total-nitrogen discharge were published for the period October 1984 to June 1986. Suspended-solids discharge were published for the period October 1989 to September 1991. Chemical analyses by the Wisconsin State Laboratory of Hygiene. Suspended-sediment analyses by U.S. Geological Survey Laboratory. Samples are point samples unless otherwise indicated.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum observed, 24.5°C, July 25, 1985 and July 25, 1993; minimum observed, 0.0°C, on several days during 1985, 1986, 1990, 1991, 1993, 1994, 1995, 1996, and 1997 winter periods.

DISSOLVED OXYGEN: Maximum observed, 17.4 mg/L, Apr. 11, 1990; minimum observed, 1.5 mg/L, Aug. 17, 1990.

SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 77 tons, June 29, 1990; minimum daily, 0.04 ton, Feb. 26-27, and Aug. 7, 9-10, 1990.

TOTAL-NITROGEN DISCHARGE: Maximum daily, 2,980 lb, July 25, 1985; minimum daily, 49 lb, Jan. 26 to Feb. 3, 1985.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 141 tons, Feb. 10, 1996; minimum, 0.05 ton, Mar. 11, 1996.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 747 lb, July 25, 1985; minimum daily, 0.44 lb, Feb. 13-15, 1997.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 20.5°C, June 24; minimum observed, 0.0°C, Nov. 26-27, Dec. 18-20, 24-27, Jan. 5-8, 11-19, 25-30, and Feb. 12-13, 21.

DISSOLVED OXYGEN: Maximum observed, 14.1 mg/L, May 15; minimum observed, 2.9 mg/L, July 27.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 47 tons, Feb. 18; minimum daily, 0.09 ton, Mar. 11.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 293 lb, Feb. 18; minimum daily, 0.44 lb, Feb. 13-15.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	COLI- FORM, FECAL, UM-MF (COLS. / 100 ML) (31625)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN (70331)
OCT 1996								
*11...	1157	--	5.6	19000	0.034	0.104	12	--
*28...	0824	--	5.6	4600	0.027	0.053	20	--
29...	1315	--	11	140000	0.127	0.491	125	--
*30...	1005	--	6.7	--	0.086	0.271	23	--
NOV								
*22...	1150	--	4.0	1100	0.027	0.042	27	--
DEC								
*20...	1120	--	4.4	340	0.024	0.037	25	--
JAN 1997								
*05...	1119	--	7.3	2000	0.236	0.287	24	--
*14...	1345	--	4.5	130	0.023	0.036	34	--
FEB								
*13...	1105	5.4	--	40	0.019	0.018	12	--
18...	1100	--	15	--	0.789	0.542	178	--
18...	1215	--	29	2000	1.88	1.30	340	--
18...	1245	--	36	--	2.79	1.76	505	--
*18...	1255	--	40	3600	3.00	1.98	613	--
18...	1315	--	46	8000	3.20	2.22	902	--
18...	1400	--	56	4000	4.38	3.53	1540	--
18...	1515	--	67	--	2.85	2.64	1030	95
18...	1610	--	70	2900	2.25	2.12	770	95
*18...	1611	--	70	--	1.97	2.12	719	--
18...	2015	--	48	8000	2.23	1.86	266	--
18...	2230	--	23	--	1.83	1.51	180	--
*19...	0905	--	8.6	2200	0.807	0.610	49	--

* Equal-width increment (EWI) sample

05406491 GARFOOT CREEK NEAR CROSS PLAINS, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	NITRO- GEN, DIS- AMMONIA SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
FEB 1997							
21...	0515	20	--	1.34	1.53	293	--
21...	0630	41	--	1.69	2.49	600	--
21...	0700	54	--	1.66	2.66	888	97
21...	0800	65	--	1.56	2.70	970	97
21...	1145	50	--	0.946	1.39	304	97
21...	1530	28	--	0.952	1.22	210	--
22...	0445	11	--	0.649	0.805	51	--
*22...	1230	8.1	--	0.443	0.491	31	--
MAR							
01...	0745	13	6000	1.82	1.35	154	--
01...	1200	25	--	2.02	2.06	490	--
01...	1345	40	2000	1.62	2.26	826	98
01...	1500	49	1900	1.34	2.15	972	97
01...	1900	36	2200	1.13	1.47	371	96
01...	2300	17	2800	0.789	0.852	164	--
*02...	1005	7.9	700	0.372	0.310	28	--
*07...	1420	4.9	80	0.074	0.098	6	--
09...	0930	15	1700	0.240	0.677	333	--
09...	1015	23	4600	0.748	1.58	1020	--
09...	1900	14	1700	0.761	1.07	147	--
*10...	0855	6.3	330	0.140	0.158	22	--
APR							
*01...	1050	5.9	1800	0.035	0.041	23	--
*18...	1815	4.7	<10	0.023	0.038	24	--
*24...	1155	5.1	1200	0.036	0.046	9	--
30...	2300	14	58000	0.198	0.771	348	--
30...	2400	20	78000	0.566	1.51	528	96
MAY							
01...	0145	25	120000	0.302	1.34	486	97
01...	0615	17	62000	0.136	0.635	127	96
*01...	1150	11	40000	0.058	0.311	37	--
*16...	0835	5.1	1200	<0.013	0.067	110	--
*29...	1000	5.4	9300	0.058	0.136	13	--
JUN							
*12...	0910	3.6	5900	0.041	0.097	35	--
16...	0315	13	K1700000	0.409	1.05	344	--
*21...	0925	8.3	K1100000	0.132	0.528	180	--
*30...	0930	7.9	K1000000	0.097	0.187	49	--
JUL							
08...	0730	12	--	0.209	0.873	394	--
08...	1420	10	--	0.119	0.801	177	--
17...	1155	4.5	--	<0.013	0.191	26	--
21...	0500	12	--	0.122	0.754	334	--
*21...	0925	7.9	--	0.640	1.05	191	--
21...	0935	7.8	--	0.574	1.05	157	--
27...	1015	12	--	0.136	0.806	300	--
*31...	0930	4.3	--	0.044	0.080	--	--
AUG							
*12...	1045	6.3	K1100000	0.581	1.13	49	--
12...	1115	6.8	K1200000	0.339	0.722	75	--
*26...	0910	4.3	5300	0.016	0.068	17	--
SEP							
*12...	0850	3.4	4400	0.014	0.069	13	--
*26...	0900	2.7	5000	0.026	0.078	26	--

* Equal-width increment (EWI) sample

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

WISCONSIN RIVER BASIN
05406491 GARFOOT CREEK NEAR CROSS PLAINS, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	13.5	9.5	11.0	6.0	3.5	4.5	3.5	2.0	3.0	4.5	2.5	3.5
2	11.5	8.0	10.0	6.5	3.5	4.5	3.5	1.0	2.5	5.5	4.0	4.5
3	10.0	6.0	8.0	7.0	3.5	5.0	4.0	2.5	3.0	5.0	3.5	4.0
4	10.0	6.5	8.0	7.0	5.0	6.0	3.5	2.0	2.5	4.0	.5	2.0
5	11.5	7.5	9.0	7.5	6.0	7.0	4.5	2.0	3.5	1.5	.0	1.0
6	13.0	8.0	10.5	9.0	7.0	8.0	4.5	3.0	4.0	1.5	.0	.5
7	10.5	7.0	9.0	7.0	5.0	6.5	4.0	1.0	2.5	1.5	.0	.0
8	9.5	6.0	7.5	6.0	4.0	5.0	3.0	2.5	2.5	2.5	.0	1.0
9	9.0	6.0	7.5	5.5	3.5	4.5	4.0	2.5	3.0	3.0	2.0	2.5
10	9.0	6.0	7.5	4.5	3.0	3.5	5.0	2.5	3.5	2.5	.5	2.0
11	9.5	5.0	7.0	4.5	2.0	3.0	4.5	3.5	4.0	.5	.0	.0
12	11.5	7.5	9.0	4.0	1.5	2.5	5.0	3.5	4.5	.0	.0	.0
13	13.0	8.0	10.0	4.0	1.5	2.5	5.0	3.0	4.0	1.0	.0	.0
14	12.5	8.5	10.0	4.0	.5	2.0	4.5	3.5	4.0	1.5	.0	.0
15	12.0	9.0	11.0	3.5	2.0	3.0	4.5	2.5	3.5	2.0	.0	1.0
16	12.5	9.5	11.5	7.5	3.5	5.5	3.5	1.5	2.5	1.0	.0	.0
17	13.5	10.0	12.0	6.5	3.0	5.0	3.0	1.5	2.5	.0	.0	.0
18	12.0	8.0	9.0	4.5	2.5	3.5	1.5	.0	.5	.0	.0	.0
19	11.0	6.0	8.0	3.5	2.5	3.0	1.5	.0	.5	2.5	.0	1.0
20	10.5	6.5	8.5	4.0	2.0	3.0	1.0	.0	.0	4.0	.5	2.5
21	11.0	8.5	9.5	5.0	2.5	3.5	3.5	.5	2.0	4.0	2.0	3.0
22	10.5	9.5	10.0	4.5	3.5	3.5	4.5	3.0	3.5	3.0	.5	1.0
23	10.5	8.5	9.0	4.0	3.0	3.5	4.0	2.5	3.5	3.0	.5	1.5
24	9.5	7.0	8.5	3.5	2.0	3.0	2.5	.0	1.0	3.5	1.5	2.0
25	11.5	7.0	9.0	3.0	.5	2.0	.0	.0	.0	1.5	.0	.5
26	11.5	9.0	10.0	2.0	.0	.5	1.0	.0	.0	.5	.0	.0
27	11.5	8.5	10.5	2.5	.0	1.0	3.0	.0	1.0	2.0	.0	1.0
28	9.5	6.5	8.0	3.5	1.5	2.5	5.0	3.0	4.0	1.0	.0	.0
29	9.0	6.5	8.0	4.5	2.5	3.5	3.5	.5	2.0	2.0	.0	.5
30	8.5	4.5	7.0	4.5	3.5	4.0	3.5	.5	2.0	3.0	.0	1.0
31	6.0	4.0	5.0	---	---	---	3.0	1.5	2.5	5.5	1.5	3.5
MONTH	13.5	4.0	9.0	9.0	.0	3.8	5.0	.0	2.5	5.5	.0	1.3
FEBRUARY			MARCH			APRIL			MAY			
1	5.0	3.0	4.0	4.5	1.5	2.5	13.0	5.0	8.0	13.0	4.5	10.0
2	5.5	2.0	4.0	6.5	1.5	3.5	13.0	6.0	9.0	11.0	4.0	9.0
3	4.5	1.5	3.0	6.0	2.5	4.0	14.0	8.0	10.5	12.0	7.5	9.5
4	3.5	1.0	3.0	6.0	4.0	4.5	13.5	8.0	10.5	15.0	6.0	10.0
5	5.0	3.0	4.0	6.0	3.0	4.5	11.0	9.0	10.0	15.5	8.5	11.0
6	5.0	3.0	3.5	6.0	2.0	3.5	9.0	3.0	7.0	16.0	7.5	11.0
7	5.0	2.5	3.5	7.0	2.0	4.5	9.5	2.5	5.0	10.5	7.5	9.0
8	6.0	2.0	4.0	8.0	4.0	5.5	8.5	2.5	4.5	16.5	9.5	11.5
9	5.0	2.0	3.5	4.5	1.5	3.0	11.0	2.5	6.0	14.5	7.5	10.0
10	5.0	2.0	3.5	8.5	2.5	4.5	8.0	4.0	6.0	16.5	6.5	11.0
11	5.5	2.5	3.5	8.5	4.0	5.5	7.0	4.0	5.5	16.0	9.5	11.5
12	5.0	.0	2.5	7.0	3.5	4.5	5.0	3.5	4.0	14.5	7.5	10.5
13	5.0	.0	1.5	5.0	3.0	4.0	12.0	3.0	6.5	15.0	7.0	10.5
14	5.5	.5	3.0	5.5	1.5	3.5	12.0	4.0	7.0	10.0	8.0	9.0
15	5.0	.5	2.5	6.0	1.0	2.5	13.0	4.5	8.0	10.5	7.5	8.5
16	5.5	2.0	3.0	6.5	1.0	3.5	8.0	5.5	6.5	12.0	5.5	8.5
17	7.0	2.0	4.0	8.5	3.5	5.0	13.0	4.5	8.0	16.5	7.0	11.0
18	4.5	.5	2.5	6.5	3.5	4.5	9.0	5.0	7.0	12.0	8.0	9.5
19	5.0	1.0	3.0	9.0	3.0	5.5	9.0	7.0	8.0	13.0	9.0	10.5
20	5.0	2.0	3.0	10.5	4.5	7.0	12.5	6.5	8.5	14.0	7.5	10.5
21	2.5	.0	1.0	10.5	5.0	7.0	14.0	7.0	9.5	16.0	6.5	10.5
22	5.0	1.0	2.5	7.5	4.5	6.0	13.5	6.0	9.0	17.5	7.5	11.5
23	5.5	2.0	3.5	7.5	4.0	5.5	12.5	7.0	9.5	16.5	9.0	12.5
24	5.5	1.0	2.5	5.0	3.0	4.0	14.0	7.0	10.0	12.5	9.5	11.0
25	6.0	1.0	3.5	5.5	3.5	4.0	15.5	6.0	10.5	12.5	9.0	11.0
26	6.0	3.5	4.5	10.5	3.5	6.5	14.5	6.5	10.0	13.5	8.0	10.5
27	6.5	3.0	5.0	13.0	4.5	8.0	14.0	8.5	10.5	15.0	7.5	10.5
28	5.5	4.0	5.0	8.0	6.0	7.0	17.0	7.0	11.5	13.5	9.5	11.0
29	---	---	---	7.0	6.0	6.5	16.0	6.0	11.0	12.5	10.5	11.5
30	---	---	---	8.5	5.5	6.5	15.0	5.0	10.5	12.5	10.5	11.5
31	---	---	---	11.5	4.5	7.5	---	---	---	18.0	9.0	13.0
MONTH	7.0	.0	3.3	13.0	1.0	5.0	17.0	2.5	8.3	18.0	4.0	10.5

05406491 GARFOOT CREEK NEAR CROSS PLAINS, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	18.5	9.0	13.0	19.5	12.5	15.5	14.5	12.5	13.5	17.0	11.5	14.0
2	18.5	9.0	13.5	18.0	14.0	15.5	18.0	12.5	15.0	14.0	12.0	13.5
3	14.5	10.0	12.0	16.0	13.0	14.0	17.0	13.0	14.5	---	---	---
4	17.0	9.5	12.5	14.5	11.5	13.0	16.5	13.5	14.5	---	---	---
5	14.0	10.0	11.5	16.0	10.0	13.0	16.5	12.0	14.0	---	---	---
6	14.0	10.5	12.0	16.5	12.0	14.0	16.0	11.5	13.5	16.0	11.0	13.0
7	12.5	11.0	11.5	16.5	10.0	13.0	---	---	---	13.5	11.5	12.5
8	16.5	9.5	12.5	18.0	12.0	15.0	---	---	---	13.5	12.0	12.5
9	18.0	9.0	13.0	17.0	12.5	14.5	---	---	---	14.5	11.5	12.5
10	18.0	9.5	13.5	17.5	11.0	14.0	---	---	---	14.5	11.5	12.5
11	17.0	10.5	13.0	18.0	11.5	14.5	---	---	---	14.0	10.0	11.5
12	17.5	10.5	13.5	16.5	12.0	14.5	---	---	---	---	---	---
13	17.5	10.5	13.5	19.0	13.5	15.5	---	---	---	---	---	---
14	17.5	10.0	13.0	19.5	13.5	16.0	---	---	---	---	---	---
15	17.5	10.0	13.0	19.5	12.5	15.5	---	---	---	---	---	---
16	17.5	12.5	15.0	20.0	12.5	16.0	17.5	13.5	15.0	15.5	11.5	13.5
17	17.5	11.0	13.5	17.5	14.0	15.5	14.0	13.0	13.5	15.5	12.0	14.0
18	17.0	11.5	13.5	16.0	13.0	14.5	14.0	12.5	13.0	16.0	10.5	13.0
19	15.5	11.5	13.0	16.0	13.0	14.0	13.0	11.5	12.5	---	---	---
20	17.5	12.5	14.5	17.5	12.5	14.5	13.5	12.0	12.5	---	---	---
21	18.0	13.0	15.0	17.0	14.0	16.0	15.0	11.5	13.0	---	---	---
22	18.5	13.0	15.0	18.0	14.0	15.5	15.5	11.5	13.0	---	---	---
23	19.5	13.0	16.0	16.0	13.5	14.5	14.0	10.5	12.5	---	---	---
24	20.5	13.0	16.0	18.0	12.5	14.5	14.0	11.5	13.0	---	---	---
25	19.0	13.5	15.5	17.5	13.0	15.0	14.5	11.5	13.0	15.0	10.0	12.0
26	18.5	12.0	14.5	19.0	14.0	16.0	15.5	11.5	13.0	14.0	10.0	12.0
27	19.0	11.5	14.5	18.0	14.0	16.0	15.5	12.5	14.0	14.0	10.5	12.0
28	19.0	12.0	15.0	18.5	14.5	16.5	16.5	12.0	13.5	14.5	11.5	13.0
29	15.5	12.5	14.0	17.5	13.0	15.0	16.5	11.5	13.0	13.5	10.5	12.0
30	18.0	12.5	14.5	17.0	11.5	14.0	14.0	12.0	13.0	13.5	10.5	12.0
31	---	---	---	17.5	11.5	14.0	16.5	12.0	13.5	---	---	---
MONTH	20.5	9.0	13.7	20.0	10.0	14.8	18.0	10.5	13.5	17.0	10.0	12.7

WISCONSIN RIVER BASIN
05406491 GARFOOT CREEK NEAR CROSS PLAINS, WI--CONTINUED

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	11.7	10.1	10.7
4	---	---	---	---	---	---	---	---	---	12.3	9.9	11.1
5	---	---	---	---	---	---	---	---	---	11.6	9.3	10.6
6	---	---	---	---	---	---	---	---	---	12.3	9.7	10.9
7	---	---	---	---	---	---	---	---	---	12.3	10.1	11.1
8	---	---	---	---	---	---	---	---	---	12.0	9.5	10.4
9	---	---	---	---	---	---	---	---	---	12.9	9.7	11.1
10	---	---	---	---	---	---	---	---	---	12.7	8.9	11.1
11	---	---	---	---	---	---	---	---	---	12.6	9.5	10.7
12	---	---	---	---	---	---	---	---	---	13.0	8.6	10.7
13	---	---	---	---	---	---	---	---	---	13.5	9.7	11.4
14	---	---	---	---	---	---	---	---	---	12.5	10.2	11.1
15	---	---	---	---	---	---	---	---	---	14.1	10.0	11.6
16	---	---	---	---	---	---	---	---	---	13.1	9.3	11.3
17	---	---	---	---	---	---	---	---	---	13.6	9.0	11.0
18	---	---	---	---	---	---	---	---	---	12.3	9.0	10.2
19	---	---	---	---	---	---	---	---	---	12.7	9.1	10.5
20	---	---	---	---	---	---	---	---	---	12.7	9.3	10.7
21	---	---	---	---	---	---	---	---	---	12.6	8.8	10.7
22	---	---	---	---	---	---	---	---	---	12.2	8.5	10.3
23	---	---	---	---	---	---	---	---	---	11.9	8.3	9.9
24	---	---	---	---	---	---	---	---	---	10.9	8.6	9.5
25	---	---	---	---	---	---	---	---	---	11.2	8.7	9.7
26	---	---	---	---	---	---	---	---	---	11.6	9.2	10.2
27	---	---	---	---	---	---	---	---	---	11.2	7.1	9.6
28	---	---	---	---	---	---	---	---	---	9.4	7.3	8.4
29	---	---	---	---	---	---	---	---	---	9.8	7.4	8.9
30	---	---	---	---	---	---	---	---	---	10.0	8.7	9.1
31	---	---	---	---	---	---	---	---	---	9.8	7.9	8.9
MONTH	---	---	---	---	---	---	---	---	---	14.1	7.1	10.4
JUNE			JULY			AUGUST			SEPTEMBER			
1	9.6	7.6	8.7	8.7	7.7	8.2	10.3	9.2	9.8	---	---	---
2	9.6	7.3	8.5	8.6	7.9	8.2	10.1	8.9	9.5	---	---	---
3	9.4	3.7	8.7	---	---	---	10.3	7.0	9.4	---	---	---
4	9.8	8.1	9.0	9.2	8.3	8.7	10.0	8.3	9.1	---	---	---
5	9.3	7.8	8.7	9.4	8.4	8.9	10.1	8.7	9.4	---	---	---
6	9.2	8.1	8.7	8.8	7.4	8.2	10.7	9.0	9.8	---	---	---
7	9.3	8.4	8.9	9.7	8.4	9.0	---	---	---	---	---	---
8	9.5	8.0	8.9	8.9	6.6	7.7	---	---	---	---	---	---
9	9.6	7.4	8.6	9.0	7.9	8.7	---	---	---	---	---	---
10	9.5	7.4	8.5	9.6	7.4	8.9	---	---	---	---	---	---
11	9.1	7.6	8.4	9.6	7.5	9.0	---	---	---	---	---	---
12	9.8	8.0	8.7	9.8	8.7	9.2	---	---	---	---	---	---
13	9.3	8.1	8.6	9.3	8.2	8.8	---	---	---	---	---	---
14	9.5	8.2	8.9	9.3	8.1	8.7	---	---	---	---	---	---
15	9.5	6.3	8.6	9.7	7.7	9.0	---	---	---	---	---	---
16	8.1	6.5	7.3	9.6	7.9	8.8	---	---	---	---	---	---
17	9.2	7.8	8.6	9.1	8.1	8.6	---	---	---	---	---	---
18	9.2	8.3	8.8	9.5	7.6	8.7	---	---	---	---	---	---
19	9.5	8.4	8.9	9.4	7.5	8.6	---	---	---	---	---	---
20	8.9	8.1	8.5	9.6	8.3	8.9	---	---	---	---	---	---
21	8.5	6.5	7.5	8.6	5.3	7.2	---	---	---	---	---	---
22	8.8	7.9	8.3	9.3	7.9	8.5	---	---	---	---	---	---
23	8.8	7.8	8.4	9.5	7.7	8.6	---	---	---	---	---	---
24	9.1	7.1	8.3	9.5	7.7	8.7	---	---	---	---	---	---
25	8.6	7.5	8.3	8.7	4.3	7.4	---	---	---	9.9	8.6	9.3
26	9.3	8.2	8.8	9.3	6.1	7.6	---	---	---	9.7	8.2	9.1
27	9.6	8.3	9.0	8.9	2.9	6.5	---	---	---	9.4	8.2	8.7
28	9.5	8.3	9.0	9.1	6.6	8.4	---	---	---	9.0	8.0	8.4
29	9.5	8.6	9.0	9.3	7.5	8.6	---	---	---	9.2	8.0	8.5
30	9.1	7.7	8.4	10.6	8.5	9.9	---	---	---	9.4	8.2	8.7
31	---	---	---	10.9	9.1	10.0	---	---	---	---	---	---
MONTH	9.8	3.7	8.6	10.9	2.9	8.5	10.7	7.0	9.5	9.9	8.0	8.8

WISCONSIN RIVER BASIN

05406497 BLACK EARTH CREEK AT SOUTH VALLEY ROAD NEAR BLACK EARTH, WI

LOCATION.--Lat 43°07'30", long 89°42'35", in NE 1/4 SW 1/4 sec.31, T.8 N., R.7 E., Dane County, Hydrologic Unit 07070005, on right bank, at bridge on South Valley Road, 2.1 mi southeast of Black Earth.

DRAINAGE AREA.--40.6 mi², of which 2.8 mi² probably is noncontributing.

PERIOD OF RECORD.--November 1989 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1989 to current year.

DISSOLVED OXYGEN: April 1990 to current year.

INSTRUMENTATION.--Continuous water temperature recorder since November 1989 and continuous dissolved oxygen recorder since April 1990.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum observed, 24.0°C, June 27, 1991; minimum observed, 0.0°C, many days during the 1990, 1991, 1992, 1993, 1994, 1995, 1996, and 1997 water years.

DISSOLVED OXYGEN: Maximum observed, 18.5 mg/L, June 11, 1997; minimum observed, 3.9 mg/L, July 2, 1991.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum observed, 20.5°C, June 24 and July 16; minimum observed, 0.0°C, Dec. 18-20, 24-27, and Jan. 6-7, 11-14, 16-19, 25-29.

DISSOLVED OXYGEN: Maximum observed, 18.5 mg/L, June 11; minimum observed, 4.7 mg/L, June 24-25.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	14.0	11.5	13.0	6.0	4.5	5.0	5.5	3.0	4.0	5.0	3.5	4.0
2	13.0	10.5	12.0	6.5	4.5	5.5	4.0	2.0	3.0	6.5	5.0	5.5
3	10.5	8.0	9.5	7.0	4.5	6.0	4.5	3.5	4.0	6.0	4.5	5.5
4	10.5	8.0	9.5	7.5	6.5	7.0	4.0	3.0	3.5	5.5	.5	3.5
5	12.0	9.0	10.5	8.5	7.5	8.0	5.0	3.5	4.0	2.0	.5	1.5
6	13.5	10.5	12.0	10.0	8.5	9.0	5.5	4.5	5.0	1.0	.0	.5
7	13.0	9.0	11.0	9.5	7.0	8.0	4.5	3.0	4.0	1.0	.0	.5
8	10.0	8.0	9.0	7.0	5.5	6.0	4.0	3.5	3.5	3.0	.5	1.5
9	9.5	8.0	9.0	6.5	5.5	6.0	4.5	3.5	4.0	3.5	2.5	3.0
10	10.0	8.5	9.0	5.5	4.0	4.5	5.0	4.0	4.5	3.0	1.5	2.5
11	9.5	6.5	8.5	5.0	3.5	4.5	5.5	4.5	5.0	1.5	.0	.0
12	12.0	9.0	10.5	4.5	2.5	3.5	6.0	5.0	5.5	.0	.0	.0
13	13.0	9.5	11.5	4.5	3.5	4.0	6.0	4.5	5.0	.5	.0	.0
14	12.0	10.0	11.0	4.0	2.0	3.0	6.0	5.0	5.5	2.0	.0	.5
15	12.5	10.0	11.5	4.5	3.5	4.0	5.5	3.5	5.0	2.0	1.0	1.5
16	14.0	11.0	12.5	7.5	4.5	6.5	4.0	2.5	3.5	2.0	.0	.0
17	14.0	11.0	13.0	8.0	5.0	7.0	3.5	2.5	3.0	.0	.0	.0
18	11.0	8.5	10.0	5.0	4.0	4.5	2.5	.0	1.0	.0	.0	.0
19	9.5	6.5	8.5	4.5	4.0	4.5	1.0	.0	.5	2.5	.0	1.0
20	9.5	7.5	8.5	4.5	3.5	4.0	1.0	.0	.5	4.0	1.5	3.0
21	10.5	9.0	10.0	6.0	4.0	5.0	4.0	1.0	2.5	5.0	3.0	4.0
22	11.0	10.5	10.5	5.5	5.0	5.5	4.5	4.0	4.5	5.0	.5	2.0
23	11.0	9.0	9.5	5.5	5.0	5.0	4.5	3.5	4.0	3.0	1.0	2.0
24	9.5	8.0	9.0	5.0	4.0	4.5	3.5	.0	2.0	3.5	2.0	3.0
25	11.0	8.0	9.5	4.0	3.0	3.5	.0	.0	.0	2.0	.0	1.0
26	12.0	10.0	11.0	3.0	1.0	2.0	.5	.0	.0	1.0	.0	.0
27	12.5	10.5	12.0	3.0	.5	1.5	3.0	.0	1.0	2.5	.0	1.5
28	10.5	8.0	9.5	4.0	2.5	3.5	5.0	3.0	4.5	.5	.0	.0
29	9.5	8.0	8.5	5.5	3.5	4.5	5.0	2.0	3.5	1.5	.0	1.0
30	9.5	6.0	8.0	6.0	5.5	5.5	3.5	2.0	2.5	3.0	.5	1.5
31	6.0	4.5	5.5	---	---	---	3.5	2.5	3.5	5.5	2.5	4.0
MONTH	14.0	4.5	10.1	10.0	.5	5.0	6.0	.0	3.3	6.5	.0	1.7

05406497 BLACK EARTH CREEK AT SOUTH VALLEY ROAD NEAR BLACK EARTH, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	5.5	4.0	5.0	5.5	1.5	4.0	12.0	6.5	9.5	13.5	5.5	9.0
2	6.5	4.0	5.5	6.0	1.5	4.0	12.5	7.5	10.5	11.5	8.5	9.5
3	5.0	2.0	3.5	6.0	3.5	5.0	14.0	9.5	11.5	12.0	8.0	10.0
4	4.5	2.5	3.5	6.0	5.0	5.5	13.0	9.5	11.5	14.0	7.5	11.0
5	5.0	3.5	4.5	6.0	4.5	5.5	12.0	10.5	11.0	15.0	9.5	12.0
6	5.0	3.5	4.5	5.5	3.0	4.5	10.5	4.0	8.0	15.0	9.0	12.0
7	5.0	3.5	4.0	7.0	3.0	5.0	8.5	2.5	5.5	12.5	9.0	10.0
8	6.0	3.5	5.0	7.5	5.0	6.5	7.5	3.0	5.5	15.5	10.0	12.5
9	5.5	3.0	4.5	6.5	3.0	4.5	10.0	3.5	7.0	13.5	9.0	11.0
10	5.0	3.0	4.0	8.0	3.0	5.5	8.0	5.5	7.0	15.0	8.0	11.5
11	5.5	4.0	4.5	8.5	5.5	7.0	7.0	5.0	6.0	15.0	10.5	12.5
12	4.5	2.0	3.5	7.0	5.0	6.0	5.5	4.0	4.5	13.5	8.5	11.5
13	4.0	.5	2.0	6.0	4.0	5.0	11.0	4.0	7.5	14.0	8.5	11.5
14	5.0	2.0	3.5	5.5	3.0	4.0	11.5	5.5	8.5	12.0	9.0	10.0
15	4.5	1.5	3.5	5.0	1.0	3.5	12.5	6.0	9.5	10.5	7.5	9.0
16	5.0	2.5	4.0	6.0	1.5	4.0	10.0	6.5	7.5	11.5	7.0	9.5
17	6.5	2.5	4.5	8.0	4.5	6.5	12.0	5.0	8.5	15.5	9.0	12.0
18	6.5	.5	4.0	7.0	5.0	6.0	9.0	6.5	8.0	13.0	9.5	11.0
19	5.0	.5	3.5	8.5	4.0	6.5	9.0	8.0	8.5	13.0	10.5	11.5
20	5.5	3.0	4.0	10.5	6.0	8.5	11.5	7.5	9.5	13.5	9.0	11.5
21	3.0	.5	1.5	11.0	7.0	9.0	13.5	8.5	11.0	15.0	8.0	11.5
22	5.0	1.5	3.0	8.5	6.5	7.5	12.5	7.5	10.5	16.0	9.5	13.0
23	5.5	3.5	4.5	7.5	5.5	6.5	12.0	8.0	10.5	16.0	10.5	13.5
24	5.5	2.0	3.5	6.0	4.0	4.5	13.0	8.5	11.0	14.5	11.5	12.5
25	6.0	2.0	4.0	6.0	4.5	5.5	14.5	8.0	11.5	12.5	10.5	11.5
26	6.5	4.5	5.5	10.0	4.5	7.5	13.0	8.0	11.0	13.0	9.0	11.0
27	6.5	4.5	6.0	12.0	6.5	9.5	13.0	9.5	11.5	13.5	9.0	11.5
28	6.5	5.5	6.0	11.0	8.5	9.5	15.5	8.5	12.0	13.0	10.0	11.5
29	---	---	---	8.5	7.5	8.0	16.0	10.0	13.0	12.5	11.5	12.0
30	---	---	---	9.5	7.0	8.0	14.0	7.5	11.0	13.0	11.0	12.0
31	---	---	---	11.5	6.0	9.0	---	---	---	17.0	10.5	13.5
MONTH	6.5	.5	4.1	12.0	1.0	6.2	16.0	2.5	9.3	17.0	5.5	11.4
	JUNE			JULY			AUGUST			SEPTEMBER		
1	17.5	11.5	14.5	19.5	15.5	17.5	16.5	14.5	15.0	17.5	13.5	15.5
2	18.0	12.0	15.0	19.0	17.0	18.0	18.5	14.0	16.0	16.0	13.5	14.5
3	16.5	13.0	14.0	17.0	14.5	15.5	17.5	15.0	16.5	15.0	12.0	13.5
4	16.5	11.5	14.0	15.0	13.5	14.0	17.5	15.5	16.5	14.5	10.5	12.5
5	15.0	12.5	13.5	16.0	12.5	14.5	17.5	14.0	15.5	13.0	11.0	12.0
6	15.5	12.0	13.5	17.5	14.0	15.5	16.5	13.5	15.0	16.5	12.0	14.0
7	14.5	12.5	13.0	16.0	13.5	15.0	17.0	13.0	15.0	15.0	13.0	13.5
8	16.5	11.5	14.0	18.0	14.5	16.0	17.5	13.5	15.5	14.0	13.0	13.5
9	17.5	12.0	15.0	17.0	15.0	16.0	16.0	14.0	15.0	15.0	12.5	13.5
10	17.5	13.0	15.5	17.5	13.5	15.5	16.0	14.5	15.0	15.0	12.5	13.5
11	17.0	13.5	15.5	18.0	14.5	16.5	15.0	13.5	14.0	14.5	11.0	13.0
12	17.5	14.0	15.5	17.5	15.0	16.5	15.0	13.0	14.0	14.5	10.5	12.5
13	17.5	14.0	16.0	19.5	16.0	17.5	17.0	13.5	15.0	13.0	11.0	12.5
14	17.5	13.5	15.5	20.0	16.5	18.5	15.5	13.0	14.5	15.0	12.5	13.5
15	16.5	13.0	15.0	19.5	16.0	18.0	19.0	14.5	16.5	15.0	12.5	14.0
16	18.5	15.5	17.0	20.5	16.5	18.5	18.0	15.0	17.0	16.0	13.0	14.5
17	18.0	14.0	16.0	19.0	16.5	18.0	17.0	14.0	15.0	17.0	14.5	15.5
18	17.5	14.0	16.0	17.5	16.0	16.5	14.5	13.0	13.5	16.0	12.0	14.5
19	17.0	14.5	15.5	17.0	15.0	16.0	13.5	12.5	13.0	15.5	14.5	15.0
20	18.5	15.5	16.5	17.5	14.5	16.0	14.0	12.5	13.5	15.0	12.5	14.0
21	19.5	15.5	17.5	18.5	16.5	18.0	15.5	12.5	14.0	13.5	10.5	12.0
22	19.5	16.0	18.0	18.5	16.0	17.5	16.0	12.5	14.5	12.0	10.5	11.5
23	20.0	16.5	18.5	17.5	15.5	16.5	14.5	12.5	14.0	14.0	11.5	12.5
24	20.5	17.0	19.0	18.5	14.5	16.5	15.0	13.0	14.0	13.5	9.5	12.0
25	19.5	16.5	18.0	18.0	15.5	17.0	15.5	13.0	14.0	15.0	10.5	13.0
26	18.5	15.0	17.0	20.0	16.5	18.5	16.0	13.0	14.5	15.0	11.0	13.0
27	18.5	15.0	17.0	19.0	16.5	17.5	16.5	14.5	15.5	14.0	11.5	13.0
28	19.0	15.5	17.5	19.0	16.0	17.5	17.0	13.5	15.5	15.5	13.0	14.0
29	18.0	15.5	16.5	18.0	15.5	17.0	15.5	13.0	14.5	14.0	11.5	13.0
30	18.0	14.5	16.5	17.5	14.0	16.0	14.5	13.5	14.0	14.0	11.5	13.0
31	---	---	---	17.5	13.5	16.0	17.0	13.0	15.0	---	---	---
MONTH	20.5	11.5	15.9	20.5	12.5	16.7	19.0	12.5	14.9	17.5	9.5	13.4

WISCONSIN RIVER BASIN

05406497 BLACK EARTH CREEK AT SOUTH VALLEY ROAD NEAR BLACK EARTH, WI--CONTINUED

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	15.4	9.0	11.6
4	---	---	---	---	---	---	---	---	---	16.6	8.2	12.0
5	---	---	---	---	---	---	---	---	---	15.6	8.1	11.1
6	---	---	---	---	---	---	---	---	---	16.9	8.0	11.8
7	---	---	---	---	---	---	---	---	---	15.1	7.9	11.1
8	---	---	---	---	---	---	---	---	---	16.3	8.0	11.2
9	---	---	---	---	---	---	---	---	---	16.5	8.0	11.6
10	---	---	---	---	---	---	---	---	---	16.9	7.8	11.9
11	---	---	---	---	---	---	---	---	---	16.1	7.6	11.2
12	---	---	---	---	---	---	---	---	---	16.0	7.9	11.4
13	---	---	---	---	---	---	---	---	---	16.2	8.1	11.6
14	---	---	---	---	---	---	---	---	---	13.0	8.1	10.4
15	---	---	---	---	---	---	---	---	---	14.0	8.7	11.2
16	---	---	---	---	---	---	---	---	---	13.6	8.0	10.8
17	---	---	---	---	---	---	---	---	---	14.3	7.1	10.5
18	---	---	---	---	---	---	---	---	---	12.3	7.0	9.2
19	---	---	---	---	---	---	---	---	---	12.9	7.6	9.9
20	---	---	---	---	---	---	---	---	---	13.3	7.7	10.2
21	---	---	---	---	---	---	---	---	---	13.7	7.4	10.3
22	---	---	---	---	---	---	---	---	---	13.6	7.1	10.1
23	---	---	---	---	---	---	---	---	---	13.5	7.1	9.8
24	---	---	---	---	---	---	---	---	---	11.1	7.0	9.1
25	---	---	---	---	---	---	---	---	---	12.2	7.6	9.7
26	---	---	---	---	---	---	---	---	---	13.4	8.2	10.5
27	---	---	---	---	---	---	---	---	---	13.6	7.8	10.4
28	---	---	---	---	---	---	---	---	---	12.6	7.6	9.7
29	---	---	---	---	---	---	---	---	---	10.1	7.1	8.5
30	---	---	---	---	---	---	---	---	---	11.6	7.4	9.0
31	---	---	---	---	---	---	---	---	---	13.4	6.8	9.8
MONTH	---	---	---	---	---	---	---	---	---	16.9	6.8	10.5
JUNE				JULY			AUGUST			SEPTEMBER		
1	13.6	6.7	9.7	13.0	5.8	8.8	10.4	7.0	8.6	11.7	6.6	8.5
2	14.1	6.7	9.9	12.2	5.1	8.0	12.1	6.8	9.2	10.6	6.6	8.2
3	13.1	6.7	9.9	11.6	5.8	8.4	11.6	6.7	8.4	11.9	7.3	9.2
4	15.2	7.7	10.9	12.8	6.5	9.0	11.4	5.8	8.2	12.4	7.5	9.4
5	14.0	7.5	9.8	13.1	6.8	9.5	12.2	6.4	9.0	11.5	7.4	9.0
6	14.4	7.4	10.8	12.6	6.3	9.1	12.4	7.1	9.3	12.1	6.6	9.0
7	13.4	8.3	10.4	13.4	6.3	9.4	12.1	7.1	9.3	10.6	6.7	8.2
8	16.6	8.6	12.3	8.5	6.1	7.1	12.5	7.1	9.3	11.7	6.0	9.3
9	17.8	8.4	12.5	11.5	5.8	8.4	11.7	6.9	8.8	13.0	8.2	9.7
10	18.1	8.1	12.4	12.9	6.6	9.2	11.6	6.7	8.6	13.1	8.1	10.1
11	18.5	8.2	12.5	13.0	6.3	9.2	10.9	7.3	8.9	13.3	8.5	10.4
12	13.5	6.6	10.4	11.7	6.2	8.8	8.4	6.9	7.7	12.4	7.9	10.1
13	13.7	6.3	9.6	12.6	6.3	8.8	11.0	6.9	8.5	11.6	7.9	9.2
14	14.2	6.3	9.8	12.8	5.6	8.7	10.9	6.9	8.5	11.4	7.9	9.2
15	14.0	6.2	9.1	13.0	5.8	8.9	10.9	6.3	8.2	11.9	7.0	9.2
16	10.6	4.9	7.3	12.8	5.8	8.8	11.1	6.2	8.1	11.3	6.9	8.6
17	13.4	5.9	9.2	11.0	5.6	7.5	9.2	6.2	7.3	11.4	6.7	8.6
18	13.2	6.2	9.1	10.9	5.6	7.6	10.9	6.6	8.4	11.5	6.2	8.9
19	12.9	6.3	9.1	11.2	5.6	7.8	9.9	7.1	8.3	9.3	7.2	8.0
20	13.1	6.4	9.1	11.7	6.1	8.6	9.6	7.1	8.1	10.8	7.3	8.7
21	8.1	5.3	6.6	7.6	5.5	6.2	11.0	6.8	8.5	11.2	8.2	9.4
22	12.3	5.4	8.6	10.9	5.8	8.0	11.1	6.4	8.4	10.3	8.2	9.0
23	12.8	5.8	8.8	11.3	6.2	8.2	10.9	6.8	8.4	10.8	8.1	9.1
24	13.3	4.7	8.5	12.2	6.7	9.0	10.3	6.9	8.2	10.9	8.1	9.3
25	13.3	4.7	8.5	11.0	6.5	8.0	11.3	5.0	8.6	10.7	7.7	9.0
26	13.9	6.3	9.6	11.7	6.1	8.3	10.1	6.2	8.0	9.6	7.0	8.4
27	14.0	6.3	9.6	7.4	5.7	6.4	10.1	6.1	7.7	9.1	6.9	7.8
28	14.0	6.1	9.5	11.1	6.3	8.3	10.9	6.2	8.0	---	---	---
29	12.5	5.9	8.7	12.0	6.9	9.1	11.1	6.3	8.1	---	---	---
30	12.5	6.2	9.2	12.2	7.4	9.5	9.0	6.4	7.3	---	---	---
31	---	---	---	12.3	7.2	9.5	11.1	6.5	8.3	---	---	---
MONTH	18.5	4.7	9.7	13.4	5.1	8.5	12.5	5.0	8.4	13.3	6.0	9.0

05406500 BLACK EARTH CREEK AT BLACK EARTH, WI

LOCATION.--Lat 43°08'03", long 89°43'56" in SW 1/4 sec.25, T.8 N., R.6 E., Dane County, Hydrologic Unit 07070005, on right bank, 0.8 mi east of Black Earth and 2.1 mi upstream from Vermont Creek.

DRAINAGE AREA.--45.6 mi², of which 2.8 mi² probably is noncontributing.

PERIOD OF RECORD.--February 1954 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 812.95 ft above sea level.

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 24-27, Jan. 11-20, 27-29, and Feb. 12-14. Records fair (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	44	38	33	33	145	45	73	25	34	36	29
2	38	42	36	34	37	94	44	56	25	32	35	29
3	37	41	35	36	38	56	43	58	26	31	36	29
4	36	41	35	94	34	50	42	49	26	32	43	29
5	36	41	35	76	32	47	43	45	27	33	35	29
6	37	43	35	45	31	45	45	41	30	40	33	29
7	39	42	35	39	30	43	41	40	30	37	31	28
8	38	41	36	36	30	43	39	42	30	77	30	29
9	38	41	35	36	30	100	39	38	29	58	30	30
10	38	40	35	36	29	64	38	36	29	52	30	30
11	38	39	34	33	29	56	38	35	28	48	30	30
12	36	38	35	32	28	51	39	34	28	46	46	30
13	36	37	35	32	26	48	38	33	28	47	40	29
14	37	37	36	32	26	47	42	33	27	51	33	29
15	36	35	44	32	26	43	45	33	30	51	33	30
16	35	35	41	32	26	42	42	32	70	52	31	30
17	39	37	39	31	26	44	39	30	46	58	33	34
18	37	36	37	31	172	47	38	30	42	58	33	31
19	36	36	35	32	137	45	38	30	39	59	31	30
20	35	35	35	32	67	45	37	29	37	58	32	31
21	35	35	34	32	217	48	41	28	67	115	34	31
22	36	35	33	98	87	48	38	27	53	70	35	31
23	47	35	33	42	59	46	37	27	45	60	32	33
24	40	35	33	37	49	45	36	26	42	55	33	31
25	39	35	32	34	45	57	35	26	43	52	33	32
26	38	34	32	32	45	57	34	25	40	50	33	30
27	38	33	33	31	46	53	34	24	36	82	31	29
28	38	33	33	31	46	57	33	24	35	70	30	30
29	53	33	33	31	---	60	33	28	32	52	29	29
30	61	37	32	31	---	53	36	27	35	44	30	28
31	49	---	32	31	---	49	---	26	---	39	30	---
TOTAL	1214	1126	1086	1214	1481	1728	1172	1085	1080	1643	1031	899
MEAN	39.2	37.5	35.0	39.2	52.9	55.7	39.1	35.0	36.0	53.0	33.3	30.0
MAX	61	44	44	98	217	145	45	73	70	115	46	34
MIN	35	33	32	31	26	42	33	24	25	31	29	28
CFSM	.91	.88	.82	.91	1.24	1.30	.91	.82	.84	1.24	.78	.70
IN.	1.06	.98	.94	1.06	1.29	1.50	1.02	.94	.94	1.43	.90	.78

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1997, BY WATER YEAR (WY)

	MEAN	30.9	32.3	29.7	28.8	32.8	48.4	41.4	37.0	36.1	35.7	30.7	31.9
MAX	50.8	70.3	48.0	51.6	64.9	85.3	86.5	91.2	79.4	140	73.2	66.0	
(WY)	1994	1986	1988	1974	1994	1961	1993	1973	1996	1993	1993	1980	
MIN	15.9	16.1	14.8	15.1	16.0	16.9	22.5	18.7	14.4	14.0	15.5	15.3	
(WY)	1967	1967	1965	1959	1959	1968	1957	1965	1965	1965	1958	1958	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1954 - 1997

ANNUAL TOTAL	16089	14759	
ANNUAL MEAN	44.0	40.4	34.7
HIGHEST ANNUAL MEAN			61.0
LOWEST ANNUAL MEAN			19.8
HIGHEST DAILY MEAN	352	Jun 17	733
LOWEST DAILY MEAN	(a) 28	Mar 8, 9	12
ANNUAL SEVEN-DAY MINIMUM	(a) 29	Mar 5	13
INSTANTANEOUS PEAK FLOW			412
INSTANTANEOUS PEAK STAGE			4.16
INSTANTANEOUS LOW FLOW			23
ANNUAL RUNOFF (CFSM)	1.03	.94	.81
ANNUAL RUNOFF (INCHES)	13.98	12.83	11.01
10 PERCENT EXCEEDS	54	55	51
50 PERCENT EXCEEDS	38	36	30
90 PERCENT EXCEEDS	32	29	19

(a) Ice affected

(b) Also occurred July 26, 29, 1965

(c) Result of freezeup

WISCONSIN RIVER BASIN
054065199 HALFWAY PRAIRIE CREEK AT FARM NEAR MAZOMANIE, WI

LOCATION.--Lat 43°10'57", long 89°45'26", in NW 1/4 SW 1/4 sec.10, T.8 N., R.6 E., Dane County, Hydrologic Unit 07070005, on right bank 400 ft upstream from bridge on State Highways 19 and 78, 1.8 mi east of Mazomanie.

DRAINAGE AREA.--16.1 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1995 to June 1997 (no winter records), discontinued.

GAGE.--Water-stage recorder. Elevation of gage is 810 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 12, 14, and 25-30. Records are good except those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	5.4	---	---	---	---	6.7	7.0	4.2	---	---	---
2	4.4	5.2	---	---	---	---	6.4	6.2	4.2	---	---	---
3	4.4	5.8	---	---	---	---	6.2	6.5	4.2	---	---	---
4	4.3	4.9	---	---	---	---	6.0	5.8	4.1	---	---	---
5	4.2	5.0	---	---	---	---	6.0	5.5	4.3	---	---	---
6	4.2	4.9	---	---	---	---	5.8	5.4	4.4	---	---	---
7	4.3	4.9	---	---	---	---	7.6	5.5	4.4	---	---	---
8	4.2	4.8	---	---	---	---	6.2	5.9	4.0	---	---	---
9	4.3	4.7	---	---	---	---	5.5	5.5	4.1	---	---	---
10	4.4	4.7	---	---	---	---	5.5	5.2	4.0	---	---	---
11	4.3	4.7	---	---	---	---	5.5	5.2	4.0	---	---	---
12	4.3	4.6	---	---	---	---	5.7	5.0	4.0	---	---	---
13	4.5	4.5	---	---	---	---	5.5	4.8	4.0	---	---	---
14	4.4	4.5	---	---	---	---	5.6	5.0	4.0	---	---	---
15	4.2	4.5	---	---	---	---	5.6	4.9	4.1	---	---	---
16	4.1	4.6	---	---	---	---	5.4	4.7	5.8	---	---	---
17	4.3	4.7	---	---	---	---	5.3	4.7	4.2	---	---	---
18	4.0	4.5	---	---	---	---	5.3	4.8	4.0	---	---	---
19	4.1	4.5	---	---	---	---	5.3	4.6	4.0	---	---	---
20	4.1	4.3	---	---	---	---	5.3	4.6	4.0	---	---	---
21	4.2	4.5	---	---	---	---	5.2	4.5	5.1	---	---	---
22	4.4	4.5	---	---	---	---	5.1	4.4	5.5	---	---	---
23	4.6	4.6	---	---	---	---	5.0	4.3	5.1	---	---	---
24	4.7	4.3	---	---	---	---	5.0	4.4	4.9	---	---	---
25	4.8	4.1	---	---	---	---	4.9	4.3	4.7	---	---	---
26	4.8	4.0	---	---	---	---	4.9	4.2	4.6	---	---	---
27	4.8	4.0	---	---	---	---	4.8	4.1	4.4	---	---	---
28	5.2	4.0	---	---	---	---	4.6	4.2	4.3	---	---	---
29	5.9	4.0	---	---	---	---	4.6	4.3	4.5	---	---	---
30	5.5	4.1	---	---	---	---	5.1	4.2	4.4	---	---	---
31	5.6	---	---	---	---	---	---	4.1	---	---	---	---
TOTAL	140.1	137.8	---	---	---	---	165.6	153.8	131.5	---	---	---
MEAN	4.52	4.59	---	---	---	---	5.52	4.96	4.38	---	---	---
MAX	5.9	5.8	---	---	---	---	7.6	7.0	5.8	---	---	---
MIN	4.0	4.0	---	---	---	---	4.6	4.1	4.0	---	---	---
CFSM	.28	.29	---	---	---	---	.34	.31	.27	---	---	---
IN.	.32	.32	---	---	---	---	.38	.36	.30	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1997, BY WATER YEAR (WY)

MEAN	4.44	5.46	---	---	---	---	5.59	5.63	6.70	5.65	4.91	4.41
MAX	4.52	6.33	---	---	---	---	6.33	6.55	10.1	6.36	4.99	4.53
(WY)	1997	1996	---	---	---	---	1995	1995	1996	1996	1995	1996
MIN	4.36	4.59	---	---	---	---	4.93	4.96	4.38	4.94	4.83	4.29
(WY)	1996	1997	---	---	---	---	1996	1997	1997	1995	1996	1995

SUMMARY STATISTICS

**FOR 1996 CALENDAR YEAR
(APRIL-NOVEMBER)**

**FOR 1997 WATER YEAR
(OCTOBER, NOVEMBER,
AND APRIL-JUNE)**

WATER YEARS 1995 - 1997

ANNUAL TOTAL	1378.7	728.8	
ANNUAL MEAN	5.65	4.79	5.45
HIGHEST ANNUAL MEAN			5.84
LOWEST ANNUAL MEAN			4.79
HIGHEST DAILY MEAN	43	Jun 18	7.6
LOWEST DAILY MEAN	3.8	Sep 19	4.0 (a)
ANNUAL SEVEN-DAY MINIMUM	4.1	Nov 24	4.0
INSTANTANEOUS PEAK FLOW			15
INSTANTANEOUS PEAK STAGE			3.82
ANNUAL RUNOFF (CFSM)	.35		.30
ANNUAL RUNOFF (INCHES)	3.19		1.68
10 PERCENT EXCEEDS	7.0		5.8
50 PERCENT EXCEEDS	4.9		4.6
90 PERCENT EXCEEDS	4.3		4.1
			5.52
			.34
			4.60
			6.6
			5.0
			4.2

(a) Also occurred on Nov. 26-29, ice affected, and June 8, 10-14, 18-20

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April to July 1995 and April 1996 to June 1997 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SOLIDS DISCHARGE: April to July 1995 and April to August 1996.

TOTAL-PHOSPHORUS DISCHARGE: April to July, 1995 and April to August 1996.

INSTRUMENTATION.--Stage-activated water-quality sampler and rain gage since April 1995.

REMARKS.--Chemical analyses by Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	RESIDUE TOTAL AT 105 DEG. C, PENDEED (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
APR 1997									
*01...	0933	6.7	8.5	0.5	<10	19	0.010	0.052	--
JUN									
07...	1435	4.9	8.5	2.5	4000	78	0.081	0.137	0.025
07...	1525	5.3	8.5	3.3	56000	119	0.087	0.257	0.050
07...	1640	5.0	8.5	3.3	37000	88	0.077	0.205	0.059
07...	1910	4.4	8.5	3.5	22000	73	0.071	0.208	0.067
08...	0010	4.1	8.5	2.4	4000	72	0.044	0.158	0.038
08...	0740	4.4	8.5	2.3	2600	72	0.042	0.142	0.028
08...	1240	4.4	8.5	1.6	1700	56	0.028	0.124	0.026
08...	1840	3.7	8.6	1.7	1500	37	0.039	0.130	0.030
15...	1810	3.9	8.5	3.4	14000	91	0.051	0.167	0.029
15...	1925	3.8	8.5	9.2	10000	112	0.088	0.272	0.059
15...	2015	4.1	8.5	4.4	72000	99	0.086	0.244	0.077
15...	2245	4.9	8.4	6.0	420000	137	0.116	0.367	0.123
16...	0035	6.3	8.4	8.3	850000	472	0.165	0.657	0.286
16...	0105	7.7	8.4	7.4	950000	264	0.165	0.735	0.290
16...	0605	7.9	8.3	4.6	49000	178	0.118	0.547	0.284
*16...	0948	6.7	8.4	3.0	6300	91	0.047	0.234	0.057
16...	0949	6.7	8.4	3.1	6900	87	0.055	0.217	0.056
16...	1430	5.0	8.5	3.6	77000	66	0.043	0.230	0.084
16...	2130	4.1	8.4	4.5	170000	57	0.097	0.404	0.202
17...	0430	4.4	8.4	3.5	43000	96	0.061	0.262	0.086
21...	0425	4.4	8.4	4.8	--	320	0.064	0.463	0.047
21...	0515	4.9	8.5	3.3	--	122	0.065	0.278	0.060
21...	0630	4.9	8.4	3.2	--	113	0.058	0.237	0.047
21...	0900	5.3	8.4	3.8	--	90	0.062	0.234	0.058
21...	1130	5.6	8.5	3.1	--	82	0.058	0.272	0.092
21...	1400	6.0	8.5	3.2	--	74	0.066	0.409	0.226
21...	1630	5.8	8.2	2.5	--	60	0.027	0.202	0.067
21...	2130	4.9	8.6	2.3	--	60	0.039	0.209	0.059
22...	0230	4.7	8.5	5.2	--	88	0.067	0.471	0.214

* Equal-width increment (EWI) sample

WISCONSIN RIVER BASIN
054065199 HALFWAY PRAIRIE CREEK AT FARM NEAR MAZOMANIE, WI--CONTINUED

PRECIPITATION QUANTITY

PERIOD OF RECORD.--April 7, 1995 to July 8, 1997 (discontinued).

GAGE.--Tipping bucket rain gage with electronic datalogger.

REMARKS.--Gage established Apr. 7, 1995. Rainfall estimated to be 0.00 for Nov. 21-23, 28-30, Dec. 3, 22-23, 28, Jan. 1, 4, 20, 31, Feb. 5, 17, 20-22, 27-28, Mar. 16, 24-25, and Apr. 11-13 because recorded precipitation interpreted as collector snowmelt.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 3.48 in., June 17, 1996.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.17 in., Apr. 30.

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.03	.00	.03	.00	.00	---	---
2	.00	.00	.00	.00	.00	.00	.00	.22	.00	.03	---	---
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---
4	.00	.10	.00	.00	.00	.00	.00	.00	.00	.00	---	---
5	.00	.00	.00	.00	.00	.00	.05	.03	.43	.11	---	---
6	.15	.13	.00	.00	.00	.00	.02	.00	.00	.23	---	---
7	.00	.00	.00	.00	.00	.00	.00	.45	.52	.00	---	---
8	.00	.00	.00	.00	.00	.00	.00	.08	.00	---	---	---
9	.00	.00	.00	.00	.00	.42	.00	.00	.00	---	---	---
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
14	.00	.00	.10	.00	.00	.00	.00	.04	.00	---	---	---
15	.00	.00	.07	.00	.00	.00	.00	.02	.85	---	---	---
16	.01	.00	.00	.00	.00	.00	.00	.00	.81	---	---	---
17	.31	.14	.00	.00	.00	.00	.00	.00	.00	---	---	---
18	.00	.00	.00	.00	.00	.00	.06	.07	.00	---	---	---
19	.00	.00	.00	.00	.00	.00	.03	.00	.00	---	---	---
20	.00	.00	.00	.00	.00	.00	.01	.00	.05	---	---	---
21	.05	.00	.00	.00	.00	.00	.00	.00	.98	---	---	---
22	.37	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
23	.03	.00	.00	.00	.00	.00	.04	.00	.00	---	---	---
24	.00	.00	.00	.00	.00	.00	.02	.02	.04	---	---	---
25	.00	.00	.00	.00	.00	.00	.00	.00	.04	---	---	---
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	---	---	---
28	.00	.00	.00	.00	.00	.51	.00	.03	.00	---	---	---
29	.97	.00	.00	.00	---	.00	.00	.14	.49	---	---	---
30	.00	.00	.00	.00	---	.01	1.17	.01	.12	---	---	---
31	.00	---	.00	.00	---	.00	---	.00	---	---	---	---
TOTAL	1.89	0.37	0.17	0.00	0.00	0.97	1.40	1.14	4.33	---	---	---

WISCONSIN RIVER BASIN
05406520 HALFWAY PRAIRIE CREEK NEAR MAZOMANIE, WI

313

LOCATION.--Lat 43°10'57", long 89°45'32", in NE 1/4 SE 1/4 sec.10, T.8 N., R.6 E., Dane County, Hydrologic Unit 07070005, on right bank 50 ft upstream from bridge on State Highways 19 and 78 and 1.8 mi east of Mazomanie.

DRAINAGE AREA.--16.1 mi².

PERIOD OF RECORD.--April to July 1995 and April 1996 to June 1997 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SOLIDS DISCHARGE: April to July 1995 and April 1996 to current year

TOTAL-PHOSPHORUS DISCHARGE: April to July 1995 and April 1996 to current year.

INSTRUMENTATION.--Stage-activated water-quality sampler since April 1995.

REMARKS.--Chemical analyses by the Wisconsin State Laboratory of Hygiene. Samples are point samples unless otherwise indicated. See station 054065199 Halfway Prairie Creek at Farm near Mazomanie for daily mean discharges.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
APR 1997									
*01...	0923	6.7	8.5	0.4	<10	27	0.011	0.052	--
JUN									
07...	1435	4.9	8.4	2.4	6100	73	0.084	0.156	--
07...	1525	5.3	8.4	6.5	850000	173	0.196	0.691	--
07...	1640	5.0	8.5	4.1	140000	99	0.123	0.355	--
07...	1910	4.4	8.4	3.2	10000	74	0.068	0.196	--
08...	0010	4.1	8.4	2.6	4000	83	0.055	0.173	--
08...	0740	4.4	8.4	2.1	1400	75	0.050	0.147	--
08...	1240	4.4	8.5	3.3	8000	57	0.042	0.155	--
08...	1840	3.7	7.5	2.1	1300	49	0.042	0.129	--
15...	1810	3.9	8.6	4.1	10000	83	0.055	0.211	--
15...	1925	3.8	8.5	5.4	110000	143	0.103	0.458	--
15...	2015	4.1	8.5	5.8	180000	110	0.152	0.530	--
15...	2245	4.9	8.4	9.2	740000	175	0.233	0.892	--
16...	0035	6.3	8.4	11	1100000	264	0.290	1.34	--
16...	0105	7.7	8.3	18	1200000	516	0.440	1.99	--
16...	0605	7.9	8.3	5.2	70000	201	0.115	0.650	--
16...	1007	6.5	8.5	2.9	6000	101	0.045	0.247	--
*16...	1008	6.5	8.4	2.7	19000	100	0.045	0.240	--
16...	1430	5.0	8.6	3.7	54000	63	0.032	0.242	--
16...	2130	4.1	8.4	4.9	190000	58	0.091	0.477	--
17...	0430	4.4	8.4	3.7	27000	90	0.055	0.276	--
21...	0425	4.4	8.4	3.4	--	100	0.068	0.226	0.059
21...	0515	4.9	8.3	13	--	272	0.274	1.21	0.540
21...	0630	4.9	8.4	3.2	--	94	0.064	0.244	0.046
21...	0900	5.3	8.0	3.1	--	66	0.054	0.348	0.170
21...	1130	5.6	8.5	2.9	--	76	0.061	0.346	0.086
21...	1400	6.0	8.2	2.4	--	48	0.052	0.190	0.061
21...	1630	5.8	8.2	2.5	--	59	0.032	0.213	0.070
21...	2130	4.9	8.4	2.7	--	66	0.048	0.253	0.075
22...	0230	4.7	8.4	4.7	--	86	0.062	0.445	0.186

* Equal-width increment (EWI) sample

WISCONSIN RIVER BASIN
05407000 WISCONSIN RIVER AT MUSCODA, WI

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.

PERIOD OF RECORD.--December 1902 to December 1903, gage height and discharge measurements only, October 1913 to current year. Monthly discharge 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 sea level. 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: Ice-affected periods, Nov. 28-30, Dec. 21 to Mar. 11, and Mar. 15-17. Records good except those for ice-affected periods, which are fair (see page 11). Flow regulated by 24 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 flows less than 20 ft³/s were diverted out of the basin through Portage Canal to the Fox River throughout the year. Gage-height telemeter and data-collection platform at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5070	8700	7080	5800	9000	9000	22900	11600	7430	5850	6460	6000
2	5540	8920	8530	8800	9600	7200	25900	10800	7470	5000	5240	5600
3	5010	8500	8330	7800	9200	9000	27400	11400	7810	6670	5840	6230
4	5000	8050	7650	6600	9200	8600	32500	10400	7260	7710	5010	6040
5	4500	8510	8990	8200	9000	8400	37600	12100	8250	8950	6390	6640
6	4930	6540	7770	7600	8000	9000	38100	9770	7970	9270	5830	5670
7	4210	6890	7190	7200	8600	10000	38100	12900	7240	10300	5840	5400
8	5390	7270	7720	7600	8600	11000	38000	13200	6760	9340	5180	5040
9	4300	6710	6870	8400	7600	11000	38500	10400	7520	10700	5180	5840
10	5150	6880	6690	9400	7400	12000	39300	11600	8070	9780	5020	6050
11	5180	6870	6960	8600	7400	12000	39300	10400	8370	10100	6090	5840
12	5360	5580	6600	7200	7600	12000	37800	10400	8120	9510	6020	6180
13	4870	6190	7100	7000	7600	9950	32300	9500	8610	9540	7410	6220
14	4490	5730	6980	6000	7600	11000	25800	9040	8220	9000	5410	6120
15	5380	6050	7090	8000	7200	9000	22700	8970	7780	8380	6480	6080
16	4150	6030	6970	9000	6400	8000	18000	9390	6850	7760	5990	5970
17	4790	5920	7800	7800	5600	8200	14000	8890	8390	6790	6220	5410
18	4890	5720	7510	7600	9400	10300	11000	9240	7020	8060	7380	5590
19	4470	7570	6180	8000	9000	9010	9740	8420	6250	7720	6420	6340
20	6220	12000	6230	8600	10000	8770	10400	7970	6150	7380	6290	9310
21	5800	14800	5200	9000	11000	10200	9120	8980	7880	7810	5550	8690
22	5820	13500	4600	8600	11000	11300	9660	8810	8920	8640	6110	8770
23	6340	12100	6000	8800	9600	11400	10700	8320	10200	6710	7090	7950
24	5410	10000	6200	8600	11000	11000	10000	7840	10200	7260	7370	8880
25	5380	10600	5800	8800	10000	11500	9790	8530	9320	7200	7470	8790
26	8050	9450	4600	9200	10000	12000	9990	7160	9400	7270	7610	8860
27	8630	8250	5000	8400	9400	12700	9880	6940	7300	5940	8580	7130
28	6890	5200	5800	7400	8000	13300	9070	8440	7830	6660	6960	6740
29	7680	6000	5600	8400	---	14400	9740	7590	6950	5790	6530	5660
30	8240	7000	5400	8400	---	16700	8670	7460	5690	6010	6190	5220
31	6550	---	6400	9000	---	19300	---	8710	---	7110	5350	---
TOTAL	173690	241530	206840	249800	244000	337230	655960	295170	235230	244210	194510	198260
MEAN	5603	8051	6672	8058	8714	10880	21870	9522	7841	7878	6275	6609
MAX	8630	14800	8990	9400	11000	19300	39300	13200	10200	10700	8580	9310
MIN	4150	5200	4600	5800	5600	7200	8670	6940	5690	5000	5010	5040

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)												
MEAN	7427	7825	6576	6082	6617	10870	16900	11930	10500	7283	5909	7249
MAX	25460	17130	13100	11400	12020	30400	37650	32270	28840	17780	11610	31280
(WY)	1987	1986	1966	1973	1966	1973	1922	1960	1993	1978	1924	1938
MIN	2638	2662	2616	3209	3113	3501	4788	4621	3091	2754	2567	2651
(WY)	1977	1977	1977	1924	1924	1934	1964	1977	1988	1988	1988	1976

SUMMARY STATISTICS				FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL				3643870		3276430			
ANNUAL MEAN				9956		8977		8760	
HIGHEST ANNUAL MEAN								16030	1973
LOWEST ANNUAL MEAN								4145	1977
HIGHEST DAILY MEAN				44200	Apr 25	39300	Apr 10, 11	79500	Sep 16 1938
LOWEST DAILY MEAN				4030	Sep 22	4150	Oct 16	1460	Jul 3 1988
ANNUAL SEVEN-DAY MINIMUM				4170	Sep 17	4720	Oct 13	1900	Aug 13 1988
INSTANTANEOUS PEAK FLOW						39700	Apr 10	80800	Sep 16 1938
INSTANTANEOUS PEAK STAGE						7.94	Apr 10	11.48	Sep 16 1938
10 PERCENT EXCEEDS				17000		11400		15300	
50 PERCENT EXCEEDS				7800		7800		6960	
90 PERCENT EXCEEDS				5060		5410		3900	

WISCONSIN RIVER BASIN
05410490 KICKAPOO RIVER AT STEUBEN, WI

LOCATION.--Lat 43°10'58", long 90°51'30", in NE 1/4 SW 1/4 sec.9, T.8 N., R.4 W., Crawford County, Hydrologic Unit 07070006, on right bank at upstream corner of town road bridge at Steuben and 18.6 mi upstream from mouth.

DRAINAGE AREA.--687 mi².

PERIOD OF RECORD.--May 1933 to current year. Prior to October 1982, all records published under station number 05410500.

REVISED RECORDS.--WSP 855: Drainage area. WSP 1438: 1933-38. WDR WI-79-1: 1978(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 657.00 ft above sea level. 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: Ice-affected periods, Nov. 14, 15, Nov. 27 to Dec. 10, Dec. 15 to Mar. 1, and Mar. 15, 16. Records good except those for ice-affected periods, which are poor (see page 11). Data-collection platform and gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	392	517	460	380	370	450	790	620	491	376	464	473
2	383	454	430	390	390	488	716	781	449	403	453	454
3	376	432	420	410	400	528	679	791	429	385	447	411
4	373	426	410	420	400	534	654	700	418	372	461	402
5	376	426	400	440	390	494	635	659	414	370	481	396
6	384	432	400	470	390	467	631	594	416	374	459	392
7	392	433	400	470	380	449	633	558	495	400	426	393
8	392	428	400	450	370	431	612	548	578	427	415	397
9	392	423	400	440	370	496	567	546	465	440	408	404
10	392	416	400	400	370	584	547	544	442	467	403	412
11	391	410	409	380	370	665	538	510	423	413	399	406
12	391	403	406	370	360	704	541	492	413	383	422	402
13	393	394	410	360	360	688	544	482	409	375	427	388
14	395	350	414	360	350	623	543	474	402	375	425	387
15	395	350	400	360	350	460	530	473	412	374	431	389
16	401	414	390	360	360	440	510	477	480	379	417	393
17	405	450	370	360	380	557	499	480	447	379	417	475
18	413	489	360	360	400	556	491	470	440	407	410	587
19	421	485	350	360	470	570	505	469	415	552	413	595
20	416	449	340	360	540	556	502	470	410	564	407	464
21	407	427	350	370	560	581	497	457	431	664	407	435
22	415	419	400	400	560	755	488	441	458	555	408	423
23	449	433	390	430	480	1020	477	433	467	463	400	423
24	474	430	370	440	420	1030	467	430	438	435	390	423
25	487	424	350	440	390	854	460	452	416	813	388	422
26	455	396	340	430	420	741	453	492	413	949	389	414
27	427	390	330	420	440	721	447	489	412	732	387	407
28	416	380	340	390	440	858	443	449	390	698	385	408
29	424	400	340	360	---	1020	442	442	379	647	381	409
30	467	440	350	350	---	1080	451	449	378	544	414	408
31	506	---	360	350	---	944	---	474	---	493	460	---

TOTAL	12800	12720	11889	12280	11480	20344	16292	16146	13030	15208	12994	12792
MEAN	413	424	384	396	410	656	543	521	434	491	419	426
MAX	506	517	460	470	560	1080	790	791	578	949	481	595
MIN	373	350	330	350	350	431	442	430	378	370	381	387
CFSM	.60	.62	.56	.58	.60	.96	.79	.76	.63	.71	.61	.62
IN.	.69	.69	.64	.66	.62	1.10	.88	.87	.71	.82	.70	.69

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1997, BY WATER YEAR (WY)

MEAN	417	435	380	360	423	783	703	521	503	478	421	451
MAX	798	858	781	846	1276	1856	1748	1415	981	1901	1180	1331
(WY)	1973	1983	1985	1946	1966	1946	1959	1973	1947	1978	1935	1938
MIN	206	222	172	172	184	252	351	228	223	189	188	199
(WY)	1959	1938	1959	1959	1959	1934	1942	1934	1934	1936	1936	1937

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1933 - 1997
ANNUAL TOTAL	189585	167975	
ANNUAL MEAN	518	460	490
HIGHEST ANNUAL MEAN			792
LOWEST ANNUAL MEAN			273
HIGHEST DAILY MEAN	3240	Jun 21	12600
LOWEST DAILY MEAN	(a) 330	Dec 27	(a) 165
ANNUAL SEVEN-DAY MINIMUM	(a) 340	Jan 1	(a) 165
INSTANTANEOUS PEAK FLOW			16500
INSTANTANEOUS PEAK STAGE			(c) 14.81
INSTANTANEOUS LOW FLOW			(c) 161
ANNUAL RUNOFF (CFSM)	.75	.67	.71
ANNUAL RUNOFF (INCHES)	10.27	9.10	9.70
10 PERCENT EXCEEDS	674	585	747
50 PERCENT EXCEEDS	450	424	400
90 PERCENT EXCEEDS	374	370	260

(a) Ice affected

(b) Also occurred Jan. 4-9, Feb. 5-7, 1959, ice affected

(c) Site and datum then in use

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°53'55", long 89°27'10", in SE 1/4 sec.35, T.40 N., R.8 E., Vilas County, 9.6 mi west of town of Eagle River, used as a reservoir since 1908, has a usable capacity of 79,000,000 ft³. Drainage area, 19 mi².
- 05390750 Big St. Germain Lake on St. Germain River, lat 45°55'06", long 89°31'55", in SE 1/4 sec.30, T.40 N., R.8 E., Vilas County, 5.0 mi south of Sayner, used as a reservoir since 1908, has a usable capacity of 202,000,000 ft³. Drainage area, 73.1 mi².
- 05390800 Pickerel Lake on St. Germain River, lat 45°52'22", long 89°31'47", in NE 1/4 sec.18, T.39 N., R.8 E., Oneida County, 5.0 mi northeast of town of Lake Tomahawk, used as a reservoir since 1935, has a usable capacity of 338,000,000 ft³. Drainage area, 86.2 mi².
- 05390900 Rainbow Lake on Wisconsin River, lat 45°50'02", long 89°32'42", in SW 1/4 sec.30, T.39 N., R.8 E., Oneida County, 800 ft upstream from U.S. Geological Survey river gaging station, 2.7 mi northeast of town of Lake Tomahawk, used as a reservoir since 1935, has a usable capacity of 2,181,000,000 ft³. Drainage area, 744 mi².
- 05391100 South Pelican Lake on Pelican River, lat 45°31'37", long 89°12'24", in S 1/2 sec.11, T.35 N., R.10 E., Oneida County, 2.8 mi northwest of town of Pelican Lake, used as a reservoir since 1909, has a usable capacity of 305,000,000 ft³. Drainage area, 19.8 mi².
- 05391300 North Pelican Lake (includes Moen Lakes) on North Branch Pelican River, lat 45°38'05", long 89°14'38", in SE 1/4 sec.4, T.36 N., R.10 E., Oneida County, 0.2 mi below Twin Lakes Creek and 8.0 mi east of Rhinelander city limits, used as a reservoir since 1908, has a usable capacity of 218,000,000 ft³. Drainage area, 95 mi².
- 05392100 Minocqua Lake on Tomahawk River, lat 45°52'35", long 89°43'38", on line between secs.10 and 15, T.39 N., R.6 E., Oneida County, 1.0 mi west of Minocqua, used as a reservoir since 1910, has a usable capacity of 628,000,000 ft³. Drainage area, 72.5 mi².
- 05392200 Squirrel Lake on Squirrel River, lat 45°50'37", long 89°54'13", in NE 1/4 sec.30, T.39 N., R.5 E., Oneida County, 9.4 mi west of Minocqua, used as a reservoir since 1908, has a usable capacity of 182,000,000 ft³. Drainage area, 15.2 mi².
- 05392300 Willow Reservoir on Tomahawk River, lat 45°42'45", long 89°50'38", in NE 1/4 sec.10, T.37 N., R.5 E., Oneida County, 8.8 mi southwest of Hazelhurst, used as a reservoir since 1927, has a usable capacity of 3,302,000,000 ft³. Drainage area, 310 mi².

WISCONSIN RIVER BASIN

RESERVOIRS IN WISCONSIN RIVER BASIN--CONTINUED

- 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.
- 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 1996 TO SEPTEMBER 1997

	LAC VIEUX DESERT	TWIN LAKES	BUCKATABON LAKE	SEVENMILE LAKE	LOWER NINEMILE LAKE	BURNT ROLLWAYS RESERVOIR	LONG LAKE	DEERSKIN LAKE
Sept. 30	352	261	115	55	99	568	218	16
Oct. 31	377	266	115	58	99	575	225	17
Nov. 30	285	228	102	46	88	499	194	12
Dec. 31	171	133	79	16	7	320	155	10
Jan. 31	117	50	51	8	27	42	114	9
Feb. 28	54	2	28	0	1	94	39	7
Mar. 31	38	25	30	0	25	0	58	10
Apr. 30	222	117	92	34	98	555	163	14
May 31	297	179	116	46	100	581	185	17
June 30	305	214	115	54	99	565	196	15
July 31	285	225	113	54	99	552	159	14
Aug.31	322	248	116	61	101	591	181	18
Sept. 30	326	277	115	62	100	549	187	17

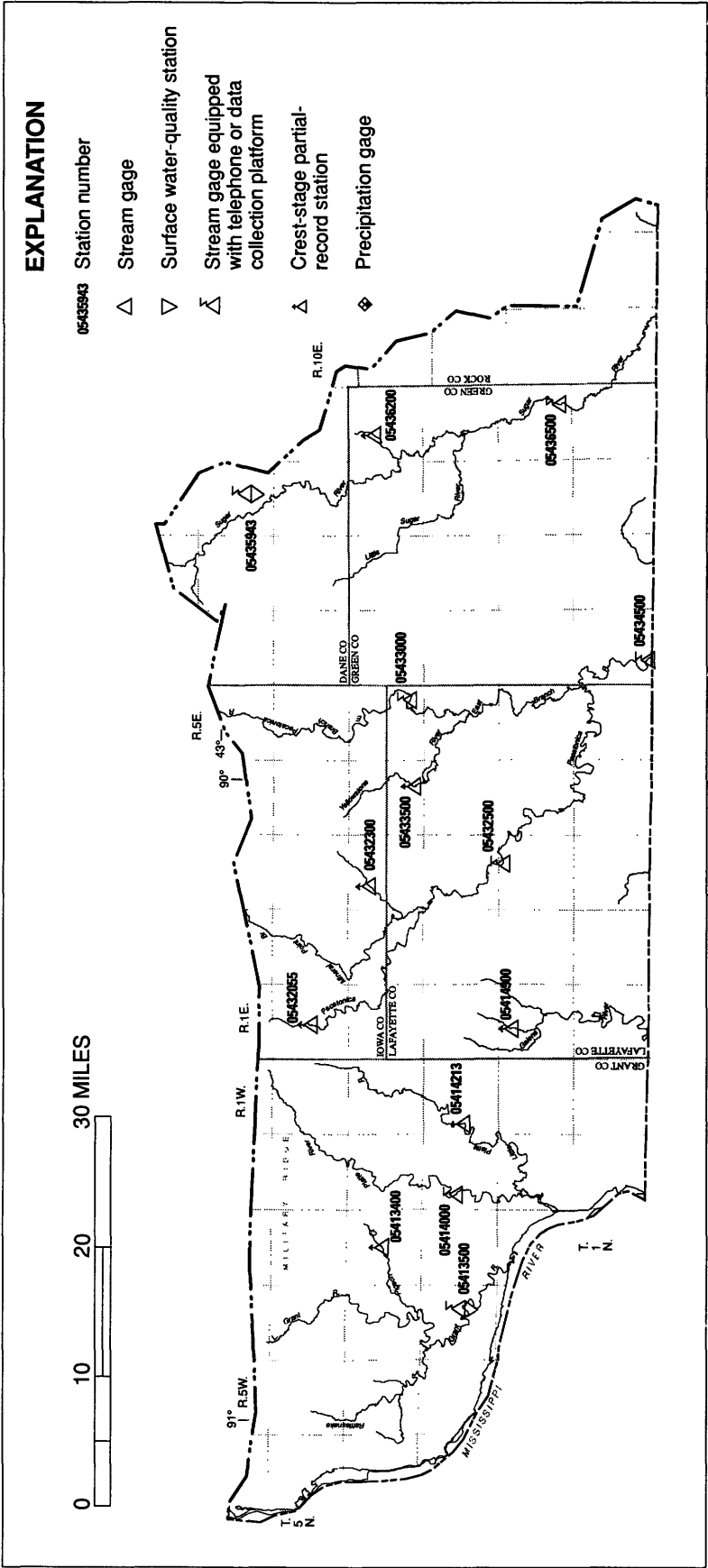
	SUGAR CAMP RESERVOIR	LITTLE ST. GERMAIN LAKE	BIG ST. GERMAIN LAKE	PICKEREL LAKE	RAINBOW LAKE	SOUTH PELICAN LAKE	NORTH PELICAN LAKE	MINOCQUA LAKE
Sept. 30	410	72	163	270	1,455	170	133	499
Oct. 31	418	72	180	286	1,618	320	143	499
Nov. 30	406	55	148	258	2,109	250	102	373
Dec. 31	312	40	102	236	1,935	213	42	240
Jan. 31	252	17	65	186	1,778	136	0	98
Feb. 28	29	11	34	161	1,294	30	0	8
Mar. 31	38	24	41	148	634	9	0	5
Apr. 30	425	67	154	270	2,026	234	138	234
May 31	395	74	157	273	2,075	286	137	392
June 30	402	75	163	274	2,018	284	137	496
July 31	405	73	162	275	1,999	283	134	491
Aug. 31	420	75	165	274	2,056	269	139	493
Sept. 30	403	75	159	269	1,857	305	137	488

WISCONSIN RIVER BASIN
RESERVOIRS IN WISCONSIN RIVER BASIN--CONTINUED

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MONTH-END CONTENTS, IN MILLIONS OF CUBIC FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

	SQUIRREL LAKE	WILLOW RESERVOIR	LAKE NOKOMIS	SPIRIT RIVER FLOWAGE	BIG EAU PLEINE RESERVOIR	LAKE DUBAY	PETENWELL FLOWAGE	CASTLE ROCK FLOWAGE
Sept. 30	169	2,262	1,259	534	3,156	4,156	17,738	5,857
Oct. 31	166	2,466	1,327	630	3,026	4,194	17,756	5,760
Nov. 30	129	3,166	1,733	668	3,866	4,079	17,632	5,863
Dec. 31	62	2,822	1,509	564	3,828	3,831	17,597	5,850
Jan. 31	2	2,305	1,295	381	3,450	3,292	15,453	5,518
Feb. 28	11	1,696	927	233	2,282	2,719	14,098	4,682
Mar. 31	25	817	570	137	2,579	2,825	14,354	3,280
Apr. 30	128	2,880	1,692	706	4,310	4,242	17,527	5,890
May 31	169	3,253	1,722	715	4,400	4,181	17,685	5,942
June 30	170	3,154	1,741	687	4,364	4,197	17,668	5,876
July 31	165	3,090	1,695	684	4,319	4,153	17,685	5,837
Aug. 31	168	2,661	1,500	684	3,526	4,150	17,738	5,956
Sept. 30	167	2,816	1,520	582	3,839	4,125	17,632	5,956



PECATONICA-SUGAR BASIN

Base from U.S. Geological Survey 1:100,000 digital data; modified by Wisconsin Department of Natural Resources Wisconsin Transverse Mercator projection.

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DRAINAGE AREA.--269 mi².

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 published in WSP 1308.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 606.43 ft above sea level. Oct. 17, 1934, to Sept. 30, 1947, non-recording 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: Ice-affected periods, Nov. 25 to Dec. 12 and Dec. 17 to Mar. 1. Records good except those for ice-affected periods, which are poor (see page 11). Data-collection platform and gage-height telemeter at station.

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	114	120	110	170	840	155	214	111	119	120	105
2	93	110	110	110	200	666	151	178	109	115	119	101
3	92	107	100	120	170	301	148	211	106	127	115	99
4	93	108	94	240	160	201	146	181	106	112	116	97
5	94	112	100	450	140	169	149	170	106	111	110	97
6	95	113	110	170	130	152	164	161	137	108	107	98
7	96	121	100	150	120	146	148	159	120	105	108	98
8	95	111	100	130	110	159	138	204	126	117	106	120
9	96	107	98	120	110	580	134	168	112	133	105	120
10	97	105	98	110	110	457	134	155	106	108	105	106
11	94	102	98	98	100	263	140	151	105	105	105	100
12	94	98	98	90	100	211	159	146	105	105	131	98
13	95	102	101	84	100	182	168	142	105	106	155	97
14	95	96	101	82	96	180	188	141	101	108	115	97
15	94	117	145	86	92	150	200	139	146	106	111	97
16	96	106	140	82	90	150	197	134	753	100	114	97
17	110	112	100	80	90	163	192	133	214	102	111	116
18	110	111	90	78	860	174	184	135	164	110	156	114
19	97	104	84	82	2300	156	223	143	147	134	115	104
20	96	103	80	88	900	160	194	127	142	340	112	104
21	99	105	84	90	1800	167	176	122	206	147	111	98
22	116	103	88	500	1500	170	164	120	203	131	108	99
23	152	103	88	470	400	162	154	119	167	123	104	114
24	128	105	86	350	180	155	147	118	148	120	106	110
25	107	96	90	280	130	182	141	120	170	117	106	104
26	104	86	100	220	140	172	136	116	138	153	103	102
27	101	90	110	190	150	166	133	113	126	125	104	99
28	98	96	120	170	400	174	133	113	121	249	103	103
29	114	100	110	160	---	189	129	124	118	152	101	106
30	219	120	100	150	---	171	132	122	120	131	106	96
31	130	---	110	150	---	161	---	116	---	124	120	---
TOTAL	3293	3163	3153	5290	10848	7329	4757	4495	4638	4043	3508	3096
MEAN	106	105	102	171	387	236	159	145	155	130	113	103
MAX	219	121	145	500	2300	840	223	214	753	340	156	120
MIN	92	86	80	78	90	146	129	113	101	100	101	96
CFSM	.39	.39	.38	.63	1.44	.88	.59	.54	.57	.48	.42	.38
IN.	.46	.44	.44	.73	1.50	1.01	.66	.62	.64	.56	.49	.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 1997, BY WATER YEAR (WY)

MEAN	118	128	110	134	205	328	180	164	201	174	147	131
MAX	276	626	350	467	668	1057	505	489	920	808	502	330
(WY)	1994	1962	1973	1974	1948	1959	1973	1973	1947	1993	1943	1993
MIN	45.8	41.3	37.7	33.4	36.1	55.3	66.0	46.8	50.6	35.8	41.6	42.2
(WY)	1935	1938	1959	1959	1959	1958	1957	1958	1936	1936	1937	1958

GRANT RIVER BASIN
05413500 GRANT RIVER AT BURTON, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1935 - 1997	
ANNUAL TOTAL	48894		57613		168	
ANNUAL MEAN	134		158		351	1993
HIGHEST ANNUAL MEAN					59.3	1958
LOWEST ANNUAL MEAN					10700	Jun 13 1947
HIGHEST DAILY MEAN	(a) 640	Feb 11	(a) 2300	Feb 19	30	(b) Aug 5 1936
LOWEST DAILY MEAN	(a) 80	Dec 20	(a) 78	Jan 18	31	(c) Aug 3 1936
ANNUAL SEVEN-DAY MINIMUM	(a) 86	Dec 18	(a) 82	Jan 13	(e) 25000	Jul 16 1950
INSTANTANEOUS PEAK FLOW			(d)		24.82	Jul 16 1950
INSTANTANEOUS PEAK STAGE			(f) 24.62	Feb 19	(h) 21	Mar 4 1954
INSTANTANEOUS LOW FLOW			(g) 64	Nov 26		
ANNUAL RUNOFF (CFSM)	.50		.59		.63	
ANNUAL RUNOFF (INCHES)	6.76		7.97		8.49	
10 PERCENT EXCEEDS	195		195		253	
50 PERCENT EXCEEDS	117		116		113	
90 PERCENT EXCEEDS	94		96		59	

(a) Ice affected

(b) Also occurred Aug. 8, 9, 1936, Sept. 22, 1937, and Feb. 19, 20, 1959, ice affected

(c) Also occurred Jan. 4, 1959, ice affected

(d) Unknown, ice affected

(e) From rating curve extended above 18,000 ft³/s on basis of slope-area measurement of peak flow

(f) Backwater from ice jam

(g) Result of freezeup, may have been lower during ice-affected period

(h) Result of freezeup

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-67, 1978 to current year. National Stream-Quality Accounting Network data collection October 1986 to September 1994.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: Water years 1978 to current year, April-September monthly totals only published for 1983 water year, but daily load estimates are available for the entire year.

REMARKS.--Sediment records for periods of no ice cover are fair. Records for high-flow periods during ice cover are poor. Monthly and annual load values are fair. Most sediment samples were taken in a single vertical. Concentrations identified by an asterisk are from samples collected by the equal-width increment method.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 13,600 mg/L, July 13, 1979; minimum observed, 7 mg/L, Mar. 2, 1978, Nov. 30, 1994, and May 7, 1996.

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 observed, 5,650 mg/L, June 16; minimum observed, 11 mg/L, Apr. 17.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 15,200 tons, Feb. 19; minimum daily, 4.3 tons, Jan. 18.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PEN- DED (MG/L) (80154)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PEN- DED (MG/L) (80154)
OCT 1996					MAY 1997			
*02...	1355	--	95	25	27...	0935	112	67
02...	1400	--	95	17	30...	0835	123	108
03...	0905	--	92	56	JUN			
07...	0900	--	96	35	02...	0900	108	82
11...	1005	--	94	28	05...	0745	105	74
14...	0950	--	95	18	16...	0740	1150	5650
17...	0815	--	105	33	19...	0720	148	179
21...	0830	--	96	35	21...	0830	170	552
24...	0825	--	134	48	23...	0905	147	182
28...	0810	--	98	76	25...	0830	186	616
NOV					26...	0800	139	274
02...	0920	--	110	29	30...	0820	118	207
04...	0845	--	106	25	JUL			
07...	0915	--	126	45	*01...	1415	120	132
16...	1050	--	105	30	01...	1425	120	121
*20...	1313	--	102	29	04...	0800	112	132
20...	1325	--	102	45	07...	0835	105	69
JAN 1997					11...	0820	105	92
*13...	1438	84	--	21	14...	0845	109	110
MAR					18...	0845	107	127
*05...	1450	--	167	84	21...	1345	139	241
05...	1500	--	166	86	25...	0740	112	101
11...	0955	--	287	260	28...	0845	334	609
17...	1025	--	164	44	31...	0750	125	113
21...	0950	--	165	58	AUG			
26...	0725	--	172	63	04...	0730	116	108
29...	1010	--	189	98	07...	0740	108	88
31...	0925	--	162	28	11...	0900	105	71
APR					13...	0750	169	195
03...	0740	--	149	39	15...	0930	112	90
10...	0820	--	133	26	18...	0830	171	204
14...	0945	--	188	27	19...	1405	112	69
17...	0840	--	192	11	*19...	1410	112	64
21...	1040	--	176	32	21...	0845	112	68
24...	0815	--	149	56	25...	0900	106	72
28...	0800	--	133	40	28...	0755	103	92
*29...	1420	--	128	15	SEP			
29...	1430	--	128	15	01...	0900	105	64
MAY					04...	0800	97	66
01...	0845	--	222	147	08...	0845	112	52
05...	0845	--	170	83	11...	0900	101	63
08...	0925	--	216	100	15...	0935	98	44
12...	0950	--	147	62	18...	0810	117	54
15...	0800	--	140	84	22...	1020	98	39
19...	0820	--	144	85	25...	0830	105	31
22...	0715	--	120	83	29...	0935	107	25

* Equal-width increment (EWI) sample

DAILY MEAN VALUES

[illegible]

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 for October and November 1934 published in WSP 1308.

REVISED RECORDS.--WSP 1438: 1935-36, 1937(M), 1939(M), 1941-43(M), 1946(M). WDR WI-76-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 642.50 ft above sea level. 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 discharges: Ice-affected periods, Nov. 26-28, Dec. 3-5, 19-28, and Jan. 7 to Feb. 18. Records good except those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	49	55	50	82	674	76	127	54	59	68	55
2	43	47	48	52	96	378	72	112	52	81	65	52
3	43	46	44	54	84	200	70	124	51	71	62	51
4	43	47	39	229	78	104	68	110	51	59	61	49
5	43	47	47	236	68	83	70	101	52	57	67	49
6	44	48	47	61	62	72	71	92	67	54	59	49
7	44	49	45	60	58	67	64	91	59	52	57	50
8	44	48	45	56	56	78	60	106	62	68	55	60
9	45	46	44	52	54	457	57	89	54	77	54	61
10	44	46	44	50	52	208	57	82	51	56	54	55
11	43	44	44	48	50	136	61	79	52	53	54	50
12	44	43	45	46	50	104	68	76	51	52	73	49
13	44	43	45	44	49	87	65	73	50	55	84	48
14	44	42	46	43	49	84	69	72	48	60	62	49
15	43	45	59	42	48	67	70	71	255	52	64	48
16	44	45	60	40	47	68	66	69	369	50	65	49
17	50	50	50	39	46	75	63	68	120	52	73	56
18	48	48	37	39	800	90	66	70	92	60	96	54
19	44	45	35	40	547	74	80	68	81	76	69	53
20	44	45	34	43	517	78	74	63	75	101	68	53
21	45	46	37	45	1180	82	71	60	146	109	65	50
22	50	45	39	240	317	82	68	58	111	82	62	53
23	61	46	39	200	127	76	64	57	85	74	59	63
24	53	46	38	170	82	71	63	58	79	71	58	57
25	47	44	33	130	68	94	60	58	97	69	55	54
26	46	35	45	110	73	89	57	57	74	121	55	53
27	45	38	47	90	85	81	56	55	68	87	55	50
28	44	42	50	82	91	90	56	56	64	109	54	54
29	60	46	51	78	---	99	55	61	63	87	52	54
30	82	54	47	74	---	88	66	60	62	77	63	51
31	54	---	50	72	---	81	---	56	---	71	73	---
TOTAL	1472	1365	1389	2615	4916	4117	1963	2379	2595	2202	1961	1579
MEAN	47.5	45.5	44.8	84.4	176	133	65.4	76.7	86.5	71.0	63.3	52.6
MAX	82	54	60	240	1180	674	80	127	369	121	96	63
MIN	43	35	33	39	46	67	55	55	48	50	52	48
CFSM	.33	.32	.32	.59	1.24	.94	.46	.54	.61	.50	.45	.37
IN.	.39	.36	.36	.69	1.29	1.08	.51	.62	.68	.58	.51	.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 1997, BY WATER YEAR (WY)												
MEAN	69.9	76.8	63.8	77.7	107	179	111	103	129	106	88.4	78.0
MAX	146	372	155	315	379	483	291	328	586	660	348	202
(WY)	1962	1962	1973	1946	1938	1959	1993	1960	1947	1993	1943	1942
MIN	25.3	29.2	23.7	22.1	24.3	33.4	42.0	36.1	34.3	24.0	30.3	33.7
(WY)	1951	1938	1959	1959	1959	1957	1990	1958	1936	1936	1937	1989

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1935 - 1997
ANNUAL TOTAL	22459	28553	
ANNUAL MEAN	61.4	78.2	99.1
HIGHEST ANNUAL MEAN			234
LOWEST ANNUAL MEAN			40.8
HIGHEST DAILY MEAN	(a)220	Feb 11	7830
LOWEST DAILY MEAN	(a)33	Dec 25	7.0
ANNUAL SEVEN-DAY MINIMUM	(a)36	Dec 19	18
INSTANTANEOUS PEAK FLOW		(b)	(c)43500
INSTANTANEOUS PEAK STAGE		(d)10.79	Feb 18
INSTANTANEOUS LOW FLOW		(e)20	Nov 26
ANNUAL RUNOFF (CFSM)	.43	.55	.00
ANNUAL RUNOFF (INCHES)	5.88	7.48	.70
10 PERCENT EXCEEDS	91	100	155
50 PERCENT EXCEEDS	54	57	66
90 PERCENT EXCEEDS	43	44	35

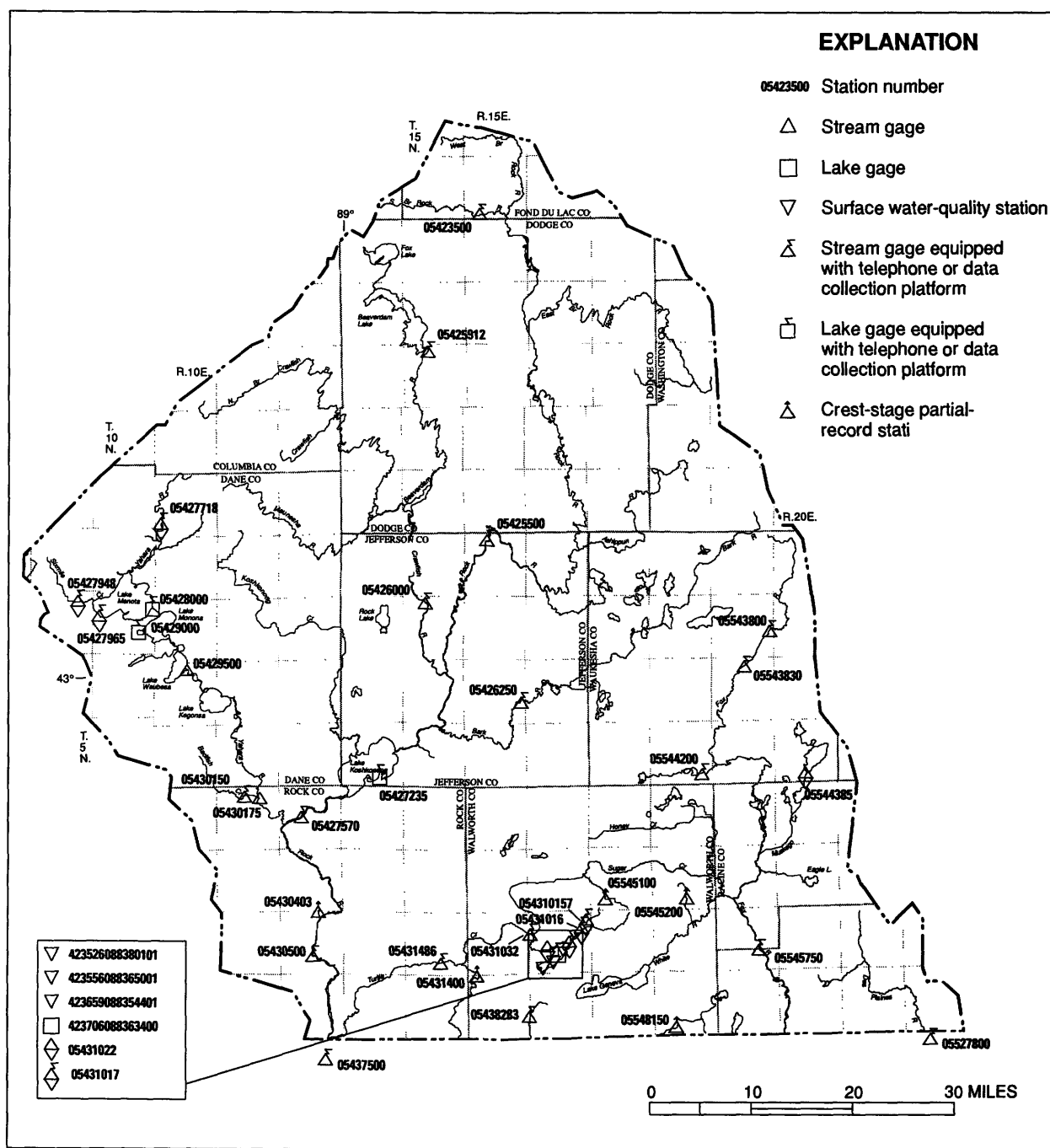
(a) Ice affected

(b) Unknown, ice affected

(c) From rating curve extended above 7,000 ft³/s on basis of slope-area measurement of peak flow

(d) Ice jam

(e) Result of freezeup



Base from U.S. Geological Survey 1:100,000 digital data;
modified by Wisconsin Department of Natural Resources.
Wisconsin Transverse Mercator projection.

ROCK-FOX RIVER BASIN

LOCATION.--Lat 43°38'30", long 88°43'14", in SW 1/4 NW 1/4 sec.33, T.14 N., R.15 E., Fond du Lac County, Hydrologic Unit 07090001, on left bank 260 ft upstream from U.S. Business Route 151 at Waupun, and 2.8 mi upstream from mouth.

PERIOD OF RECORD.--October 1948 to September 1969. March 1987 to current year. Monthly discharge for October 1948 published in WSP 1308.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 863.46 ft above sea level. October 1948 to September 1969, recording gage at site 150 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 23-28, Jan. 12-21, Jan. 26 to Feb. 1, Feb. 7-14, 22-25, Mar. 6 and 15.
Records good except those for ice-affected periods, which are fair (see page 11). Gage-height telemeter at station.

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	11	6.6	4.4	8.0	40	99	53	18	8.3	6.1	7.2
2	3.9	9.2	5.8	5.8	7.6	99	89	57	15	8.8	4.6	6.7
3	3.8	8.3	5.9	5.9	7.5	91	83	58	13	6.6	7.3	6.4
4	3.9	8.2	5.5	28	7.6	73	80	51	11	6.5	6.7	5.8
5	4.1	8.7	5.8	50	7.1	50	77	44	12	6.2	5.8	5.6
6	3.9	11	5.8	27	6.9	42	76	39	14	6.0	5.5	5.6
7	3.8	8.4	5.2	18	6.6	33	60	36	15	5.7	5.2	5.0
8	4.4	7.8	5.0	13	6.4	28	55	42	16	20	4.9	5.2
9	4.7	7.4	5.0	10	6.2	61	52	36	14	12	3.9	5.5
10	4.7	6.6	5.2	9.5	6.2	121	47	32	11	10	3.6	5.4
11	4.7	6.3	5.4	8.1	6.2	191	45	29	9.6	8.7	4.3	4.7
12	4.8	6.0	5.5	7.8	6.0	163	44	26	11	7.7	22	4.5
13	5.3	5.7	5.6	7.4	6.0	113	42	24	8.4	7.2	12	4.6
14	4.4	5.2	5.8	7.0	6.0	70	49	25	7.4	6.8	9.5	5.0
15	4.2	4.9	12	6.8	5.8	64	51	24	12	6.4	9.3	4.4
16	4.6	5.0	11	6.4	5.8	61	47	24	22	12	6.8	8.1
17	6.5	6.8	9.8	6.2	6.0	49	43	22	13	13	14	7.9
18	4.6	6.7	7.8	6.0	18	48	41	21	10	8.3	12	7.1
19	4.3	6.4	5.9	6.0	67	48	43	23	9.0	7.3	11	6.8
20	4.6	6.1	5.7	6.2	61	83	43	22	9.6	6.8	13	6.3
21	4.9	5.8	5.5	7.6	95	231	42	20	43	14	12	5.0
22	6.9	5.4	5.2	36	58	299	38	19	30	9.6	10	4.5
23	12	5.6	5.2	20	48	213	36	19	23	8.9	10	4.6
24	8.1	5.5	4.9	17	37	160	33	17	23	7.8	14	4.7
25	8.0	5.0	4.6	13	26	145	31	17	17	12	12	4.7
26	7.3	4.6	4.5	11	21	139	29	15	14	9.2	13	4.4
27	6.5	4.0	4.5	10	19	179	28	14	12	8.4	14	3.8
28	5.9	3.7	4.6	9.6	16	189	28	14	9.4	8.7	11	3.0
29	20	4.5	4.6	9.0	---	173	26	21	8.5	6.8	9.8	2.5
30	19	7.8	4.4	8.6	---	144	29	22	8.5	6.2	8.9	2.0
31	13	---	4.3	8.2	---	116	---	23	---	5.9	8.5	---
TOTAL	201.6	197.6	182.6	389.5	577.9	3516	1486	889	439.4	271.8	290.7	157.0
MEAN	6.50	6.59	5.89	12.6	20.6	113	49.5	28.7	14.6	8.77	9.38	5.23
MAX	20	11	12	50	95	299	99	58	43	20	22	8.1
MIN	3.8	3.7	4.3	4.4	5.8	28	26	14	7.4	5.7	3.6	2.0
CFSM	.10	.10	.09	.20	.32	1.78	.78	.45	.23	.14	.15	.08
IN.	.12	.12	.11	.23	.34	2.06	.87	.52	.26	.16	.17	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1997, BY WATER YEAR (WY)

MEAN	18.8	22.4	17.2	12.3	16.8	69.0	71.3	32.6	26.6	26.2	16.0	14.5
MAX	90.9	106	80.0	64.6	105	176	266	107	132	246	115	76.2
(WY)	1996	1962	1966	1996	1966	1952	1993	1960	1996	1993	1960	1960
MIN	.63	.53	.16	.094	.079	5.40	7.80	3.54	1.36	.95	.56	.55
(WY)	1965	1965	1959	1959	1959	1964	1964	1958	1964	1964	1964	1963

ROCK RIVER BASIN
05423500 SOUTH BRANCH ROCK RIVER AT WAUPUN, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1949 - 1997	
ANNUAL TOTAL	16441.7		8599.1		28.8	
ANNUAL MEAN	44.9		23.6		94.1	
HIGHEST ANNUAL MEAN					1993	
LOWEST ANNUAL MEAN					2.47	
HIGHEST DAILY MEAN	514	Jun 19	299	Mar 22	1280	Apr 4 1959
LOWEST DAILY MEAN	3.7	Nov 28	2.0	Sep 30	.00	(a)
ANNUAL SEVEN-DAY MINIMUM	4.0	Oct 2	3.6	Sep 24	.00	(b) Sep 7 1958
INSTANTANEOUS PEAK FLOW			349	Mar 22	(c) 1500	Apr 3 1959
INSTANTANEOUS PEAK STAGE			5.06	Mar 22	7.97	Apr 3 1959
INSTANTANEOUS LOW FLOW			1.8	Sep 29,30	(d)	
ANNUAL RUNOFF (CFSM)	.71		.37		.45	
ANNUAL RUNOFF (INCHES)	9.62		5.03		6.16	
10 PERCENT EXCEEDS	91		56		68	
50 PERCENT EXCEEDS	28		8.8		10	
90 PERCENT EXCEEDS	5.0		4.6		.90	

(a) Many days in 1958-59, 1963-64

(b) Also occurred in 1959

(c) From rating curve extended above 650 ft³/s

(d) No flow at times in 1949, 1953-54, 1958-59, 1963-64

REMARKS.--Estimated daily discharges: July 13-18 and ice-affected periods, Nov. 24, 25, 27-29, Dec. 19 to Jan. 1, Jan. 4-19, Jan. 23 to Feb. 1, Feb. 9, and Feb. 12-15, 17, 19. Records good except those for estimated daily discharges, which are poor (see page 11). Flow partly regulated by powerplant at Watertown. Gage-height telemeter at station.

- (a) Also occurred Sept. 9, 1944
- (b) Gage height, 4.17 ft
- (c) Gage height, 6.19 ft
- (d) Backwater from ice

ROCK RIVER BASIN

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 and crest-stage gage. Datum of gage is 839.42 ft above sea level.

REMARKS.--No estimated daily discharge. Records good (see page 11). Flow regulated by dam 0.8 mi upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	21	23	50	73	193	397	71	28	128	116	68
2	5.2	19	23	50	72	199	415	129	28	151	116	71
3	2.3	15	23	69	71	203	347	185	26	151	116	68
4	1.8	16	23	94	75	207	370	175	27	138	117	63
5	1.9	17	43	97	76	210	358	193	26	130	113	57
6	3.3	20	43	95	74	207	379	232	28	130	69	60
7	2.7	22	25	95	72	173	392	224	31	122	45	58
8	2.2	25	25	94	71	152	362	249	30	143	26	56
9	2.2	26	25	95	70	164	323	272	29	139	17	57
10	3.2	28	25	97	69	169	324	215	29	137	19	85
11	2.1	27	11	95	68	182	341	213	28	135	17	92
12	2.0	22	3.1	94	68	188	351	220	32	133	24	84
13	1.9	19	14	92	67	194	341	184	29	135	22	79
14	1.7	19	22	90	66	198	325	82	27	143	19	80
15	1.7	18	29	91	65	188	319	27	26	137	23	77
16	6.2	17	46	89	65	200	330	21	43	137	21	76
17	11	18	60	87	64	253	312	20	33	154	28	89
18	14	20	60	85	67	276	291	21	33	150	27	72
19	9.0	20	58	82	67	274	288	28	32	145	25	78
20	8.1	20	57	80	94	277	282	27	32	143	32	81
21	8.5	20	54	79	151	287	275	23	102	159	33	72
22	11	20	53	82	169	307	268	22	130	150	31	70
23	14	21	55	80	171	318	214	22	127	149	42	68
24	15	21	55	80	169	323	185	23	141	145	56	64
25	9.8	20	53	82	170	338	153	24	171	141	59	64
26	9.7	20	54	81	171	343	113	22	162	147	64	57
27	14	20	53	80	176	349	111	21	151	145	74	52
28	12	20	52	79	184	361	111	20	141	143	74	58
29	18	21	51	78	---	365	110	26	136	134	73	69
30	36	24	50	76	---	368	96	28	134	125	74	57
31	24	---	49	75	---	372	---	28	---	120	78	---
TOTAL	257.0	616	1217.1	2593	2775	7838	8483	3047	1992	4339	1650	2082
MEAN	8.29	20.5	39.3	83.6	99.1	253	283	98.3	66.4	140	53.2	69.4
MAX	36	28	60	97	184	372	415	272	171	159	117	92
MIN	1.7	15	3.1	50	64	152	96	20	26	120	17	52
CFSM	.05	.13	.25	.53	.63	1.61	1.80	.63	.42	.89	.34	.44
IN.	.06	.15	.29	.61	.66	1.86	2.01	.72	.47	1.03	.39	.49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1997, BY WATER YEAR (WY)

	MEAN	92.8	122	98.5	83.7	76.0	181	186	102	86.4	100	64.9	67.3
MAX	446	351	289	281	182	312	527	449	369	561	249	282	286
(WY)	1987	1986	1986	1986	1986	1994	1993	1993	1993	1993	1986	1986	1988
MIN	2.89	6.66	14.2	21.3	20.8	10.9	44.2	4.55	4.86	2.86	3.05	5.13	5.13
(WY)	1989	1989	1995	1995	1988	1988	1994	1989	1985	1988	1988	1988	1988

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1985 - 1997

ANNUAL TOTAL	39234.8	36889.1	
ANNUAL MEAN	107	101	106
HIGHEST ANNUAL MEAN			244
LOWEST ANNUAL MEAN			39.0
HIGHEST DAILY MEAN	384	Jun 24	657
LOWEST DAILY MEAN	1.7	Oct 14-15	.64
ANNUAL SEVEN-DAY MINIMUM	2.1	Oct 9	.77
INSTANTANEOUS PEAK FLOW			507
INSTANTANEOUS PEAK STAGE			8.49
ANNUAL RUNOFF (CFSM)	.68		.64
ANNUAL RUNOFF (INCHES)	9.30		8.74
10 PERCENT EXCEEDS	208		270
50 PERCENT EXCEEDS	124		71
90 PERCENT EXCEEDS	5.2		17
			6.6

(a) Gage height, 9.32 ft

ROCK RIVER BASIN
05426000 CRAWFISH RIVER AT MILFORD, WI

331

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 sea level. Prior to July 28, 1966, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 23-26, Nov. 30 to Dec. 2, and Dec. 15 to Mar. 16. Records good except those for ice-affected periods, which are fair (see page 11). Some diurnal fluctuation at lower flows, due to manipulation of gates on small dams upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	352	160	170	250	1400	1420	655	260	522	725	567
2	124	380	180	160	240	1400	1400	664	240	492	680	539
3	116	346	201	160	240	1500	1370	777	223	503	616	497
4	97	331	209	160	240	1500	1290	793	210	569	578	443
5	91	337	220	200	250	1600	1230	791	193	602	551	393
6	84	310	227	260	240	1600	1100	806	190	638	508	367
7	129	295	221	330	230	1500	1120	767	185	615	482	343
8	123	279	208	350	230	1400	1190	777	203	704	457	317
9	117	267	200	340	230	1400	1150	803	217	725	418	301
10	135	272	206	330	220	1400	1090	758	232	705	369	299
11	93	238	205	330	220	1500	1060	701	220	688	338	286
12	98	197	203	310	210	1600	1070	731	213	657	333	270
13	118	189	204	300	210	1700	1000	689	214	620	345	258
14	113	179	205	290	200	1600	958	655	251	597	344	262
15	105	177	200	270	190	1500	948	630	213	546	364	257
16	97	163	220	260	190	1500	1020	558	367	494	391	241
17	88	143	250	250	190	1530	1030	541	489	507	394	265
18	128	212	290	230	230	1480	994	496	577	564	390	267
19	126	207	300	220	300	1370	987	468	614	637	383	301
20	122	189	280	210	450	1310	977	429	594	679	387	352
21	122	180	290	190	600	1290	978	393	683	750	392	333
22	122	179	250	210	800	1320	954	348	754	785	377	322
23	134	170	220	240	1000	1380	917	311	775	791	364	326
24	159	170	210	270	1100	1390	875	305	766	776	438	305
25	158	160	200	300	1200	1450	832	305	795	745	577	298
26	163	150	200	310	1200	1430	777	276	757	818	685	287
27	160	144	190	310	1300	1430	722	260	687	906	736	260
28	179	141	180	300	1300	1440	666	239	630	880	734	248
29	177	142	180	280	---	1450	586	228	580	863	687	229
30	236	150	170	270	---	1450	586	235	553	830	637	232
31	303	---	170	260	---	1460	---	250	---	780	613	---
TOTAL	4122	6649	6649	8070	13260	45280	30297	16639	12885	20988	15293	9665
MEAN	133	222	214	260	474	1461	1010	537	430	677	493	322
MAX	303	380	300	350	1300	1700	1420	806	795	906	736	567
MIN	84	141	160	160	190	1290	586	228	185	492	333	229
CFSM	.17	.29	.28	.34	.62	1.92	1.33	.70	.56	.89	.65	.42
IN.	.20	.32	.32	.39	.65	2.21	1.48	.81	.63	1.02	.75	.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1997, BY WATER YEAR (WY)												
MEAN	274	305	253	241	302	1047	975	491	335	286	196	245
MAX	2565	1958	1065	1278	1576	2473	3206	2337	1734	2189	899	1881
(WY)	1987	1986	1983	1946	1938	1948	1959	1973	1996	1993	1993	1986
MIN	16.8	25.9	18.0	15.2	16.2	56.2	193	73.8	34.4	17.9	18.0	8.11
(WY)	1964	1950	1959	1940	1959	1940	1964	1958	1934	1965	1964	1958

SUMMARY STATISTICS			FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1931 - 1997	
ANNUAL TOTAL			222858		189797			
ANNUAL MEAN			609		520		414	
HIGHEST ANNUAL MEAN							1117	
LOWEST ANNUAL MEAN							61.8	
HIGHEST DAILY MEAN			3190	Jun 23	(a) 1700	Mar 13	6130	Apr 6 1959
LOWEST DAILY MEAN			84	Oct 6	84	Oct 6	.30	Sep 15 1958
ANNUAL SEVEN-DAY MINIMUM			94	Sep 19	102	Oct 11	1.5	Sep 11 1958
INSTANTANEOUS PEAK FLOW					(b)		6140	Apr 6 1959
INSTANTANEOUS PEAK STAGE					(c) 5.80	Mar 6	11.15	Apr 6 1959
ANNUAL RUNOFF (CFSM)			.80		.68		.54	
ANNUAL RUNOFF (INCHES)			10.88		9.27		7.38	
10 PERCENT EXCEEDS			1010		1290		1090	
50 PERCENT EXCEEDS			557		333		190	
90 PERCENT EXCEEDS			122		160		38	

- (a) Ice affected
(b) Unknown, ice affected
(c) Backwater from ice

ROCK RIVER BASIN
05426250 BARK RIVER NEAR ROME, WI

LOCATION.--Lat 42°57'37" long 88°40'14" (revised), 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 current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 810 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 25-29, Dec. 2, 7, Dec. 17 to Jan. 3, and Jan. 6 to Feb. 18. Records good except those for ice-affected periods, which are fair (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	128	74	58	68	189	142	118	70	196	100	139
2	39	116	72	60	68	203	138	138	67	174	97	131
3	33	108	75	68	70	200	133	153	66	144	85	145
4	34	100	72	84	70	202	132	142	66	156	83	130
5	35	96	69	92	72	208	132	142	63	143	79	114
6	42	91	70	84	72	219	124	137	61	150	74	109
7	39	85	64	80	74	198	106	158	59	159	74	102
8	35	82	68	74	72	182	119	185	57	166	75	98
9	33	79	65	70	68	179	122	151	56	152	78	87
10	33	77	63	64	64	180	115	151	48	161	78	83
11	33	73	63	60	64	182	108	144	36	187	76	80
12	34	74	62	56	62	188	108	118	36	180	70	77
13	33	74	64	54	60	192	108	109	36	155	70	76
14	30	68	66	54	58	189	110	114	36	134	71	73
15	27	68	77	54	56	169	108	114	34	87	79	70
16	40	69	78	54	56	167	83	116	58	83	88	68
17	53	71	74	54	56	152	92	117	60	87	92	65
18	50	64	64	54	66	147	99	116	57	88	92	48
19	56	66	64	56	94	141	106	108	67	97	125	46
20	81	66	60	56	102	140	107	98	69	107	113	50
21	69	68	60	60	191	140	111	91	135	124	99	52
22	65	67	60	64	214	140	123	91	183	118	95	54
23	70	67	62	80	226	141	117	88	179	108	91	60
24	65	63	64	84	225	141	108	71	181	101	101	64
25	67	56	60	80	215	138	106	73	159	96	104	66
26	68	48	58	76	204	128	102	75	150	101	105	70
27	68	48	58	72	185	130	98	81	187	108	116	86
28	66	50	58	70	179	138	92	91	201	99	129	82
29	80	54	60	66	---	140	92	95	190	98	138	69
30	100	69	60	62	---	145	99	92	194	94	121	57
31	130	---	60	66	---	143	---	72	---	103	144	---
TOTAL	1648	2245	2024	2066	3011	5151	3340	3549	2861	3956	2942	2451
MEAN	53.2	74.8	65.3	66.6	108	166	111	114	95.4	128	94.9	81.7
MAX	130	128	78	92	226	219	142	185	201	196	144	145
MIN	27	48	58	54	56	128	83	71	34	83	70	46
CFSM	.44	.61	.54	.55	.88	1.36	.91	.94	.78	1.05	.78	.67
IN.	.50	.68	.62	.63	.92	1.57	1.02	1.08	.87	1.21	.90	.75

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1997, BY WATER YEAR (WY)

	MEAN	73.2	97.7	84.7	68.5	79.0	131	147	101	71.4	65.1	66.2	71.3
MAX	214	214	138	105	118	248	327	180	200	176	127	212	
(WY)	1987	1986	1986	1985	1985	1986	1993	1993	1996	1993	1995	1986	
MIN	23.6	48.6	34.2	40.4	34.5	59.8	85.7	48.1	13.3	7.66	6.04	15.4	
(WY)	1989	1990	1990	1989	1989	1980	1989	1989	1988	1988	1988	1988	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1980 - 1997

ANNUAL TOTAL	30929	35244	
ANNUAL MEAN	84.5	96.6	88.7
HIGHEST ANNUAL MEAN			139
LOWEST ANNUAL MEAN			52.9
HIGHEST DAILY MEAN	301	Jun 11	459
LOWEST DAILY MEAN	19	Sep 15-19	3.6
ANNUAL SEVEN-DAY MINIMUM	19	Sep 14	3.8
INSTANTANEOUS PEAK FLOW		253	476
INSTANTANEOUS PEAK STAGE		1.78	2.56
ANNUAL RUNOFF (CFSM)	.69	.79	.73
ANNUAL RUNOFF (INCHES)	9.43	10.75	9.88
10 PERCENT EXCEEDS	136	166	158
50 PERCENT EXCEEDS	71	82	76
90 PERCENT EXCEEDS	41	54	31

05427235 LAKE KOSHKONONG NEAR NEWVILLE, WI

LOCATION.--Lat 42°51'27", long 88°56'27", in NW 1/4 NE 1/4 sec.34, T.5 N., R.13 E., Jefferson County, Hydrologic Unit 07090001, 80 ft east of Pottawatomie Trail Bridge at Bingham Point Estates, and 4.5 mi northeast of Newville.

DRAINAGE AREA.--2,560 mi², at lake outlet. Area of Lake Koshkonong, 16.3 mi².

PERIOD OF RECORD.--July 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 770.00 ft above sea level.

REMARKS.--No estimated daily gage heights. Records good (see page 11). Lake level regulated by dam at Indianford. Gage-height tele-meter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded gage height, 12.23 ft, Apr. 25, 1993; minimum recorded, 5.40 ft, Dec. 26, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 9.02 ft, Mar. 14; minimum recorded, 5.63 ft, Nov. 26, 27.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.08	6.36	5.75	6.05	6.34	8.28	8.35	7.40	6.10	7.52	6.88	6.52
2	6.10	6.34	5.79	6.05	6.33	8.36	8.36	7.30	6.08	7.47	6.84	6.48
3	6.08	6.31	5.83	6.05	6.30	8.49	8.36	7.33	6.09	7.42	6.78	6.40
4	6.09	6.31	5.87	6.09	6.31	8.62	8.33	7.32	6.11	7.36	6.72	6.33
5	6.11	6.30	5.88	6.18	6.31	8.70	8.31	7.37	6.11	7.32	6.62	6.26
6	6.14	6.26	5.88	6.26	6.30	8.72	8.30	7.36	6.13	7.33	6.53	6.27
7	6.18	6.23	5.88	6.33	6.29	8.72	8.35	7.32	6.12	7.30	6.44	6.25
8	6.13	6.21	5.87	6.40	6.27	8.70	8.32	7.39	6.12	7.33	6.36	6.22
9	6.09	6.19	5.86	6.46	6.25	8.71	8.25	7.39	6.11	7.35	6.28	6.19
10	6.09	6.17	5.86	6.51	6.24	8.76	8.19	7.31	6.11	7.36	6.22	6.20
11	6.09	6.15	5.86	6.52	6.23	8.83	8.16	7.29	6.16	7.37	6.15	6.19
12	6.14	6.10	5.86	6.52	6.21	8.91	8.16	7.28	6.22	7.36	6.20	6.17
13	6.17	6.05	5.87	6.51	6.19	8.97	8.13	7.19	6.24	7.32	6.23	6.16
14	6.17	6.00	5.88	6.48	6.17	9.00	8.09	7.15	6.24	7.28	6.19	6.16
15	6.13	5.96	5.93	6.46	6.14	8.99	8.07	7.12	6.26	7.16	6.22	6.15
16	6.11	5.91	5.98	6.43	6.12	8.93	8.11	7.01	6.54	7.03	6.23	6.14
17	6.19	5.95	6.01	6.40	6.10	8.88	8.11	6.93	6.50	6.91	6.23	6.22
18	6.26	5.96	6.02	6.35	6.10	8.81	8.09	6.84	6.51	6.82	6.22	6.17
19	6.21	5.94	6.02	6.31	6.19	8.74	8.11	6.79	6.53	6.76	6.20	6.20
20	6.18	5.90	6.03	6.26	6.35	8.65	8.12	6.68	6.55	6.72	6.21	6.23
21	6.17	5.87	6.04	6.22	6.74	8.57	8.13	6.56	6.65	6.75	6.23	6.21
22	6.15	5.83	6.04	6.20	7.17	8.49	8.09	6.47	6.85	6.74	6.24	6.22
23	6.20	5.79	6.06	6.21	7.56	8.43	8.04	6.38	7.06	6.75	6.28	6.24
24	6.23	5.76	6.09	6.25	7.86	8.38	7.97	6.32	7.26	6.76	6.34	6.24
25	6.22	5.70	6.09	6.30	8.07	8.37	7.90	6.26	7.48	6.78	6.39	6.24
26	6.23	5.65	6.10	6.35	8.20	8.36	7.82	6.16	7.60	6.83	6.43	6.22
27	6.27	5.64	6.09	6.38	8.27	8.37	7.74	6.08	7.64	6.87	6.48	6.20
28	6.26	5.65	6.07	6.39	8.27	8.37	7.66	6.05	7.64	6.95	6.52	6.21
29	6.29	5.66	6.05	6.39	---	8.37	7.56	6.08	7.61	6.95	6.54	6.25
30	6.48	5.70	6.05	6.38	---	8.37	7.45	6.10	7.58	6.94	6.54	6.19
31	6.39	---	6.04	6.37	---	8.37	---	6.11	---	6.91	6.55	---
MEAN	6.18	6.00	5.96	6.32	6.67	8.62	8.09	6.85	6.61	7.09	6.40	6.24
MAX	6.48	6.36	6.10	6.52	8.27	9.00	8.36	7.40	7.64	7.52	6.88	6.52
MIN	6.08	5.64	5.75	6.05	6.10	8.28	7.45	6.05	6.08	6.72	6.15	6.14

ROCK RIVER BASIN
05427570 ROCK RIVER AT INDIANFORD, WI

LOCATION.--Lat 42°48'15", long 89°05'25", in SW 1/4 SW 1/4 sec.16, T.4 N., R.12 E., Rock County, Hydrologic Unit 07090001, on right bank 50 ft upstream from bridge on County Trunk Highways F and M, 250 ft upstream from dam in Indianford, and 1.8 mi upstream from Yahara River.

DRAINAGE AREA.--2,630 mi².

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

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 763.84 ft above sea level (Rock County Surveyor bench mark). Prior to Oct. 1, 1990, at datum 0.10 ft lower.

REMARKS.--No estimated daily discharges. Records fair (see page 11). Natural flow of stream affected by dam in Indianford. Discharge is adjusted for flow through wicket gates. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	594	1220	453	935	1210	3830	4010	2810	947	2900	2170	1710
2	324	1300	489	946	1180	3990	3990	2840	829	2700	2180	1730
3	357	1240	541	980	1200	4190	4000	2810	689	2640	2140	1660
4	348	1300	790	999	1210	4320	3940	2750	660	2690	2080	1500
5	345	1310	1000	929	1170	4450	3910	2640	650	2600	1940	1310
6	317	1240	982	1100	1130	4440	3160	2830	699	2660	1770	1310
7	755	1230	959	1190	1170	4500	3570	2840	694	2650	1710	1370
8	808	1230	950	1280	1160	4470	3850	2660	737	2660	1630	1330
9	737	1190	966	1380	1120	4460	3850	2820	687	2740	1530	999
10	532	1200	998	1370	1110	4520	3760	2770	463	2690	1450	782
11	277	1190	1040	1360	1080	4700	3790	2470	319	2690	1330	756
12	326	1120	1000	1330	1110	4850	3850	2660	367	2660	1290	745
13	380	1100	991	1340	1080	4990	3650	2670	430	2590	1320	716
14	698	1060	1050	1330	1020	4920	3580	2550	437	2540	1280	732
15	742	1060	986	1320	1020	4880	3420	2480	323	2380	1210	740
16	465	979	1070	1230	1020	4820	3540	2320	1400	2220	1330	672
17	296	818	1060	1170	947	4730	3590	2400	1830	2120	1410	716
18	596	1000	1030	1160	921	4690	3600	2270	1800	2050	1370	633
19	824	1030	1020	1130	1060	4520	3650	2160	1810	2040	1340	694
20	824	950	1050	1120	1240	4500	3670	2050	1770	1960	1310	798
21	808	932	1080	1080	1980	4310	3750	1950	1970	2040	1410	764
22	844	888	1160	999	2460	4220	3640	1830	2180	2080	1060	751
23	726	891	1090	1120	2920	4150	3590	1620	2420	2040	872	814
24	767	875	957	1130	3300	4120	3480	1560	2530	2050	980	760
25	817	774	940	1120	3510	4020	3410	1670	2840	2010	1460	754
26	819	549	946	1200	3720	3970	3320	1530	3050	2070	1650	797
27	759	388	955	1240	3820	4020	3240	1300	3110	2160	1700	752
28	834	395	963	1200	3810	4040	3120	1020	3130	2300	1780	680
29	864	409	956	1240	---	4020	2900	828	3100	2340	1780	563
30	887	435	955	1230	---	4050	3000	840	3080	2290	1720	704
31	1160	---	955	1200	---	4070	---	935	---	2250	1740	---
TOTAL	19830	29303	29382	36358	47678	135760	107830	66883	44951	73810	47942	28242
MEAN	640	977	948	1173	1703	4379	3594	2158	1498	2381	1547	941
MAX	1160	1310	1160	1380	3820	4990	4010	2840	3130	2900	2180	1730
MIN	277	388	453	929	921	3830	2900	828	319	1960	872	563
CFSM	.24	.37	.36	.45	.65	1.67	1.37	.82	.57	.91	.59	.36
IN.	.28	.41	.42	.51	.67	1.92	1.53	.95	.64	1.04	.68	.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1997, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	1475	1736	1673	1160	1285	3021	3801	2373	1526	1414	1042	1148											
MAX	7729	5047	3745	2622	2403	6113	9466	6028	4866	4549	3377	3911											
(WY)	1987	1986	1986	1985	1988	1985	1979	1993	1996	1993	1993	1986											
MIN	216	297	262	254	283	795	1538	317	185	158	130	182											
(WY)	1977	1977	1977	1977	1977	1977	1977	1977	1988	1988	1988	1988											

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1975 - 1997
ANNUAL TOTAL	714468	667969	
ANNUAL MEAN	1952	1830	1807
HIGHEST ANNUAL MEAN			3252
LOWEST ANNUAL MEAN			509
HIGHEST DAILY MEAN	7410	4990	11700
LOWEST DAILY MEAN	277	277	39
ANNUAL SEVEN-DAY MINIMUM	370	432	85
INSTANTANEOUS PEAK FLOW		5040	11900
INSTANTANEOUS PEAK STAGE		13.79	(a)16.23
ANNUAL RUNOFF (CFSM)	.74	.70	.69
ANNUAL RUNOFF (INCHES)	10.11	9.45	9.34
10 PERCENT EXCEEDS	3490	3850	3810
50 PERCENT EXCEEDS	1720	1300	1310
90 PERCENT EXCEEDS	532	694	359

(a) Datum then in use

ROCK RIVER BASIN
05427718 YAHARA RIVER AT WINDSOR, WI

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LOCATION.--Lat 43°12'32", long 89°21'09", in NW 1/4 NE 1/4 sec.31, T.9 N., R.10 E., Dane County, Hydrologic Unit 07090001, at bridge on road to Lake Windsor Country Club.

DRAINAGE AREA.--73.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1976 to December 1981, October 1989 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 870 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 26-29, Dec. 19-28, Jan. 6 to Feb. 17, Mar. 7, 15, and 16. Records fair except those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	23	19	16	17	173	26	41	17	20	16	15
2	17	22	18	16	18	231	25	30	17	20	16	14
3	16	21	17	17	20	126	24	31	16	19	17	14
4	17	21	17	104	18	69	24	27	16	18	18	14
5	17	21	17	115	17	37	25	24	16	18	17	14
6	17	22	17	46	16	27	26	22	17	21	16	14
7	19	22	17	28	15	24	23	21	17	19	15	13
8	18	21	16	19	15	24	22	26	18	41	14	13
9	18	21	16	18	15	143	21	22	17	26	13	14
10	18	20	16	18	15	144	21	20	16	20	14	13
11	17	20	16	17	14	86	21	20	16	18	14	13
12	18	19	16	17	13	43	22	20	16	17	28	13
13	18	19	17	17	14	30	23	19	16	16	22	13
14	18	19	17	17	14	27	26	19	15	17	16	13
15	18	18	23	17	14	25	25	19	15	16	16	13
16	18	18	20	16	13	25	24	19	36	15	15	13
17	19	20	18	16	14	31	23	18	23	25	16	15
18	19	19	17	16	170	33	22	18	19	20	17	13
19	18	19	16	17	288	30	23	19	18	17	16	13
20	18	19	16	17	166	38	23	18	18	20	16	13
21	19	18	15	18	325	37	24	18	22	30	16	12
22	20	18	15	120	223	33	22	17	24	21	15	12
23	25	19	15	60	90	27	21	17	21	17	15	13
24	22	18	14	35	44	25	21	17	21	15	15	12
25	21	18	14	25	35	32	21	17	23	23	15	12
26	20	17	15	20	26	33	20	17	21	42	15	12
27	20	16	15	17	27	32	20	16	21	42	15	12
28	20	16	15	17	24	35	20	17	20	29	14	12
29	33	17	16	16	---	37	20	21	21	21	14	11
30	42	19	16	16	---	30	21	19	23	18	15	11
31	26	---	16	17	---	28	---	18	---	17	15	---
TOTAL	623	580	512	925	1680	1715	679	647	576	678	496	389
MEAN	20.1	19.3	16.5	29.8	60.0	55.3	22.6	20.9	19.2	21.9	16.0	13.0
MAX	42	23	23	120	325	231	26	41	36	42	28	15
MIN	16	16	14	16	13	24	20	16	15	15	13	11
CFSM	.27	.26	.22	.41	.82	.75	.31	.28	.26	.30	.22	.18
IN.	.31	.29	.26	.47	.85	.87	.34	.33	.29	.34	.25	.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1997, BY WATER YEAR (WY)

	MEAN	16.2	17.4	15.2	16.8	27.0	44.1	23.5	18.7	21.5	22.8	17.9	18.4
MAX	29.2	30.4	27.0	32.5	74.2	135	47.8	35.3	47.1	95.3	40.3	50.1	
(WY)	1994	1994	1994	1996	1994	1976	1993	1995	1996	1993	1993	1980	
MIN	7.75	8.78	8.54	6.50	4.76	11.8	14.1	7.71	7.48	7.12	7.29	7.12	
(WY)	1978	1978	1978	1978	1978	1978	1978	1977	1977	1977	1991	1977	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1976 - 1997

ANNUAL TOTAL	9441	9500	
ANNUAL MEAN	25.8	26.0	21.2
HIGHEST ANNUAL MEAN			39.1
LOWEST ANNUAL MEAN			10.9
HIGHEST DAILY MEAN	299	325	519
LOWEST DAILY MEAN	(a) 14	11	(a) 4.6
ANNUAL SEVEN-DAY MINIMUM	(a) 15	12	(a) 4.6
INSTANTANEOUS PEAK FLOW		464	2050
INSTANTANEOUS PEAK STAGE		5.54	6.58
INSTANTANEOUS LOW FLOW		(b) 6.2	(b) 2.9
ANNUAL RUNOFF (CFSM)	.35	.35	.29
ANNUAL RUNOFF (INCHES)	4.77	4.80	3.91
10 PERCENT EXCEEDS	33	33	32
50 PERCENT EXCEEDS	19	18	16
90 PERCENT EXCEEDS	16	14	8.4

(a) Ice affected

(b) Result of freezeup

ROCK RIVER BASIN
05427718 YAHARA RIVER AT WINDSOR, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1975 to September 1980, October 1989 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: March 1990 to current year.

TOTAL-PHOSPHORUS DISCHARGE: March 1990 to current year.

TOTAL ORTHO-PHOSPHORUS DISCHARGE: October 1990 to September 1992.

INSTRUMENTATION.--Water-quality sampler since March 1990.

REMARKS.--Records good. Samples are point samples unless otherwise indicated.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 7,070 mg/L, June 29, 1990; minimum observed, 4.0 mg/L, Aug. 24, 1994.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 1,280 tons, July 5, 1993; minimum daily, 0.16 ton, Jan. 6-7, 1991.

TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 5.10 mg/L, June 7, 1993; minimum observed, 0.01 mg/L, Jan. 31, 1991.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 3,240 lb, Feb. 20, 1994; minimum daily, 0.81 lb, Jan. 31, 1991.

TOTAL ORTHO-PHOSPHORUS CONCENTRATIONS: Maximum observed, 1.10 mg/L, Mar. 2, 3, 1991; minimum observed, <0.01 mg/L, Nov. 13, 1990 and June 26, 1994.

TOTAL ORTHO-PHOSPHORUS DISCHARGE: Maximum daily, 1,260 lb, Mar. 2, 1991; minimum daily, 0.49 lb, Nov. 26, 1990.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 1,130 mg/L, Feb. 18; minimum observed, 11 mg/L, Aug. 27.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 327 tons, Feb. 21; minimum daily, 0.44 ton, Aug. 27-29.

TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 2.10 mg/L, Feb. 18 and Mar. 9; minimum observed, 0.02 mg/L, Dec. 2.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 3,230 lb, Feb. 21; minimum daily, 1.51 lb, Dec. 24-25.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	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)
OCT 1996						
*02...	0921	--	18	0.080	--	12
29...	1445	--	30	0.240	--	41
29...	1715	--	48	0.260	--	127
29...	2130	--	57	0.280	--	96
30...	0530	--	52	0.340	--	144
30...	0800	--	47	0.320	--	48
30...	2345	--	28	0.360	--	22
NOV						
*01...	1240	--	23	0.080	--	43
DEC						
*02...	1352	--	16	0.020	--	17
JAN 1997						
04...	1030	--	68	1.20	--	419
04...	1200	--	107	1.40	0.450	584
04...	1345	--	156	1.60	0.650	566
04...	1430	--	175	--	--	441
04...	1600	--	198	1.70	0.850	371
04...	2400	--	157	1.90	--	291
05...	0745	--	109	1.80	0.980	218
05...	1545	--	107	1.30	--	81
05...	2115	--	73	0.940	--	46
*06...	1125	46	--	0.590	--	99
*15...	1145	17	--	0.070	--	19
22...	0400	120	--	0.590	--	106
22...	0500	120	--	1.10	0.430	365
22...	0615	120	--	1.10	--	274
22...	0845	120	--	1.40	0.780	143
22...	1530	120	--	1.60	--	231
23...	0345	60	--	1.50	1.00	75
23...	1200	60	--	1.20	--	68
23...	1430	60	--	1.00	--	53
24...	0900	35	--	--	--	25
30...	1500	16	--	0.130	--	26

* Equal-width increment (EWI) sample

05427718 YAHARA RIVER AT WINDSOR, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
FEB 1997					
18...	1245	31	0.620	--	305
18...	1345	65	1.40	0.310	706
18...	1430	144	2.10	0.250	1130
18...	1515	306	1.60	0.380	676
18...	1530	358	1.40	--	678
18...	2300	333	1.90	--	287
*19...	0843	283	1.70	--	167
19...	0846	283	1.70	--	179
*19...	1614	315	1.70	--	180
19...	1618	315	1.70	0.830	212
20...	0230	220	1.40	--	105
20...	1600	115	1.30	--	100
20...	2215	159	--	--	200
21...	0115	175	1.60	--	189
21...	0445	222	1.70	0.860	175
21...	0715	355	1.70	--	314
21...	0830	417	1.80	0.870	394
21...	1630	352	2.00	0.880	527
22...	0030	316	2.00	--	249
22...	1145	216	1.60	--	170
22...	2230	132	--	--	152
23...	1445	83	1.30	--	183
24...	1555	53	0.820	--	112
MAR					
01...	0430	37	0.490	--	138
01...	1100	74	0.970	--	207
01...	1300	142	1.20	0.430	448
01...	1400	226	1.60	--	628
01...	1500	308	1.60	--	615
01...	1600	358	1.80	0.700	593
01...	2230	291	2.00	--	293
02...	0145	239	1.90	--	241
02...	0945	230	--	--	159
02...	1515	264	1.60	0.890	238
02...	2300	186	1.50	--	172
03...	1005	122	1.20	--	88
*03...	1012	122	1.20	--	92
03...	1530	128	--	--	314
04...	0500	77	1.10	--	75
*05...	1421	34	0.360	--	30
09...	0815	34	0.330	--	131
09...	0945	75	0.890	--	496
09...	1015	112	--	--	427
09...	1045	162	1.20	0.310	612
09...	1145	240	1.50	--	652
09...	1230	272	1.60	0.260	572
09...	1830	226	2.10	0.200	390
10...	0100	191	1.40	--	276
10...	1045	136	1.20	--	153
10...	2215	106	0.930	--	156
11...	0615	110	--	--	152
11...	1830	65	0.540	--	72
14...	0230	29	0.180	--	18
17...	2000	51	0.460	--	148
19...	0245	32	--	--	28
20...	0600	42	0.230	--	53
20...	1328	37	--	--	68
22...	1400	32	0.160	--	15
28...	1900	43	0.141	--	45
APR					
*15...	0845	26	0.039	--	25
30...	2315	29	0.248	--	69
MAY					
01...	0245	48	0.337	--	169
01...	1045	42	0.153	--	34
02...	1045	28	0.092	--	12
02...	1845	34	0.093	--	20
03...	1045	31	--	--	13
08...	0400	29	--	--	30
21...	1410	17	--	--	17
*27...	1333	16	0.100	--	16
29...	1030	27	0.212	--	111

* Equal-width increment (EWI) sample

ROCK RIVER BASIN
05427718 YAHARA RIVER AT WINDSOR, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDEED (MG/L) (80154)
JUN 1997					
16...	0145	27	0.362	--	154
16...	0445	36	0.246	--	222
16...	0530	49	0.594	--	414
16...	0615	59	0.656	--	453
16...	0945	44	0.420	--	144
16...	1730	31	--	--	86
17...	0930	24	0.190	--	41
22...	0230	29	0.274	--	100
24...	2345	27	0.281	--	105
25...	0415	22	0.238	--	68
30...	1200	25	0.702	--	207
30...	1555	26	0.286	--	107
JUL					
06...	0845	26	0.307	--	95
08...	0715	29	0.282	--	71
08...	0900	43	--	--	163
08...	0930	56	0.530	0.118	290
08...	1015	71	0.681	0.119	395
08...	1445	59	0.563	0.180	215
09...	0045	33	0.333	--	152
09...	1828	23	0.242	--	38
17...	1300	29	0.266	--	158
17...	1400	37	0.344	--	169
17...	2030	25	0.232	--	70
*18...	0757	21	0.217	--	56
20...	1300	29	0.281	--	231
21...	0300	24	0.223	--	130
21...	0545	34	--	--	195
21...	0700	42	0.591	--	397
21...	1115	37	0.324	--	144
22...	0130	24	0.265	--	136
22...	1645	20	0.165	--	42
25...	1930	24	0.260	--	105
25...	2045	36	0.528	0.260	160
25...	2130	65	0.476	--	131
26...	0045	79	0.639	0.271	304
26...	0430	61	0.515	0.255	258
26...	2030	27	0.281	--	141
26...	2230	37	0.298	--	196
27...	0630	41	0.344	--	192
28...	0914	30	0.236	--	51
AUG					
12...	1145	30	0.405	--	184
12...	1400	39	0.269	--	102
12...	1515	49	0.369	--	245
12...	2015	34	0.241	--	82
13...	0415	26	0.241	--	128
*27...	0902	15	0.039	--	11

* Equal-width increment (EWI) sample

ROCK RIVER BASIN

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05427718 YAHARA RIVER AT WINDSOR, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

PESTICIDE ANALYSES

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	ACETO- CHLOR, WATER, UNFLTRD REC (UG/L) (49259)	ALA- CHLOR TOTAL RECOVER (UG/L) (77825)	ALA- CHLOR (ELISA) WAT FLT 0.7 U GF, REC (UG/L) (82695)	ATRA- ZINE WATER UNFLTRD REC (UG/L) (39630)	CYAN- AZINE TOTAL (UG/L) (81757)
MAY 1997								
13...	1155	19	2.82	<0.10	<0.150	1.5	<0.150	<0.500
20...	0820	18	6.67	<0.10	<0.150	4.2	<0.150	<0.500
27...	0815	16	7.08	<0.10	<0.150	5.4	<0.150	<0.500
JUN								
03...	0815	16	6.15	<0.10	<0.150	5.4	<0.150	<0.500
10...	0810	16	5.31	<0.10	<0.150	5.1	<0.150	<0.500
16...	0850	50	2.91	0.74	<0.150	2.0	0.244	<0.500
17...	0750	23	7.76	1.4	0.222	7.7	<0.150	0.745
21...	1324	27	5.93	<0.10	<0.150	4.5	<0.150	<0.500
25...	0750	29	5.30	<0.10	<0.150	3.8	<0.150	<0.500
JUL								
01...	0825	20	6.24	<0.10	<0.150	4.8	<0.150	<0.500
08...	0840	44	4.62	<0.10	<0.150	3.0	<0.150	<0.500
15...	0825	16	5.78	<0.10	<0.150	3.8	<0.150	<0.500
21...	0900	50	3.78	<0.10	<0.150	3.7	<0.150	<0.500
22...	0815	29	5.36	<0.10	<0.150	3.5	<0.150	<0.500
26...	1045	37	4.01	<0.10	<0.150	4.5	<0.150	<0.500
28...	1000	29	1.76	<0.10	<0.150	1.5	<0.150	<0.500
AUG								
14...	0930	16	6.10	<0.10	<0.150	5.1	<0.150	<0.500
SEP								
15...	1310	13	7.63	<0.10	<0.150	6.4	<0.150	<0.500

DATE	DEETHYL ATRA- ZINE, WATER, WHOLE, TOTAL (UG/L) (75981)	DEETHYL DE-ISO PROPYL ATRAZIN WAT, WH TOTAL (UG/L) (75979)	DE-ISO PROPYL ATRAZIN WATER, WHOLE, TOTAL (UG/L) (75980)	DICAMBA TOTAL (UG/L) (82052)	MCP WATER WHOLE RECOVER (UG/L) (30193)	METOLA- CHLOR WATER WHOLE TOT.REC (UG/L) (82612)	METRI- BUZIN WATER WHOLE TOT.REC (UG/L) (82611)	2,4-D, TOTAL (UG/L) (39730)
MAY 1997								
13...	<0.300	0.526	<0.300	--	--	<0.250	<0.050	--
20...	<0.300	<0.500	<0.300	<0.050	<0.10	<0.250	<0.050	<0.100
27...	<0.300	<0.500	<0.300	<0.050	<0.10	<0.250	<0.050	<0.100
JUN								
03...	<0.300	<0.500	<0.300	<0.050	<0.10	<0.250	<0.050	0.198
10...	0.345	0.646	<0.300	<0.050	<0.10	<0.250	<0.050	0.236
16...	<0.300	<0.500	<0.300	0.271	<0.10	<0.250	<0.050	0.747
17...	<0.300	<0.500	<0.300	1.81	0.35	<0.250	<0.050	0.552
21...	<0.300	<0.500	<0.300	0.060	0.10	<0.250	<0.050	0.293
25...	<0.300	<0.500	<0.300	0.074	0.26	<0.250	<0.050	0.423
JUL								
01...	<0.300	<0.500	<0.300	<0.050	<0.10	<0.250	<0.050	0.609
08...	<0.300	<0.500	<0.300	0.118	0.66	<0.250	<0.050	1.96
15...	<0.300	0.512	<0.300	<0.050	<0.20	<0.250	<0.050	<0.200
21...	<0.300	<0.500	<0.300	<0.050	<0.20	<0.250	<0.050	<0.200
22...	<0.300	<0.500	<0.300	<0.050	<0.20	<0.250	<0.050	<0.200
26...	<0.300	<0.500	<0.300	<0.050	<0.50	<0.250	<0.050	<0.200
28...	<0.300	<0.500	<0.300	<0.050	<0.20	<0.250	<0.050	<0.200
AUG								
14...	<0.300	<0.500	<0.300	<0.050	<0.20	<0.250	<0.050	<0.200
SEP								
15...	<0.300	<0.500	<0.300	<0.020	<0.10	<0.250	<0.050	0.386

ROCK RIVER BASIN
05427718 YAHARA RIVER AT WINDSOR, WI--CONTINUED

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.59	1.3	.88	.73	1.2	191	1.7	6.8	.92	2.2	1.2	.47
2	.54	1.2	.82	.74	1.2	127	1.7	1.3	.88	1.8	1.2	.47
3	.53	1.1	.79	.77	1.4	55	1.6	1.1	.85	1.7	1.2	.47
4	.56	1.1	.77	101	1.2	13	1.6	.92	.84	1.6	1.2	.47
5	.56	1.1	.78	53	1.1	3.4	1.7	.79	.84	1.5	1.1	.47
6	.56	1.2	.78	10	1.0	2.0	1.8	.71	.90	3.6	1.0	.47
7	.61	1.1	.77	5.0	.95	1.6	1.5	.73	.85	2.2	.94	.47
8	.58	1.1	.75	2.3	.94	1.4	1.5	1.5	.92	23	.84	.48
9	.57	1.1	.74	1.6	.92	161	1.4	1.2	.84	5.5	.79	.49
10	.58	1.0	.74	1.5	.91	73	1.4	1.1	.79	1.9	.79	.50
11	.57	1.0	.74	1.3	.84	27	1.4	1.1	.78	1.7	.78	.49
12	.58	.97	.75	1.1	.77	5.6	1.5	1.0	.78	1.5	8.3	.48
13	.59	.96	.76	1.0	.81	2.2	1.5	.98	.77	1.4	5.3	.49
14	.59	.94	.77	.95	.80	1.3	1.7	.93	.74	1.3	1.9	.49
15	.58	.92	1.0	.86	.79	1.1	1.7	.94	.74	1.2	1.9	.50
16	.58	.92	.93	.78	.72	1.1	1.5	.90	17	1.1	1.2	.78
17	.62	.97	.84	.75	.77	5.4	1.3	.89	2.8	6.1	1.7	1.5
18	.61	.95	.80	.73	208	4.4	1.2	.88	2.0	3.0	1.6	.74
19	.59	.92	.73	.75	146	2.2	1.2	.89	1.7	1.8	.81	.68
20	.59	.90	.73	.72	54	5.1	1.1	.85	1.5	6.7	.76	.67
21	.63	.89	.69	.79	327	2.4	1.1	.81	3.4	15	.70	.66
22	.64	.88	.69	68	115	1.4	.97	.79	4.1	4.3	.63	.66
23	1.5	.89	.69	12	41	1.1	.88	.78	2.3	1.8	.57	.69
24	1.0	.87	.64	2.6	15	1.0	.83	.79	2.1	1.4	.54	.65
25	.96	.85	.64	1.7	8.0	2.4	.77	.77	3.4	6.1	.50	.64
26	.91	.80	.69	1.4	4.3	2.3	.70	.74	1.9	25	.47	.63
27	.86	.75	.69	1.2	3.4	1.7	.66	.72	1.4	18	.44	.61
28	.84	.75	.69	1.2	2.3	2.3	.62	.73	1.3	4.2	.44	.60
29	6.8	.79	.75	1.1	---	3.2	.58	2.8	1.2	2.1	.44	.59
30	8.5	.79	.73	1.1	---	2.2	.95	1.5	4.6	1.4	.46	.56
31	1.5	---	.73	1.2	---	1.9	---	1.0	---	1.3	.48	---
TOTAL	35.72	29.11	23.50	277.87	940.32	705.7	38.06	36.94	63.14	151.4	40.18	17.87

WTR YR 1997 TOTAL 2359.81

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.40	11.6	2.16	1.71	11.6	1550	10.6	42.7	10.8	19.0	12.2	3.10
2	7.17	9.11	1.95	1.75	12.1	2110	9.68	15.9	10.4	16.8	11.8	3.02
3	7.05	8.36	1.86	1.81	13.3	850	9.10	15.6	9.97	15.9	12.1	3.02
4	7.43	7.96	1.83	878	11.8	339	8.54	13.8	9.83	14.5	12.0	2.97
5	7.46	7.61	1.84	973	11.0	83.9	8.55	12.0	9.69	13.5	11.1	2.94
6	7.45	7.64	1.85	153	10.2	46.3	8.50	10.9	10.4	26.3	10.3	2.91
7	8.06	7.22	1.82	53.1	9.43	34.5	7.12	10.9	9.82	18.0	9.42	2.85
8	7.74	6.65	1.78	20.9	9.30	29.2	6.42	13.1	10.5	105	8.43	2.84
9	7.60	6.27	1.74	13.8	9.17	1250	5.98	11.2	9.56	39.3	7.90	2.89
10	7.63	5.80	1.75	12.3	9.05	925	5.65	10.3	8.94	24.5	7.95	2.88
11	7.56	5.42	1.76	10.3	8.33	319	5.41	10.5	8.83	20.8	7.79	2.81
12	7.73	5.07	1.77	9.14	7.62	91.6	5.41	10.4	8.82	18.2	37.9	2.74
13	7.83	4.79	1.79	8.13	8.10	39.7	5.34	10.0	8.65	16.1	22.9	2.71
14	7.78	4.50	1.83	7.23	7.99	25.9	5.63	9.72	8.32	15.3	9.93	2.71
15	7.70	4.24	2.45	6.48	7.87	22.5	5.39	9.97	8.19	13.7	9.53	2.71
16	7.75	4.08	2.18	5.73	7.21	21.4	5.09	9.70	71.4	11.9	7.16	3.69
17	8.22	4.16	1.98	5.43	7.66	47.0	4.76	9.69	24.1	33.4	9.12	6.90
18	8.07	3.90	1.88	5.15	1440	44.3	4.63	9.70	17.4	23.7	8.76	4.87
19	7.90	3.64	1.73	5.19	2640	29.1	4.98	10.0	14.4	17.3	6.42	4.54
20	7.90	3.43	1.73	4.92	1240	42.6	4.95	9.77	12.6	25.0	5.89	4.41
21	8.38	3.25	1.62	5.41	3230	37.6	5.07	9.36	21.4	56.5	5.41	4.24
22	8.50	3.11	1.62	885	2090	29.1	4.71	9.25	24.7	23.4	4.75	4.12
23	16.3	3.01	1.62	437	740	21.2	4.50	9.24	17.2	14.0	4.22	4.23
24	11.8	2.84	1.51	84.8	213	17.1	4.55	9.35	17.3	11.4	3.93	3.94
25	10.9	2.66	1.51	38.6	113	24.3	4.46	9.22	24.3	38.0	3.61	3.80
26	10.4	2.41	1.62	22.3	58.1	22.1	4.32	8.95	18.1	101	3.32	3.66
27	10.1	2.17	1.62	16.6	52.6	18.9	4.31	8.68	17.1	73.8	3.10	3.47
28	9.89	2.07	1.62	14.9	42.1	21.6	4.30	8.93	16.3	36.4	3.05	3.35
29	37.5	2.11	1.77	12.6	---	21.1	4.27	16.6	16.0	20.1	3.02	3.20
30	74.2	2.30	1.71	11.5	---	14.6	7.08	12.7	33.6	14.4	3.09	3.00
31	31.8	---	1.71	11.8	---	12.2	---	11.5	---	13.0	3.18	---
TOTAL	383.20	147.38	55.61	3717.58	12020.53	8140.8	179.30	369.63	488.62	890.2	269.28	104.52

WTR YR 1997 TOTAL 26766.65

ROCK RIVER BASIN
05427948 PHEASANT BRANCH AT MIDDLETON, WI

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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, crest-stage gage, parshall flume, and concrete control. Datum of gage is 901.5 ft above sea level.

REMARKS.--Estimated daily discharges: Nov. 22-26 and ice-affected periods, Dec. 24, Jan. 17, 28, Feb. 12, 13, and Mar. 15. Records fair (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	2.3	2.7	1.5	2.8	118	3.3	32	1.9	3.3	2.0	1.3
2	1.4	1.9	2.2	2.4	8.7	34	3.0	10	1.8	2.3	1.8	1.3
3	1.4	1.8	1.9	3.7	9.0	9.4	2.9	10	1.7	1.8	2.1	1.3
4	1.6	1.8	1.7	86	3.5	3.9	2.7	4.2	1.7	1.7	3.3	1.2
5	1.5	1.9	1.7	26	2.6	3.1	3.0	3.4	2.0	1.6	1.9	1.2
6	1.4	2.8	1.8	3.9	2.2	2.7	2.9	2.8	2.1	7.1	1.7	1.2
7	2.0	2.2	1.7	2.7	1.9	2.5	2.4	3.0	3.4	2.9	1.6	1.2
8	1.5	2.1	1.6	2.3	1.8	2.5	2.2	3.4	3.6	59	1.5	1.4
9	1.5	1.8	1.6	2.1	1.7	60	2.2	2.6	2.2	10	1.5	1.4
10	1.5	1.7	1.6	1.9	1.7	19	2.1	2.4	1.8	3.1	1.5	1.3
11	1.5	1.6	1.6	1.7	1.6	6.9	2.4	2.2	1.7	2.3	1.6	1.2
12	1.5	1.5	1.7	1.5	1.5	3.9	3.2	2.1	1.7	2.0	12	1.2
13	1.5	1.5	1.7	1.5	1.4	3.3	3.4	2.0	1.5	1.8	5.2	1.1
14	1.5	1.5	1.8	1.5	1.5	3.0	3.6	2.0	1.4	2.6	2.4	1.2
15	1.5	1.5	4.9	1.5	1.4	2.6	3.5	2.1	10	2.2	2.8	1.2
16	2.0	1.6	3.1	1.3	1.4	2.6	3.0	1.9	45	1.7	2.2	2.4
17	5.5	2.3	2.5	1.3	1.5	4.6	2.7	1.9	5.4	8.8	3.8	2.8
18	1.6	1.7	2.0	1.3	202	4.2	2.5	2.3	2.8	3.7	2.5	1.2
19	1.5	1.6	1.7	1.4	54	3.2	2.6	1.9	2.2	3.5	2.0	1.3
20	1.5	1.6	1.5	1.5	22	3.3	4.7	1.7	2.0	2.6	2.2	1.3
21	1.5	1.6	1.5	1.6	129	3.6	3.1	1.7	31	49	1.8	1.1
22	2.8	1.7	1.6	61	30	3.4	2.6	1.7	11	7.2	1.6	1.4
23	9.2	1.9	2.0	12	8.9	3.0	2.4	1.7	3.3	3.5	1.5	1.8
24	2.9	1.7	1.4	4.2	3.9	2.8	2.3	1.9	5.7	2.7	1.5	1.2
25	2.0	1.6	1.4	2.8	3.2	12	2.1	2.4	5.8	5.1	1.5	1.1
26	1.8	1.6	1.4	2.2	3.6	7.3	2.0	1.7	3.0	4.3	1.4	1.2
27	1.7	1.5	1.4	2.0	4.4	4.8	2.0	1.7	2.2	21	1.4	1.1
28	1.6	1.5	1.5	1.6	4.6	6.1	2.0	1.6	1.9	11	1.4	1.2
29	17	1.9	1.6	1.6	---	5.7	2.0	6.1	2.1	3.2	1.4	1.2
30	17	3.4	1.5	1.6	---	4.2	9.8	3.1	6.5	2.4	1.5	1.3
31	3.2	---	1.5	2.5	---	3.8	---	2.1	---	2.0	1.4	---
TOTAL	95.5	55.1	57.8	240.1	511.8	349.4	88.6	119.6	168.4	235.4	72.0	40.3
MEAN	3.08	1.84	1.86	7.75	18.3	11.3	2.95	3.86	5.61	7.59	2.32	1.34
MAX	17	3.4	4.9	86	202	118	9.8	32	45	59	12	2.8
MIN	1.4	1.5	1.4	1.3	1.4	2.5	2.0	1.6	1.4	1.6	1.4	1.1
CFSM	.18	.11	.11	.45	1.07	.66	.17	.23	.33	.44	.14	.08
IN.	.21	.12	.13	.52	1.11	.76	.19	.26	.37	.51	.16	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1997, BY WATER YEAR (WY)

	MEAN	2.50	3.22	2.40	2.64	6.54	11.2	5.00	3.02	4.90	5.63	3.11	3.65
MAX	6.42	12.3	6.11	7.75	20.4	34.6	14.7	6.15	20.8	32.5	8.78	13.0	
(WY)	1987	1986	1985	1997	1994	1993	1993	1978	1996	1993	1993	1980	
MIN	.86	.67	.34	.36	.46	1.63	.95	.96	.92	.94	1.07	.74	
(WY)	1977	1991	1990	1991	1978	1981	1990	1977	1989	1976	1976	1976	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1974 - 1997

ANNUAL TOTAL	2079.4		2034.0										
ANNUAL MEAN	5.68		5.57							4.51			
HIGHEST ANNUAL MEAN										11.0		1993	
LOWEST ANNUAL MEAN										2.78		1977	
HIGHEST DAILY MEAN	262	Jun 17	202	Feb 18						349	Mar 12	1976	
LOWEST DAILY MEAN	(a)1.1	Jan 30	1.1	(b) Sep 13						.17	Dec 25-27	1989	
ANNUAL SEVEN-DAY MINIMUM	(a)1.2	Jan 30	1.2	Sep 24						.18	Dec 21	1989	
INSTANTANEOUS PEAK FLOW			538	Feb 18						746	Jul 6	1993	
INSTANTANEOUS PEAK STAGE			8.12	Feb 18						8.92	Jul 6	1993	
INSTANTANEOUS LOW FLOW			.99	Sep 22						.15	Dec 21	1989	
ANNUAL RUNOFF (CFSM)	.33		.33							.26			
ANNUAL RUNOFF (INCHES)	4.53		4.43							3.58			
10 PERCENT EXCEEDS	5.6		7.9							6.0			
50 PERCENT EXCEEDS	2.1		2.0							1.8			
90 PERCENT EXCEEDS	1.4		1.4							.78			

(a) Ice affected

(b) Also occurred Sept. 21, 25, and 27

ROCK RIVER BASIN
05427948 PHEASANT BRANCH AT MIDDLETON, WI--CONTINUED

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1977 to current year.

TOTAL-PHOSPHORUS DISCHARGE: January 1992 to December 1993, and October 1994 to current year.

TOTAL ORTHO-PHOSPHORUS DISCHARGE: January to September 1992.

INSTRUMENTATION.--Automatic pumping sampler since December 1977.

REMARKS.--Records good. Samples are point samples unless otherwise indicated.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 15,400 mg/L, Apr. 30, 1984; minimum observed, 4 mg/L, Mar. 12, 1979, and May 11, 1995.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,870 tons, June 10, 1984; minimum daily, 0.01 ton, on many days in 1990 and 1991 water years.

TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 15.1 mg/L, July 4, 1994; minimum observed, 0.06 mg/L, Jan. 3, 1996.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 2,630 lb, Feb. 18, 1997; minimum daily, 0.30 lb, Aug. 20, 21, 1992.

TOTAL ORTHO-PHOSPHORUS CONCENTRATIONS: Maximum observed, 2.40 mg/L, Feb. 29, 1992; minimum observed, 0.03 mg/L, May 22, 1992.

TOTAL ORTHO-PHOSPHORUS DISCHARGE: Maximum daily, 966 lb, Feb. 28, 1992; minimum daily, 0.13 lb, Sept. 13, 1992.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 3,800 mg/L, Feb. 18; minimum observed, 7 mg/L, Mar. 26.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 1,360 tons, Feb. 18; minimum daily, 0.04 ton, Dec. 9, 20-22, Dec. 24 to Jan. 1, and June 13, 14.

TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 4.90 mg/L, Mar. 1; minimum observed, 0.08 mg/L, Jan. 13.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 2,630 lb, Feb. 18; minimum daily, 0.56 lb, Jan. 16 and 17.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	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)
OCT 1996					
17...	0200	10	0.120	--	37
17...	0330	22	0.180	--	54
17...	0540	10	0.280	--	40
22...	2125	11	0.230	--	53
23...	0005	25	0.350	--	236
23...	0245	13	0.260	--	64
*23...	1510	8.7	0.230	--	40
23...	1620	7.9	0.200	--	43
29...	1105	11	0.250	--	51
29...	1220	37	0.350	--	125
29...	1435	22	--	--	60
29...	1820	38	0.330	--	83
30...	0620	24	0.880	--	229
30...	1820	9.6	0.660	--	166
DEC					
15...	0345	10	0.320	--	69
*31...	1315	1.5	0.090	--	10
JAN 1997					
03...	2205	10	0.480	--	16
04...	0820	25	1.80	--	96
04...	1020	60	2.40	1.00	494
04...	1130	84	--	--	909
04...	1355	138	4.30	--	929
04...	1625	167	4.20	1.60	1140
04...	2025	154	3.10	--	1400
04...	2235	101	2.80	--	1170
05...	0240	56	2.10	1.30	1450
05...	1555	12	1.30	--	123
*13...	1110	1.5	0.080	--	33
22...	0310	11	0.270	--	48
22...	0440	44	0.500	0.190	423
22...	0525	88	2.20	--	484
22...	0635	112	2.70	--	489
22...	1035	113	2.40	1.40	425
22...	1505	68	1.80	--	206
22...	2205	32	1.60	1.00	268
23...	1530	8.9	1.70	--	90

* Equal-width increment (EWI) sample

05427948 PHEASANT BRANCH AT MIDDLETON, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
FEB 1997					
02...	1820	10	1.30	--	98
02...	1930	22	1.30	--	79
03...	1940	5.8	1.80	--	54
*10...	1222	1.7	0.290	--	20
18...	0955	11	0.300	--	20
18...	1045	49	0.440	--	81
18...	1125	129	1.80	0.590	410
18...	1250	201	2.40	0.790	957
*18...	1251	201	1.80	0.790	766
18...	1355	332	2.90	--	1550
18...	1515	378	2.90	--	1710
18...	1630	463	3.20	--	2280
18...	1750	508	2.40	1.30	2270
18...	2120	461	1.90	--	3800
18...	2335	209	2.60	1.40	480
19...	0325	91	2.20	--	187
19...	1235	36	1.40	0.640	118
*19...	1236	36	1.40	0.610	116
20...	1040	10	0.850	--	32
20...	2055	63	1.80	--	509
21...	0455	68	2.10	--	270
21...	0630	117	1.90	1.20	499
21...	0740	208	4.40	--	1410
21...	0910	281	4.30	2.10	1580
21...	1135	243	3.40	--	1430
21...	1415	147	2.40	1.50	400
21...	1930	93	2.00	--	254
22...	0010	51	2.00	--	68
22...	2120	23	3.20	--	179
*25...	0810	3.3	0.510	--	9
26...	2355	7.1	--	--	24
28...	2045	9.6	0.780	--	28
MAR					
01...	0615	34	1.90	--	102
01...	1210	93	2.60	1.70	498
01...	1335	182	4.90	--	1550
01...	1420	220	--	--	1720
01...	1550	256	3.60	1.70	1890
01...	1950	231	3.00	--	2640
01...	2220	140	2.30	1.60	620
02...	0520	29	1.50	--	245
02...	2120	33	1.90	--	197
03...	1920	5.8	0.960	--	46
*07...	1245	2.8	0.290	--	8
09...	0730	11	0.280	--	19
09...	1030	47	0.540	--	127
09...	1055	95	1.20	0.240	1020
09...	1150	151	2.20	1.40	1440
09...	1515	122	2.20	1.50	829
09...	2200	55	1.80	--	341
10...	1140	13	1.10	--	188
10...	2340	12	1.10	--	137
*12...	1620	3.7	0.460	--	18
17...	1945	9.9	0.250	--	28
*21...	1121	3.6	0.230	--	16
21...	1122	3.6	0.260	--	12
25...	0110	12	0.240	--	22
25...	1310	13	0.260	--	55
25...	1910	16	0.290	--	28
*26...	1120	6.2	0.300	--	9
26...	1121	6.2	0.280	--	7
28...	1505	9.9	--	--	29
APR					
*02...	1335	3.0	0.180	--	9
20...	1900	26	0.298	--	172
20...	2125	13	0.420	--	310
*23...	1245	2.5	0.124	<0.010	52
30...	1855	9.9	0.216	--	80
30...	2115	56	0.677	--	463
MAY					
*01...	1503	24	0.635	--	124
01...	1504	24	0.660	--	114
02...	0255	8.3	0.361	--	47
02...	1850	16	0.272	--	45
03...	1850	7.1	0.375	--	28
07...	2240	8.0	0.146	--	29
*27...	1228	1.9	0.142	--	12
29...	0530	27	0.095	--	271

* Equal-width increment (EWI) sample

ROCK RIVER BASIN
05427948 PHEASANT BRANCH AT MIDDLETON, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
JUN 1997					
*04...	1325	1.8	0.091	0.012	12
15...	1835	13	0.271	--	30
15...	1845	43	--	--	370
15...	1855	68	1.08	--	654
15...	2000	47	--	--	340
15...	2220	17	0.618	--	114
15...	2330	51	0.677	--	254
16...	0630	82	0.918	--	705
16...	0953	51	1.08	--	366
*16...	0954	51	0.998	--	313
17...	0355	8.4	0.559	--	178
21...	0535	19	0.292	--	30
21...	0545	34	0.484	--	279
21...	0735	20	0.311	--	136
21...	0800	41	0.374	--	167
21...	0845	85	1.01	--	691
21...	1335	51	0.509	--	310
*21...	1504	46	0.515	--	255
21...	1505	46	0.631	--	270
22...	1735	6.6	0.505	--	37
24...	1730	18	0.385	--	45
24...	1740	35	0.560	--	304
25...	0245	8.2	0.300	--	20
25...	0845	10	--	--	41
25...	1445	5.8	0.547	--	39
30...	0725	25	0.371	--	229
JUL					
06...	0145	11	0.249	--	58
06...	0210	22	0.307	--	53
06...	1545	8.6	0.255	--	40
08...	0445	10	0.397	--	35
08...	0530	51	0.684	--	460
08...	0535	72	0.700	0.106	452
08...	0900	128	1.83	--	1490
*08...	0950	139	1.07	0.085	1190
08...	1355	79	0.856	0.220	407
08...	1905	39	1.06	--	231
09...	1245	7.3	0.654	--	118
17...	0020	14	0.316	--	256
19...	1520	12	0.318	--	20
21...	0145	12	0.244	--	44
21...	0205	57	0.668	0.062	508
21...	0220	100	3.89	0.088	3090
21...	0345	55	0.317	--	178
21...	0500	76	0.866	--	710
*21...	1350	52	1.71	1.00	285
21...	1351	52	1.74	--	321
22...	0925	7.1	0.699	--	131
25...	1220	24	0.363	--	182
26...	0235	6.2	0.230	--	40
27...	0850	12	0.262	--	20
27...	0910	56	0.305	--	270
27...	1820	34	0.455	--	200
28...	1220	9.4	0.257	--	62
AUG					
04...	1535	10	0.137	--	223
*07...	0900	1.7	0.200	0.080	26
12...	0630	22	0.282	--	49
12...	0850	10	0.118	--	37
12...	1045	27	0.233	--	78
13...	0755	5.4	0.919	--	25
17...	1425	10	0.299	--	44
*27...	1450	1.4	0.155	--	26
SEP					
*04...	1325	1.2	0.159	0.032	--
*15...	1350	1.2	0.341	--	--
16...	2230	5.3	0.430	--	49
16...	2255	8.3	0.408	--	245
16...	2300	14	0.407	--	215
16...	2315	27	0.459	--	176
17...	0040	14	0.311	--	79
*30...	1330	1.5	0.240	--	--

* Equal-width increment (EWI) sample

05427948 PHEASANT BRANCH AT MIDDLETON, WI-CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

		DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCOCCI, KF AGAR (COLS. PER 100 ML) (31673)
APR 1997											
23...	1245	2.5	1070	7.8	9.0	2.3	15.1	738	27	90	--
JUN 04...	1325	1.8	745	7.4	15.0	3.8	6.1	740	24	190	--
AUG 07...	0900	1.8	915	7.5	16.0	10	5.9	750	17	1300	1400
SEP 04...	1325	1.2	921	7.4	13.5	5.2	9.3	750	<10	340	--
DATE	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	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)	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, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR 1997											
23...	286	--	--	--	--	220	53	0.17	--	--	0.041
JUN 04...	189	--	--	--	--	20	41	0.10	--	--	0.035
AUG 07...	326	110	43	13	4.1	96	36	0.16	18	576	0.056
SEP 04...	340	--	--	--	--	110	41	0.18	--	--	0.035
DATE	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 DIS. (MG/L AS N) (00623)	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)	ARSENIC TOTAL (UG/L AS AS) (01002)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
APR 1997											
23...	4.28	0.097	0.61	0.124	<0.010	<0.010	--	--	--	--	--
JUN 04...	0.453	0.060	0.64	0.091	<0.010	0.012	--	--	--	--	--
AUG 07...	4.35	0.239	0.66	0.200	0.065	0.080	2	30	<1	<1	<1
SEP 04...	4.59	0.256	0.63	0.159	0.034	0.032	--	--	--	--	--
DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	
APR 1997											
23...	--	--	--	--	--	--	--	--	--	--	52
JUN 04...	--	--	--	--	--	--	--	--	--	--	12
AUG 07...	2	1200	8.3	1	190	188	<0.10	3	<10	<10	26
SEP 04...	--	--	--	--	--	--	--	--	--	--	72
		DATE		TIME							

ROCK RIVER BASIN
05427948 PHEASANT BRANCH AT MIDDLETON, WI-CONTINUED

WATER-QUALITY DATA, OCTOBER TO DECEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS. / 100 ML) (31625)	ALKA- LITY LAB (MG/L AS CACO3) (90410)
OCT 1997 08...	1355	1.0	968	7.2	17.5	3.2	1.5	737	14	580	351
DEC 03...	1015	1.2	882	7.4	3.5	2.7	9.2	735	<10	K7	340
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)	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, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	SEDI- MENT, SUS- PENDEED (MG/L) (80154)
OCT 1997 08...	110	42	0.25	0.203	3.42	0.125	0.61	0.093	0.025	0.016	31
DEC 03...	88	42	0.13	0.065	5.31	0.200	0.48	0.060	0.046	0.039	16

K Results based on colony count outside the acceptance range (non-deal colony count)

05427948 PHEASANT BRANCH AT MIDDLETON, WI--CONTINUED

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	.23	.08	.04	.26	544	.09	25	.07	.27	.10	.09
2	.10	.17	.07	.13	3.3	24	.08	1.3	.07	.12	.08	.09
3	.10	.14	.06	.16	2.4	2.7	.07	.98	.06	.07	.11	.09
4	.12	.12	.05	252	.47	.25	.07	.29	.06	.06	.86	.08
5	.09	.11	.05	58	.30	.07	.09	.20	.09	.05	.14	.09
6	.08	.26	.05	.70	.22	.06	.09	.14	.09	.80	.12	.09
7	.15	.15	.05	.37	.16	.05	.06	.16	.24	.18	.11	.09
8	.08	.13	.05	.29	.13	.05	.06	.21	.19	115	.10	.10
9	.08	.11	.04	.25	.11	133	.06	.11	.07	4.1	.09	.10
10	.08	.10	.05	.21	.09	11	.05	.09	.05	.39	.09	.09
11	.08	.09	.05	.17	.08	1.6	.07	.08	.05	.18	.10	.08
12	.08	.09	.05	.15	.07	.28	.12	.08	.05	.11	2.5	.08
13	.08	.08	.05	.13	.06	.17	.13	.07	.04	.08	.52	.08
14	.07	.08	.05	.13	.06	.14	.12	.07	.04	.19	.12	.08
15	.07	.08	.35	.13	.06	.10	.11	.06	8.3	.11	.16	.08
16	.11	.08	.12	.11	.05	.10	.10	.06	57	.08	.11	.95
17	.56	.15	.09	.10	.05	.30	.08	.05	1.8	4.0	.34	.47
18	.08	.07	.07	.10	1360	.30	.07	.09	.21	.20	.16	.08
19	.07	.07	.05	.10	28	.19	.07	.07	.13	.40	.12	.08
20	.07	.06	.04	.10	18	.17	4.2	.06	.10	.12	.15	.06
21	.07	.06	.04	.12	291	.14	1.2	.06	26	73	.12	.05
22	.51	.07	.04	61	8.1	.12	.46	.06	2.5	2.9	.11	.09
23	2.2	.07	.05	4.8	1.9	.10	.35	.06	.25	.29	.11	.19
24	.30	.06	.04	.70	.14	.10	.25	.08	2.0	.15	.11	.08
25	.18	.06	.04	.29	.09	1.5	.18	.12	.60	1.1	.10	.08
26	.13	.06	.04	.17	.13	.23	.16	.06	.22	.38	.10	.08
27	.11	.05	.04	.14	.26	.09	.16	.06	.12	9.5	.10	.08
28	.09	.05	.04	.11	.32	.30	.15	.05	.09	2.8	.10	.08
29	8.0	.08	.04	.10	---	.24	.14	2.3	.10	.25	.10	.09
30	10	.22	.04	.09	---	.13	8.4	.17	1.8	.15	.11	.10
31	.49	---	.04	.27	---	.11	---	.09	---	.11	.10	---
TOTAL	24.34	3.15	1.92	381.16	1715.81	721.59	17.24	32.28	102.39	217.14	7.24	3.87

WTR YR 1997 TOTAL 3228.13

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.75	3.25	3.25	.79	3.23	2000	3.46	115	1.37	3.91	1.28	1.13
2	.71	2.27	2.10	2.01	43.9	318	3.02	18.5	1.06	2.14	1.09	1.07
3	.71	1.76	1.34	6.27	61.0	72.1	2.85	19.2	.87	1.40	1.49	1.14
4	.84	1.46	.94	1600	22.5	13.0	2.72	6.54	.84	1.22	2.94	1.02
5	.69	1.36	.93	263	8.32	5.48	3.17	3.37	1.32	1.08	2.07	1.11
6	.67	3.79	.95	8.19	4.67	4.43	2.98	2.03	1.38	10.1	1.83	1.21
7	1.53	2.00	.93	3.20	3.78	4.03	2.20	1.97	3.35	2.60	1.69	1.29
8	.79	1.52	.89	1.93	3.27	3.63	1.87	2.59	2.97	336	1.57	1.54
9	.77	1.21	.86	1.28	2.92	612	1.69	1.70	1.28	42.3	1.51	1.65
10	.76	1.02	.87	1.00	2.60	127	1.53	1.35	.93	4.09	1.51	1.64
11	.72	.89	.88	.81	2.24	32.0	1.61	1.26	.89	2.19	1.69	1.61
12	.72	.83	.90	.70	1.79	11.4	2.44	1.18	.85	1.67	18.9	1.73
13	.71	.83	.90	.65	1.45	6.49	2.88	1.10	.77	1.50	18.3	1.82
14	.67	.82	1.01	.63	1.37	4.18	3.31	1.10	.67	3.90	3.02	1.98
15	.64	.81	6.72	.65	1.20	3.02	2.95	1.13	38.8	1.57	3.03	2.10
16	.94	.85	2.83	.56	1.19	3.01	2.40	1.03	210	1.14	1.87	5.19
17	5.92	1.77	1.51	.56	1.33	6.10	2.04	1.03	14.2	26.2	6.02	4.24
18	1.24	1.16	1.10	.57	2630	5.82	1.79	1.86	3.71	7.21	2.74	1.19
19	1.04	.93	.90	.59	550	4.04	1.81	1.74	1.96	5.25	1.71	1.34
20	.95	.85	.83	.64	170	4.21	16.5	1.43	1.46	3.11	2.16	1.28
21	.89	.87	.81	.86	2060	4.81	5.46	1.34	106	348	1.64	1.03
22	3.03	.92	.82	709	417	4.58	2.00	1.36	34.2	31.7	1.37	1.32
23	13.2	1.03	1.06	105	113	3.75	1.68	1.30	4.37	4.40	1.29	2.17
24	2.71	.92	.73	21.3	21.2	3.25	1.51	1.59	11.7	3.21	1.29	1.31
25	1.50	.86	.74	6.88	8.76	18.7	1.37	2.26	15.1	8.21	1.24	1.24
26	1.06	.86	.72	2.99	8.29	11.9	1.28	1.18	5.16	5.35	1.20	1.30
27	.90	.79	.73	1.85	12.3	6.38	1.23	1.28	2.53	44.1	1.19	1.21
28	.85	.83	.76	1.06	14.8	8.71	1.19	.93	2.07	18.5	1.14	1.27
29	52.4	1.38	.79	.86	---	8.45	1.12	32.4	2.20	2.51	1.14	1.40
30	75.2	4.89	.73	.86	---	5.25	27.8	9.67	11.6	1.66	1.27	1.70
31	6.14	---	.73	2.66	---	4.22	---	2.77	---	1.35	1.15	---
TOTAL	179.65	42.73	39.26	2747.35	6172.11	3319.94	107.86	241.19	483.61	927.57	90.34	49.23

WTR YR 1997 TOTAL 14400.84

ROCK RIVER BASIN
05427965 SPRING HARBOR STORM SEWER AT MADISON, WI

LOCATION.--Lat 43°04'45", long 89°28'15", in NW 1/4 SE 1/4 sec.18, T.7 N., R.9 E., Dane County, Hydrologic Unit 07090001, in city park near the junction of Spring Harbor Drive and University Avenue in Madison.

DRAINAGE AREA.--3.29 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1976 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 855.3 ft above sea level.

REMARKS.--No estimated daily discharges. Records are good except those for periods of flow between 0.00 ft³/s and 0.3 ft³/s, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.22	.65	.14	.61	22	.25	15	.15	3.0	.11	.02
2	.01	.04	.25	3.3	1.4	3.6	.14	7.0	.04	2.1	.10	.03
3	.00	.00	.21	2.6	.53	.75	.12	2.6	.00	.35	2.4	.01
4	.00	.01	.16	26	.29	.32	.12	.40	.01	.22	5.0	.00
5	.00	.00	.17	3.3	.29	.13	1.2	.22	.59	.28	1.4	.00
6	.44	2.7	.20	.35	.28	.04	.47	.08	.88	11	.33	.00
7	1.1	.57	.20	.11	.21	.08	.25	.81	8.4	2.6	.14	.00
8	.31	.25	.20	.11	.17	.20	.14	2.3	2.6	41	.14	.15
9	.14	.16	.70	.11	.16	19	.13	.39	.37	5.6	.13	.25
10	.02	.04	.20	.14	.13	3.7	.13	.19	.19	.78	.12	.14
11	.00	.00	.21	.11	.10	1.0	.43	.06	.12	.21	.17	.02
12	.00	.00	.17	.05	.11	.37	1.7	.00	.01	.11	10	.07
13	.00	.00	.13	.03	.05	.25	3.3	.00	.00	.10	1.9	.07
14	.00	.00	.35	.02	.10	.33	2.0	.06	.00	2.8	.32	.03
15	.00	.00	4.3	.02	.12	.22	1.0	.16	13	.40	2.3	.00
16	.04	.00	.49	.02	.14	.33	.51	.02	23	2.2	.68	3.4
17	9.1	.66	.25	.04	.28	1.7	.35	.00	3.3	12	1.7	3.4
18	2.3	.08	.14	.04	27	.55	.30	.53	.67	2.0	.88	.72
19	.39	.00	.05	.03	6.9	.42	.32	.17	.23	3.2	.33	1.3
20	.19	.00	.00	.04	7.2	.50	3.5	.11	.16	1.0	.28	.32
21	.10	.15	.04	1.5	28	.41	5.7	.03	22	27	.20	.13
22	4.3	.16	.14	12	3.5	.28	.81	.00	5.1	1.3	.10	.72
23	6.1	.29	.82	.71	1.1	.24	.52	.00	1.2	1.0	.01	1.8
24	3.0	.19	.29	.31	.36	.34	.27	.41	5.3	.39	.00	.33
25	.57	.09	.17	.21	.22	5.6	.17	1.2	5.1	7.5	.00	.28
26	.22	.05	.14	.11	.34	1.1	.11	.29	2.0	1.8	.00	.15
27	.13	.00	.13	.10	.83	.24	.12	.14	.34	20	.00	.00
28	.01	.00	.20	.10	1.1	.96	.19	2.8	.17	2.7	.00	.09
29	24	1.1	.18	.04	---	.70	.06	8.6	2.3	.33	.00	.00
30	8.1	3.5	.13	.03	---	.52	14	2.4	9.6	.16	.44	.00
31	.70	---	.12	.90	---	.43	---	.33	---	.11	.09	---
TOTAL	61.28	10.26	11.39	52.57	81.52	66.31	38.31	46.30	106.83	153.24	29.27	13.43
MEAN	1.98	.34	.37	1.70	2.91	2.14	1.28	1.49	3.56	4.94	.94	.45
MAX	24	3.5	4.3	26	28	22	14	15	23	41	10	3.4
MIN	.00	.00	.00	.02	.05	.04	.06	.00	.00	.10	.00	.00
CFSM	.60	.10	.11	.52	.88	.65	.39	.45	1.08	1.50	.29	.14
IN.	.69	.12	.13	.59	.92	.75	.43	.52	1.21	1.73	.33	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1997, BY WATER YEAR (WY)

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	1.12	1.28	.58	.53	1.31	2.22	1.69	1.27	2.22	2.25	1.86	1.72										
MAX	3.19	3.64	1.99	1.73	3.60	6.97	4.30	2.71	6.99	6.51	4.24	4.97										
(WY)	1985	1993	1985	1990	1994	1993	1993	1990	1996	1993	1981	1980										
MIN	.11	.027	.000	.000	.050	.37	.54	.25	.33	.30	.36	.11										
(WY)	1995	1977	1990	1977	1978	1996	1985	1994	1987	1976	1988	1976										

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1976 - 1997

ANNUAL TOTAL	635.37	670.71	
ANNUAL MEAN	1.74	1.84	1.52
HIGHEST ANNUAL MEAN			3.09
LOWEST ANNUAL MEAN			.97
HIGHEST DAILY MEAN	76	41	77
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		385	754
INSTANTANEOUS PEAK STAGE		3.15	4.16
ANNUAL RUNOFF (CFSM)	.53	.56	.46
ANNUAL RUNOFF (INCHES)	7.18	7.58	6.27
10 PERCENT EXCEEDS	3.6	4.3	3.4
50 PERCENT EXCEEDS	.17	.24	.13
90 PERCENT EXCEEDS	.00	.00	.00

(a) Annual seven-day minimum flows are 0.00 for most years

05427965 SPRING HARBOR STORM SEWER AT MADISON, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1976 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1991 to current year.

INSTRUMENTATION.--Automatic pumping sampler.

REMARKS.--Records good. Samples are point samples unless otherwise indicated.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 3,870 mg/L, July 4, 1994; minimum observed, 1 mg/L, Aug. 6, 1993.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 137 tons, June 17, 1996; minimum daily, 0.00 ton, on many days.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 1,250 mg/L, June 30; minimum observed, 4 mg/L, June 17, 22, and Aug. 13.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 35 tons, July 8; minimum daily, 0.00 ton, on many days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
OCT 1996				FEB 1997			
06...	2233	4.7	166	21...	1333	21	63
17...	0120	15	86	21...	2233	9.2	40
17...	0224	43	328	MAR			
17...	1120	4.7	15	01...	0054	19	174
22...	2019	18	41	01...	0354	14	35
22...	2305	46	308	01...	1455	45	137
23...	0053	22	38	02...	0255	5.7	28
23...	1553	4.1	7	02...	1616	4.6	36
24...	1627	4.4	9	09...	0645	31	174
29...	0939	20	67	09...	0654	50	337
29...	1120	44	46	09...	0743	88	317
29...	1709	55	59	09...	0912	52	221
29...	2009	35	27	09...	1452	17	59
29...	2309	19	15	09...	2352	7.4	29
30...	1109	8.2	33	10...	1808	3.6	33
30...	1709	5.0	11	17...	1435	5.0	52
NOV				25...	0155	14	178
06...	1044	24	177	25...	0455	4.5	35
06...	1252	6.1	118	25...	1055	8.7	63
29...	2229	8.0	63	25...	1655	4.6	31
30...	1029	3.9	18	APR			
DEC				05...	1801	5.5	689
15...	0033	4.9	174	12...	1642	4.2	64
15...	0230	22	197	13...	1501	6.6	61
15...	0745	4.3	22	13...	1801	5.0	25
JAN 1997				20...	1858	19	442
02...	1327	6.0	89	20...	2158	8.3	58
02...	1627	8.3	33	21...	0002	29	426
02...	1927	5.2	13	21...	0302	14	1210
03...	1319	3.9	108	21...	0602	4.6	61
04...	0739	47	704	30...	1656	22	773
04...	1039	44	242	30...	2032	66	610
04...	1939	18	61	30...	2332	78	306
05...	0439	5.9	31	MAY			
21...	2224	10	207	01...	0107	43	120
22...	0124	30	52	01...	1007	14	27
22...	0424	25	36	01...	1907	5.4	18
22...	1324	6.6	22	02...	1213	12	211
FEB				02...	1513	18	91
02...	1454	4.4	59	03...	0313	5.3	13
18...	0822	5.2	88	07...	2120	5.2	67
18...	1344	86	187	08...	0203	5.9	38
18...	1944	29	115	25...	0029	5.4	73
19...	0144	15	44	28...	2046	26	684
19...	0744	6.6	25	28...	2148	23	407
19...	1644	5.5	36	28...	2302	5.5	111
20...	1603	23	515	29...	0611	29	129
20...	1903	14	71	29...	0726	9.1	35
21...	0103	15	42	*29...	0727	9.1	30
21...	0341	39	102	29...	1026	6.1	12
21...	0504	73	217	29...	2227	3.8	8
				30...	0733	4.4	7

*Equal-width increment (EWI) sample

ROCK RIVER BASIN

05427965 SPRING HARBOR STORM SEWER AT MADISON, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SED- MENT SUS- PENDED (MG/L) (80154)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SED- MENT SUS- PENDED (MG/L) (80154)
JUN 1997				JUL 1997			
07...	1403	47	608	08...	1423	32	54
07...	1803	20	33	08...	1723	15	28
08...	0603	4.7	5	08...	2023	8.9	23
15...	1758	24	447	09...	0823	4.3	11
15...	1858	82	471	09...	2023	4.1	8
15...	2108	23	107	14...	0314	21	212
15...	2237	63	323	14...	0430	4.7	114
16...	0158	138	283	16...	2315	54	628
16...	0241	88	306	16...	2333	22	136
16...	0936	12	17	16...	2341	104	1040
17...	0036	3.9	4	17...	0015	26	279
21...	0444	26	480	17...	0615	11	18
21...	0505	99	317	17...	2115	4.5	7
21...	0545	31	341	19...	1448	21	225
21...	0817	135	685	21...	0126	82	1110
21...	1115	33	62	21...	0145	304	910
21...	2015	7.2	10	21...	0210	159	630
21...	2315	25	75	21...	0353	65	118
22...	0215	6.8	11	*21...	0728	21	39
22...	1851	4.7	4	21...	0729	24	38
24...	1643	49	585	21...	1424	14	14
24...	1647	84	340	21...	2324	4.6	5
24...	1750	23	283	25...	1100	70	550
24...	2047	5.5	23	25...	1124	99	824
25...	1747	4.1	6	25...	1201	31	214
29...	1244	41	858	25...	2323	4.4	13
29...	1249	51	382	27...	0804	33	318
29...	1400	9.4	118	27...	0830	231	562
30...	0558	48	516	27...	0915	64	212
30...	0607	116	330	27...	1120	36	53
30...	0621	122	1250	28...	0220	6.6	7
30...	0729	20	220	AUG			
30...	1029	11	28	03...	1809	67	615
JUL				03...	1832	19	109
01...	0129	4.0	6	03...	2032	4.4	46
02...	0058	17	271	04...	1406	105	524
06...	0036	61	284	04...	1451	43	438
06...	0049	96	336	04...	1728	4.1	14
06...	0156	27	147	12...	0604	13	20
06...	0456	12	23	12...	1040	45	99
06...	2256	4.1	7	12...	1203	21	45
07...	1001	4.1	6	13...	0003	5.5	4
08...	0431	15	66	15...	0540	23	73
08...	0523	203	409	17...	1518	4.3	16
08...	0606	141	319	SEP			
08...	0629	152	620	16...	2212	24	177
08...	0658	263	686	16...	2235	50	287
08...	0706	193	892	17...	0237	6.6	13
08...	0823	79	232	17...	0837	3.9	5

* Equal-width increment (EWI) sample

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

[illegible]

ROCK RIVER BASIN
05428000 LAKE MENDOTA AT MADISON, WI

LOCATION.--Lat 43°05'42", long 89°22'12", in SE 1/4 sec.12, T.7 N., R.9 E., Dane County, Hydrologic Unit 07090001, in city boat house at dam at outlet, in Madison.

DRAINAGE AREA.--233 mi². 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 sea level, 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.

REMARKS.--No estimated daily gage heights. Records are good (see page 11). Lake level regulated by concrete dam with two 12-foot gates and 20-foot lock at outlet. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 12.20 ft, July 14--15, 1993; minimum observed, 8.02 ft, Feb. 24 to Mar. 10, 1920, current datum.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 10.68 ft, Mar. 13, 14; minimum recorded, 8.96 ft, Dec. 14 and Jan. 1.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.47	9.66	9.21	8.99	9.27	10.22	10.18	9.72	9.54	10.02	10.33	9.98
2	9.47	9.62	9.18	8.99	9.27	10.33	10.14	9.73	9.53	10.04	10.31	9.97
3	9.44	9.58	9.16	8.99	9.27	10.43	10.11	9.79	9.53	10.02	10.32	9.93
4	9.42	9.56	9.13	9.05	9.31	10.47	10.07	9.77	9.53	9.98	10.35	9.91
5	9.41	9.56	9.13	9.13	9.32	10.48	10.06	9.79	9.53	9.96	10.33	9.88
6	9.42	9.56	9.13	9.17	9.32	10.47	10.10	9.76	9.55	10.00	10.31	9.87
7	9.44	9.56	9.12	9.19	9.32	10.46	10.05	9.74	9.57	9.99	10.28	9.85
8	9.43	9.55	9.11	9.20	9.31	10.44	9.97	9.80	9.60	10.12	10.25	9.85
9	9.44	9.53	9.07	9.21	9.31	10.47	9.92	9.80	9.60	10.17	10.22	9.85
10	9.43	9.51	9.05	9.22	9.30	10.55	9.88	9.76	9.60	10.15	10.21	9.84
11	9.41	9.48	9.04	9.22	9.30	10.60	9.86	9.75	9.60	10.14	10.19	9.82
12	9.41	9.45	9.03	9.21	9.31	10.62	9.89	9.74	9.60	10.12	10.23	9.80
13	9.41	9.42	9.01	9.21	9.30	10.60	9.87	9.70	9.60	10.10	10.25	9.78
14	9.41	9.40	8.99	9.20	9.30	10.60	9.84	9.69	9.57	10.14	10.22	9.77
15	9.42	9.35	9.04	9.21	9.29	10.56	9.80	9.69	9.57	10.13	10.23	9.75
16	9.42	9.34	9.01	9.20	9.30	10.52	9.80	9.65	9.75	10.11	10.23	9.74
17	9.49	9.36	9.02	9.19	9.29	10.50	9.76	9.63	9.77	10.16	10.22	9.79
18	9.51	9.35	9.02	9.19	9.30	10.47	9.72	9.62	9.77	10.17	10.22	9.75
19	9.47	9.33	9.00	9.18	9.45	10.44	9.71	9.63	9.76	10.15	10.20	9.74
20	9.46	9.31	8.99	9.18	9.60	10.41	9.69	9.60	9.77	10.14	10.20	9.74
21	9.47	9.32	8.98	9.17	9.82	10.39	9.69	9.57	9.85	10.30	10.18	9.70
22	9.48	9.30	8.98	9.19	10.01	10.37	9.67	9.55	9.92	10.30	10.15	9.69
23	9.55	9.29	8.99	9.23	10.12	10.34	9.66	9.53	9.91	10.30	10.13	9.69
24	9.56	9.29	8.99	9.26	10.17	10.32	9.66	9.52	9.91	10.29	10.11	9.66
25	9.55	9.27	8.99	9.28	10.17	10.34	9.65	9.53	10.00	10.30	10.09	9.65
26	9.55	9.26	9.01	9.29	10.17	10.32	9.63	9.50	10.00	10.36	10.07	9.62
27	9.57	9.22	9.01	9.29	10.19	10.30	9.62	9.47	9.99	10.40	10.07	9.59
28	9.56	9.20	9.01	9.29	10.19	10.28	9.61	9.45	9.98	10.42	10.05	9.58
29	9.60	9.18	9.00	9.29	---	10.27	9.59	9.52	9.97	10.39	10.02	9.58
30	9.75	9.20	9.00	9.28	---	10.25	9.61	9.54	10.01	10.37	10.00	9.54
31	9.68	---	8.99	9.27	---	10.22	---	9.54	---	10.34	10.00	---
MEAN	9.49	9.40	9.04	9.19	9.55	10.42	9.83	9.65	9.73	10.18	10.19	9.76
MAX	9.75	9.66	9.21	9.29	10.19	10.62	10.18	9.80	10.01	10.42	10.35	9.98
MIN	9.41	9.18	8.98	8.99	9.27	10.22	9.59	9.45	9.53	9.96	10.00	9.54

ROCK RIVER BASIN
05429000 LAKE MONONA AT MADISON, WI

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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 sea level, 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.

REMARKS.--Estimated daily gage heights: June 14-16, Aug. 18-21, and Sept. 1-3. Records good except for estimated daily gage heights, which are fair (see page 11). 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, 7.28 ft, June 19, 1996; minimum observed, 3.22 ft, Jan. 20, 1965, current datum.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 5.68 ft, July 27; minimum recorded, 4.14 ft, Feb. 15-17.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.89	4.87	4.50	4.24	4.21	4.80	5.32	4.90	4.88	5.21	5.46	5.28
2	4.86	4.83	4.50	4.24	4.21	4.88	5.32	4.96	4.86	5.17	5.42	5.27
3	4.81	4.80	4.49	4.24	4.20	4.90	5.32	4.98	4.84	5.10	5.40	5.26
4	4.77	4.78	4.49	4.29	4.23	4.90	5.32	4.97	4.83	5.06	5.39	5.25
5	4.72	4.76	4.50	4.35	4.24	4.88	5.34	4.96	4.83	5.02	5.36	5.23
6	4.67	4.74	4.51	4.35	4.23	4.86	5.30	4.95	4.85	5.07	5.32	5.19
7	4.67	4.72	4.50	4.34	4.22	4.84	5.25	4.97	4.88	5.06	5.29	5.18
8	4.61	4.68	4.48	4.33	4.21	4.84	5.21	4.98	4.92	5.26	5.27	5.16
9	4.57	4.64	4.47	4.32	4.20	4.91	5.18	4.93	4.92	5.35	5.25	5.13
10	4.53	4.60	4.47	4.32	4.19	4.99	5.16	4.93	4.92	5.35	5.23	5.10
11	4.51	4.56	4.46	4.30	4.18	5.00	5.16	4.91	4.93	5.34	5.22	5.07
12	4.51	4.54	4.45	4.28	4.18	5.02	5.19	4.87	4.93	5.34	5.28	5.06
13	4.51	4.52	4.45	4.27	4.17	5.05	5.18	4.86	4.94	5.33	5.31	5.05
14	4.53	4.51	4.45	4.26	4.16	5.09	5.17	4.86	4.94	5.34	5.30	5.05
15	4.52	4.51	4.49	4.26	4.15	5.09	5.15	4.83	4.95	5.30	5.31	5.04
16	4.52	4.51	4.50	4.25	4.15	5.10	5.13	4.82	5.12	5.27	5.31	5.05
17	4.63	4.50	4.48	4.24	4.15	5.10	5.11	4.83	5.16	5.33	5.32	5.07
18	4.60	4.49	4.44	4.23	4.18	5.11	5.10	4.84	5.16	5.32	5.32	5.06
19	4.60	4.47	4.41	4.22	4.30	5.11	5.11	4.82	5.16	5.29	5.31	5.05
20	4.61	4.46	4.39	4.21	4.35	5.11	5.11	4.80	5.16	5.26	5.29	5.04
21	4.61	4.46	4.37	4.20	4.55	5.11	5.11	4.80	5.28	5.45	5.28	5.01
22	4.63	4.45	4.34	4.24	4.72	5.11	5.07	4.82	5.38	5.47	5.27	5.00
23	4.70	4.45	4.34	4.25	4.76	5.12	5.01	4.84	5.39	5.54	5.26	5.02
24	4.68	4.44	4.34	4.25	4.76	5.14	4.96	4.85	5.39	5.58	5.27	4.99
25	4.69	4.43	4.32	4.26	4.75	5.18	4.91	4.90	5.40	5.59	5.26	4.97
26	4.70	4.42	4.32	4.26	4.74	5.19	4.88	4.90	5.35	5.63	5.26	4.96
27	4.69	4.43	4.32	4.26	4.75	5.22	4.85	4.90	5.31	5.65	5.26	4.95
28	4.67	4.45	4.30	4.25	4.75	5.26	4.83	4.90	5.28	5.64	5.26	4.93
29	4.81	4.47	4.29	4.24	---	5.28	4.79	4.92	5.25	5.60	5.26	4.86
30	4.92	4.51	4.27	4.24	---	5.30	4.81	4.90	5.23	5.55	5.27	4.79
31	4.90	---	4.26	4.22	---	5.31	---	4.89	---	5.51	5.28	---
MEAN	4.67	4.57	4.42	4.26	4.35	5.06	5.11	4.89	5.08	5.35	5.30	5.07
MAX	4.92	4.87	4.51	4.35	4.76	5.31	5.34	4.98	5.40	5.65	5.46	5.28
MIN	4.51	4.42	4.26	4.20	4.15	4.80	4.79	4.80	4.83	5.02	5.22	4.79

REMARKS.--No estimated daily discharges. Records fair (see page 11). Flow regulated by dams at outlets of Lake Mendota and Lake Waubesa. The Madison Metropolitan Sewerage District diverted an average of 63 ft³/s of effluent into the Badfish Creek basin during 1997 water year. The data were provided by the Madison Metropolitan Sewerage District. Prior to 1958 the effluent was discharged into the Yahara River above McFarland. Gage-height telemeter at station.

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190	279	217	168	160	297	394	220	148	228	180	172
2	189	273	216	166	158	324	394	231	143	220	171	178
3	181	262	215	166	158	326	395	239	99	211	165	179
4	174	255	214	175	165	323	394	237	72	197	163	177
5	166	253	217	191	168	320	397	233	74	184	152	174
6	162	251	218	189	169	315	407	228	83	190	146	174
7	166	251	217	183	167	308	403	227	83	177	139	173
8	160	247	218	180	165	303	394	227	89	189	131	174
9	94	242	218	180	163	315	383	226	94	204	126	174
10	23	236	215	183	160	335	372	222	99	202	123	174
11	22	230	214	178	159	339	369	216	98	202	121	171
12	21	222	213	174	160	338	376	213	102	200	134	169
13	24	214	212	169	159	338	377	207	110	193	142	167
14	26	208	209	166	157	346	373	207	112	183	141	168
15	24	201	217	166	156	349	367	207	112	178	144	170
16	26	195	219	166	156	348	366	201	147	167	144	172
17	35	198	219	162	153	346	360	195	168	164	148	184
18	36	201	215	155	158	348	354	193	172	164	151	180
19	34	203	209	152	198	349	351	196	169	159	147	179
20	32	202	202	150	206	350	350	159	173	153	149	186
21	32	203	193	149	260	352	352	130	206	169	148	185
22	34	201	189	158	297	355	345	133	255	175	144	185
23	45	202	190	162	299	355	336	136	309	205	141	191
24	48	203	191	165	295	355	329	133	300	217	137	192
25	49	200	189	169	291	367	299	143	298	215	138	192
26	49	190	188	167	286	373	276	137	285	219	141	192
27	50	206	184	166	289	376	269	134	273	227	147	190
28	52	205	180	164	286	381	262	130	257	227	152	192
29	155	204	176	160	---	389	258	136	245	216	154	195
30	273	212	173	159	---	393	228	142	236	202	158	190
31	275	---	170	161	---	396	---	150	---	190	167	---
TOTAL	2847	6649	6317	5199	5598	10709	10530	5788	5011	6027	4544	5399
MEAN	91.8	222	204	168	200	345	351	187	167	194	147	180
MAX	275	279	219	191	299	396	407	239	309	228	180	195
MIN	21	190	170	149	153	297	228	130	72	153	121	167
CFSM	.28	.68	.62	.51	.61	1.06	1.07	.57	.51	.59	.45	.55
IN.	.32	.76	.72	.59	.64	1.22	1.20	.66	.57	.69	.52	.61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1997, BY WATER YEAR (WY)

MEAN	125	156	148	140	157	251	261	180	144	141	117	114
MAX	401	355	375	376	363	599	719	520	446	511	478	422
(WY)	1981	1986	1986	1986	1938	1937	1959	1933	1996	1993	1993	1993
MIN	4.09	27.4	36.5	34.0	31.6	67.4	25.5	42.1	15.6	16.0	15.9	13.8
(WY)	1965	1940	1940	1977	1991	1934	1966	1958	1936	1965	1988	1964

05429500 YAHARA RIVER NEAR MCFARLAND, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1930 - 1997	
ANNUAL TOTAL	82684		74618		161	
ANNUAL MEAN	226		204		336	1993
HIGHEST ANNUAL MEAN					63.8	1964
LOWEST ANNUAL MEAN					853	Apr 11 1959
HIGHEST DAILY MEAN	772	Jun 19	407	Apr 6	1.2	Jun 27 1979
LOWEST DAILY MEAN	21	Oct 12	21	Oct 12	2.0	Jun 22 1979
ANNUAL SEVEN-DAY MINIMUM	24	Oct 10	24	Oct 10	(b) 867	Apr 10 1959
INSTANTANEOUS PEAK FLOW			(a) 429	Apr 6	(d) 6.33	Jul 23, 24 1950
INSTANTANEOUS PEAK STAGE			(c) 5.32	Jul 27	.49	
ANNUAL RUNOFF (CFSM)	.69		.63		6.69	
ANNUAL RUNOFF (INCHES)	9.41		8.49		322	
10 PERCENT EXCEEDS	345		348		135	
50 PERCENT EXCEEDS	206		190		39	
90 PERCENT EXCEEDS	123		128			

(a) Gage height, 4.96 ft

(b) Gage height, 5.82 ft, datum then in use

(c) Backwater from vegetation and channel slope

(d) Datum then in use, backwater from aquatic vegetation

ROCK RIVER BASIN

05430150 BADFISH CREEK NEAR COOKSVILLE, WI

LOCATION.--Lat 42°50'00", long 89°11'48", in SW 1/4 SE 1/4 sec.4, T.4 N., R.11 E., Rock County, Hydrologic Unit 07090001, on right bank, 20 ft upstream from bridge on State Highway 59, 2.2 mi east of Cooksville, and 2.2 mi above the mouth.

DRAINAGE AREA.--82.6 mi².

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 807.06 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 25-26, Jan. 11-13, 16-19, 28, and 29. Records good except those for ice-affected periods, which are fair (see page 11). Approximately 56 percent of flow is effluent from Nine Springs treatment plant. (Data provided by Madison Metropolitan Sewerage District.) Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	114	107	92	97	402	116	188	92	103	99	91
2	95	109	103	98	105	394	115	154	91	99	96	97
3	95	106	102	111	110	192	116	168	92	94	96	96
4	95	106	100	164	104	149	115	133	92	91	109	95
5	93	108	102	157	97	134	115	126	92	86	105	94
6	92	109	100	110	94	124	120	119	97	92	97	94
7	99	111	98	102	93	120	112	117	95	91	96	92
8	98	108	97	98	89	117	109	128	97	125	95	95
9	96	104	98	99	88	291	107	117	92	112	93	97
10	96	102	100	96	91	208	107	112	94	102	91	94
11	95	105	101	92	91	160	108	106	92	99	93	93
12	95	102	102	92	91	139	113	103	91	97	131	95
13	93	102	103	94	90	129	113	105	90	94	126	90
14	96	101	102	96	90	125	128	105	85	96	108	89
15	98	98	133	95	87	115	135	108	90	96	135	92
16	97	97	118	94	87	111	123	103	297	98	108	94
17	111	103	110	94	89	115	117	100	141	103	105	99
18	102	102	101	94	329	117	113	100	114	119	111	91
19	96	101	100	94	394	117	114	102	106	138	106	95
20	97	99	96	93	158	116	113	102	105	103	104	94
21	104	102	96	97	869	122	128	100	287	181	105	91
22	103	100	95	219	325	120	117	99	197	131	101	92
23	124	98	98	119	179	112	113	97	129	118	97	99
24	108	98	98	106	141	109	111	94	123	112	97	89
25	105	100	88	96	128	129	109	96	162	110	98	91
26	102	99	92	97	124	127	106	90	121	113	101	91
27	99	95	93	93	126	125	104	96	109	123	101	87
28	102	95	92	92	124	127	106	95	103	123	101	88
29	143	91	90	92	---	124	106	102	97	111	100	85
30	170	110	90	94	---	118	114	99	101	98	95	86
31	123	---	93	96	---	118	---	95	---	100	97	---
TOTAL	3218	3075	3098	3266	4490	4706	3423	3459	3574	3358	3197	2776
MEAN	104	103	99.9	105	160	152	114	112	119	108	103	92.5
MAX	170	114	133	219	869	402	135	188	297	181	135	99
MIN	92	91	88	92	87	109	104	90	85	86	91	85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1997, BY WATER YEAR (WY)

	MEAN	94.8	102	95.8	89.9	105	127	119	103	112	102	93.7	95.3
MAX	139	163	129	122	163	190	193	129	252	171	133	139	
(WY)	1987	1986	1983	1988	1994	1993	1993	1993	1996	1993	1996	1993	
MIN	66.9	69.5	69.7	65.3	73.1	80.4	88.7	78.3	76.4	70.4	59.2	67.6	
(WY)	1978	1978	1979	1991	1979	1981	1990	1981	1991	1977	1977	1991	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1977 - 1997

ANNUAL TOTAL	44265	41640	
ANNUAL MEAN	121	114	104
HIGHEST ANNUAL MEAN			136
LOWEST ANNUAL MEAN			80.4
HIGHEST DAILY MEAN	1450	869	1450
LOWEST DAILY MEAN	82	85	35
ANNUAL SEVEN-DAY MINIMUM	84	88	48
INSTANTANEOUS PEAK FLOW		1130	2210
INSTANTANEOUS PEAK STAGE		8.50	10.18
10 PERCENT EXCEEDS	140	131	135
50 PERCENT EXCEEDS	104	102	94
90 PERCENT EXCEEDS	95	92	73

(a) Also occurred Sept. 29

ROCK RIVER BASIN
05430175 YAHARA RIVER NEAR FULTON, WI

357

LOCATION.--Lat 42°49'35", long 89°10'19", in SE 1/4 NE 1/4 sec.10, T.4 N., R.11 E., Rock County, Hydrologic Unit 07090001, on left bank, 20 ft upstream from bridge on State Highway 59, 0.5 mi downstream from Badfish Creek, and 2.6 mi northwest of Fulton.

DRAINAGE AREA.--518 mi².

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

REVISED RECORDS.--WDR WI-96-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 789.45 ft above sea level. July 1977 to April 1996, recording gage at site about 2,000 ft upstream at datum 3.25 ft higher.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 25-28, Dec. 15-20, 25-27, Jan. 6 to Feb. 3, and Feb. 12-16. Records good except for ice-affected periods, which are fair (see page 11). Diurnal fluctuation caused by powerplant at Stebbensville 1.5 mi upstream, and additional regulation from other dams and powerplants upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	337	531	387	351	320	956	609	492	274	356	426	285
2	334	503	372	350	320	1040	602	501	306	398	364	282
3	330	493	370	367	320	771	595	535	310	351	419	285
4	301	482	364	429	322	762	594	375	303	320	416	276
5	290	473	368	468	337	707	587	458	266	159	319	276
6	320	468	373	380	374	657	597	470	176	325	298	271
7	331	402	375	360	344	650	580	463	219	255	250	268
8	309	432	375	350	325	615	609	489	280	284	258	269
9	315	485	389	340	322	813	628	436	207	310	263	272
10	342	478	386	330	325	834	562	417	221	294	266	271
11	374	434	381	330	333	736	538	442	278	292	272	274
12	301	416	388	320	300	689	578	390	215	289	352	280
13	302	412	390	320	290	628	572	413	187	286	364	276
14	322	311	382	320	290	657	647	406	222	286	337	273
15	272	336	380	310	290	643	618	411	274	294	366	274
16	185	410	380	310	290	613	592	412	502	299	325	277
17	195	446	370	300	306	613	587	397	365	286	316	282
18	185	384	370	300	532	612	579	384	293	318	317	277
19	183	360	370	310	850	608	568	356	302	411	311	277
20	197	367	370	320	546	587	564	346	271	373	373	274
21	197	376	366	340	1690	584	596	342	460	365	349	270
22	205	365	359	420	975	591	577	334	469	342	310	273
23	293	351	366	380	652	585	544	346	455	425	307	284
24	302	323	359	360	639	582	458	293	439	608	299	282
25	232	320	350	350	600	602	600	264	470	481	298	285
26	227	310	340	340	595	606	555	320	472	523	297	284
27	239	300	330	330	591	625	485	276	442	521	289	281
28	232	310	333	320	587	627	478	300	362	522	296	288
29	350	319	322	320	---	625	493	349	368	504	294	279
30	553	365	334	320	---	629	513	303	402	484	296	273
31	500	---	358	320	---	616	---	318	---	482	291	---
TOTAL	9055	11962	11357	10665	13665	20863	17105	12038	9810	11443	9938	8318
MEAN	292	399	366	344	488	673	570	388	327	369	321	277
MAX	553	531	390	468	1690	1040	647	535	502	608	426	288
MIN	183	300	322	300	290	582	458	264	176	159	250	268
CFSM	.56	.77	.71	.66	.94	1.30	1.10	.75	.63	.71	.62	.54
IN.	.65	.86	.82	.77	.98	1.50	1.23	.86	.70	.82	.71	.60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1997, BY WATER YEAR (WY)

	MEAN	355	411	396	342	367	474	459	372	341	315	294	321
MAX	596	711	558	542	585	760	1043	858	991	862	760	696	
(WY)	1987	1986	1983	1986	1986	1994	1993	1993	1996	1993	1993	1993	
MIN	171	181	167	192	168	229	204	155	136	121	117	109	
(WY)	1991	1990	1990	1978	1991	1978	1978	1981	1988	1988	1988	1988	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1977 - 1997	
ANNUAL TOTAL	162126		146219			
ANNUAL MEAN	443		401		372	
HIGHEST ANNUAL MEAN					629	
LOWEST ANNUAL MEAN					262	
HIGHEST DAILY MEAN	2880		1690		2880	
LOWEST DAILY MEAN	176		159		60	
ANNUAL SEVEN-DAY MINIMUM	192		192		104	
INSTANTANEOUS PEAK FLOW			2120		3230	
INSTANTANEOUS PEAK STAGE			8.81		11.16	
ANNUAL RUNOFF (CFSM)	.86		.77		.72	
ANNUAL RUNOFF (INCHES)	11.64		10.50		9.76	
10 PERCENT EXCEEDS	640		604		598	
50 PERCENT EXCEEDS	370		352		338	
90 PERCENT EXCEEDS	283		273		151	

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 20 to Dec. 2, Dec. 17, 19-31, Jan. 7, 8, and Jan. 11 to Feb. 2. Records are good except those for ice-affected periods, which are fair, and periods of discharge below 800 ft³/s, which are poor (see page 11). Diurnal fluctuation caused by powerplants above station. Data-collection platform at station.

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1180	2100	1000	1480	1700	4850	4550	3350	1370	3220	2510	2070
2	989	2100	1100	1460	1700	5790	4510	3240	1280	3040	2340	2060
3	732	2060	1170	1480	1730	5160	4490	3320	1190	2790	2390	2070
4	766	2030	1300	1570	1750	5120	4460	3090	1120	2910	2350	1890
5	741	2060	1500	1600	1620	5110	4440	2940	1090	2810	2270	1690
6	709	2040	1510	1560	1630	5030	4070	3050	1040	2750	2080	1400
7	952	1950	1500	1600	1650	5020	3740	3160	1030	2870	1940	1470
8	1220	1880	1480	1700	1620	4990	4280	3170	1090	2790	1740	1480
9	1180	1890	1480	1850	1580	5180	4420	3020	1110	2980	1760	1450
10	1130	1890	1530	1850	1560	5440	4360	3050	901	2900	1720	1180
11	694	1840	1500	1900	1550	5320	4250	2890	684	2870	1650	1140
12	699	1750	1470	1900	1540	5350	4470	2750	712	2850	1540	1130
13	743	1720	1420	1900	1440	5440	4290	2910	696	2790	1600	1150
14	978	1560	1460	2000	1510	5450	4180	2840	754	2720	1560	1160
15	1180	1530	1490	2000	1460	5320	4180	2770	754	2620	1730	1120
16	933	1620	1530	2000	1460	5230	4140	2680	1600	2480	1680	1150
17	752	1600	1500	1900	1430	5140	4210	2630	2250	2370	1810	1190
18	649	1560	1510	1800	1690	5180	4190	2650	2150	2360	1770	1090
19	1110	1590	1500	1700	2700	5030	4210	2440	2070	2390	1680	1180
20	1060	1600	1500	1700	2160	5000	4190	2320	2070	2360	1640	1220
21	1010	1500	1600	1700	4910	4860	4270	2220	2280	2290	1540	1190
22	1120	1500	1600	1700	4730	4760	4250	2140	2610	2380	1440	1160
23	1180	1500	1600	1700	3670	4670	4170	1940	2670	2330	1230	1210
24	1160	1400	1500	1700	3880	4610	3990	1780	2900	2520	1250	1210
25	1170	1400	1400	1700	4060	4580	3920	1780	3120	2500	1420	1160
26	1130	1200	1400	1700	4220	4460	3860	1800	3340	2460	2030	1190
27	1090	1000	1400	1700	4380	4460	3700	1690	3400	2620	2030	1190
28	1150	900	1400	1700	4370	4540	3530	1390	3360	2650	2090	1140
29	1380	900	1400	1700	---	4560	3360	1310	3220	2690	2050	1030
30	1500	1000	1400	1700	---	4580	3420	1290	3240	2640	2070	1020
31	2000	---	1400	1700	---	4610	---	1280	---	2600	2090	---
TOTAL	32287	48670	44550	53650	67700	154840	124100	76890	55101	82550	57000	39790
MEAN	1042	1622	1437	1731	2418	4995	4137	2480	1837	2663	1839	1326
MAX	2000	2100	1600	2000	4910	5790	4550	3350	3400	3220	2510	2070
MIN	649	900	1000	1460	1430	4460	3360	1280	684	2290	1230	1020
CFSM	.31	.49	.43	.52	.72	1.50	1.24	.74	.55	.80	.55	.40
IN.	.36	.54	.50	.60	.75	1.72	1.38	.86	.61	.92	.63	.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

MEAN	1385	1574	1471	1310	1533	3363	4113	2524	1727	1404	1108	1188
MAX	8219	5884	4395	3558	5647	8958	10010	7911	5731	5443	5376	5088
(WY)	1987	1986	1986	1960	1938	1918	1979	1973	1996	1993	1924	1938
MIN	254	397	383	275	327	610	1003	389	314	247	183	212
(WY)	1940	1964	1940	1959	1959	1940	1931	1958	1934	1934	1934	1939

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1914 - 1997	
ANNUAL TOTAL	907082		837128			
ANNUAL MEAN	2478		2294		1895	
HIGHEST ANNUAL MEAN					3925	
LOWEST ANNUAL MEAN					557	
HIGHEST DAILY MEAN	8430	Jun 25	5790	Mar 2	13000	Mar 23,24 1929
LOWEST DAILY MEAN	639	Sep 14	649	Oct 18		Aug 25,26 1934
ANNUAL SEVEN-DAY MINIMUM	771	Sep 12	802	Jun 9	115	Aug 24 1934
INSTANTANEOUS PEAK FLOW			6330	Feb 21	(a) 13000	Mar 23 1929
INSTANTANEOUS PEAK STAGE			8.63	Feb 21	(b) 13.05	Feb 5 1916
ANNUAL RUNOFF (CFSM)	.74		.69		.57	
ANNUAL RUNOFF (INCHES)	10.10		9.32		7.71	
10 PERCENT EXCEEDS	4080		4460		4040	
50 PERCENT EXCEEDS	2300		1770		1300	
90 PERCENT EXCEEDS	989		1110		471	

(a) Gage height, 11.81 ft, present datum
(b) Present datum, backwater from ice

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 20 ft downstream of Interstate Highway 43, 1.1 mi upstream from Delavan Lake inlet at Mound Road, and 1.5 mi south of Elkhorn.

DRAINAGE AREA.--4.34 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR WI-89-1: 1988.

GAGE.--Water-stage recorder. Datum of gage is 924.70 ft above sea level (Wisconsin Department of Transportation bench mark). Prior to Dec. 4, 1992, at site 180 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 5-8, 11-14, 20-21, 25-28, 31, Nov. 1-10, 19-22, Dec. 2-5, Aug. 5-11, 20-30, Sept. 3-13, and ice-affected periods, Dec. 21-22, 26-27, Jan. 9-31, Feb. 1, 11-17, and Mar. 14-16. Records good except those for estimated daily discharges, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	1.2	1.6	.85	1.5	27	2.5	4.3	.91	2.3	.31	.22
2	.41	1.0	1.2	5.1	2.1	10	2.2	5.7	.95	1.6	.22	.37
3	.45	.92	1.1	3.8	1.8	5.0	2.1	5.1	.90	1.5	.11	.24
4	.39	.86	.90	6.5	2.3	3.7	1.9	2.7	.88	1.8	2.0	.20
5	.30	1.1	.90	4.0	1.8	3.0	2.8	2.8	.93	1.1	.70	.18
6	.35	1.2	1.1	1.8	1.3	2.5	2.6	2.1	.92	.90	.50	.40
7	.80	1.1	1.2	1.2	1.3	2.2	1.7	3.4	1.1	.86	.45	.20
8	.46	.86	.93	1.0	1.3	2.1	1.4	5.6	.86	3.2	.60	.15
9	.41	.74	.86	.90	1.1	5.7	1.3	2.4	.71	1.8	.45	.10
10	.42	.64	1.0	.80	1.0	4.3	1.3	1.8	.86	1.2	.40	.08
11	.30	.77	2.3	.70	.92	3.8	1.7	1.8	.84	1.4	.40	.06
12	.35	.67	2.4	.62	.90	3.0	3.7	1.6	.85	1.2	6.0	.05
13	.42	.70	1.9	.56	.80	2.5	4.9	1.6	.80	.80	.62	.04
14	.46	.67	1.9	.52	.76	2.2	5.7	1.8	.72	.91	.50	.03
15	.35	.66	5.2	.50	.74	1.8	4.3	1.8	3.2	1.1	3.4	.16
16	.62	.67	2.0	.48	.70	1.7	2.9	1.4	17	.96	.44	3.9
17	6.8	1.2	1.6	.46	.90	2.0	2.4	1.4	2.1	1.3	2.3	9.1
18	.81	.72	1.2	.44	17	2.0	2.1	2.2	.78	3.8	.99	.49
19	.49	.92	.98	.42	10	1.9	3.7	1.7	.59	1.5	.47	14
20	.50	.78	.89	.40	6.1	2.1	2.8	1.4	.52	.75	.43	6.7
21	.56	.86	.84	.80	65	2.4	4.1	1.2	3.9	2.1	.40	1.1
22	1.8	.86	.80	9.0	9.4	2.5	2.5	1.1	.67	.52	.37	.80
23	2.4	.87	5.0	2.5	4.6	2.1	2.1	1.1	.53	.30	.35	1.1
24	.61	.97	2.1	1.5	3.0	2.0	1.8	1.9	2.2	.29	1.1	.83
25	.50	.92	.89	1.0	2.6	5.0	1.6	2.2	7.4	1.4	.70	.70
26	.74	.78	.74	.80	3.5	4.0	1.4	1.3	1.6	.42	.60	.62
27	.50	.68	.70	.70	4.1	3.5	1.4	1.2	1.3	3.6	.50	.52
28	.56	.75	1.3	.60	3.7	3.2	1.4	1.3	1.0	.58	.43	.54
29	16	1.5	1.1	.56	---	3.6	1.5	1.9	.87	.25	.36	.61
30	5.6	3.5	.91	.56	---	3.6	4.4	1.3	1.8	.23	.30	.60
31	1.6	---	.84	.80	---	4.2	---	1.1	---	.28	.25	---
TOTAL	46.30	29.07	46.38	49.87	150.22	124.6	76.2	68.2	57.69	39.95	26.65	44.09
MEAN	1.49	.97	1.50	1.61	5.37	4.02	2.54	2.20	1.92	1.29	.86	1.47
MAX	16	3.5	5.2	9.0	65	27	5.7	5.7	17	3.8	6.0	14
MIN	.30	.64	.70	.40	.70	1.7	1.3	1.1	.52	.23	.11	.03
CFSM	.34	.22	.34	.37	1.24	.93	.59	.51	.44	.30	.20	.34
IN.	.40	.25	.40	.43	1.29	1.07	.65	.58	.49	.34	.23	.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1997, BY WATER YEAR (WY)

	MEAN	2.29	4.15	2.85	1.82	3.62	5.25	4.96	3.25	2.78	2.21	1.69	2.42
MAX	7.23	13.3	6.55	4.61	8.81	10.7	14.4	7.11	9.42	5.39	5.59	10.8	
(WY)	1986	1986	1985	1993	1985	1986	1993	1990	1996	1992	1995	1986	
MIN	.30	.58	.49	.45	.33	1.13	1.28	.79	.54	.44	.30	.27	
(WY)	1995	1990	1990	1994	1989	1996	1989	1989	1988	1988	1988	1987	

SUMMARY STATISTICS

	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1984 - 1997
ANNUAL TOTAL	1045.42	759.22	
ANNUAL MEAN	2.86	2.08	3.10
HIGHEST ANNUAL MEAN			5.74
LOWEST ANNUAL MEAN			1.70
HIGHEST DAILY MEAN	67	65	113
LOWEST DAILY MEAN	.14	.03	.03
ANNUAL SEVEN-DAY MINIMUM	.16	.07	.07
INSTANTANEOUS PEAK FLOW		124	210
INSTANTANEOUS PEAK STAGE		8.93	10.00
ANNUAL RUNOFF (CFSM)	.66	.48	.71
ANNUAL RUNOFF (INCHES)	8.96	6.51	9.70
10 PERCENT EXCEEDS	6.7	4.1	6.7
50 PERCENT EXCEEDS	1.1	1.1	1.3
90 PERCENT EXCEEDS	.35	.40	.38

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1983 to current year.

DISSOLVED AMMONIA NITROGEN DISCHARGE: February 1993 to September 1995.

TOTAL AMMONIA PLUS ORGANIC NITROGEN DISCHARGE: Water years 1984-85 and February 1993 to September 1995.

DISSOLVED NITRITE PLUS NITRATE DISCHARGE: February 1993 to September 1995.

TOTAL NITRITE PLUS NITRATE DISCHARGE: Water years 1984-85.

TOTAL-PHOSPHORUS DISCHARGE: October 1983 to current year.

DISSOLVED ORTHO-PHOSPHORUS DISCHARGE: February 1993 to September 1995.

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, May 12, 1990, and May 11, 1995.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 136 tons, June 17, 1996; minimum daily, 0.00 ton, on several days in 1994, 1995, and 1997 water years.

DISSOLVED AMMONIA NITROGEN CONCENTRATIONS: Maximum observed, 1.00 mg/L, Jan. 24, 1994; minimum observed, <0.015 mg/L, on many days in 1995 water year.

DISSOLVED AMMONIA NITROGEN DISCHARGE: Maximum daily, 298 lb, Mar. 23, 1993; minimum daily, 0.02 lb, Jan. 8-11 and July 1-2, 1995.

TOTAL AMMONIA PLUS ORGANIC NITROGEN CONCENTRATIONS: Maximum observed, 16 mg/L, Nov. 19, 1983; minimum observed, 0.10 mg/L, Oct. 12, 1984.

TOTAL AMMONIA PLUS ORGANIC NITROGEN DISCHARGE: Maximum daily, 1,710 lb, Feb. 19, 1994; minimum daily, 0.09 lb, Jan. 9-11, 1995.

DISSOLVED NITRITE PLUS NITRATE CONCENTRATIONS: Maximum observed, 7.6 mg/L, Apr. 28, 1995; minimum observed, 0.30 mg/L, Aug. 7, 1995.

DISSOLVED NITRITE PLUS NITRATE DISCHARGE: Maximum daily, 1,080 lb, June 8, 1993; minimum daily, 0.43 lb, Aug. 6, 1995.

TOTAL NITRITE PLUS NITRATE CONCENTRATIONS: Maximum observed, 6.10 mg/L, Oct. 19, 1984; minimum observed, <0.10 mg/L, Oct. 12 and July 23, 1985.

TOTAL NITRITE PLUS NITRATE DISCHARGE: Maximum daily, 1,489 lb, May 28, 1984; minimum daily, 0.17 lb, July 23, 1985.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum observed, 8.20 mg/L, Aug. 7, 1984; minimum observed, 0.01 mg/L, Jan. 16, Mar. 14, 1990, and Dec. 27, 1994.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 584 lb, Feb. 19, 1994; minimum daily, 0.01 lb, Aug. 2, 1994.

DISSOLVED ORTHO-PHOSPHORUS CONCENTRATIONS: Maximum observed, 0.81 mg/L, Mar. 4, 1993; minimum observed, <0.01 mg/L, on many days during 1995.

DISSOLVED ORTHO-PHOSPHORUS DISCHARGE: Maximum daily, 126 lb, Mar. 23, 1993; minimum daily, 0.00 lb, Aug. 2, 1994, and Jan. 8-11, Aug. 6, 1995.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 3,040 mg/L, June 15; minimum observed, 8 mg/L, May 5.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 113 tons, June 21; minimum daily, 0.00 ton, Sept. 10-14.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum observed, 4.1 mg/L, Oct. 29; minimum observed, 0.02 mg/L, Mar. 19.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 386 lb, June 21; minimum daily, 0.02 lb, Sept. 13-14.

054310157 JACKSON CREEK TRIBUTARY NEAR ELKHORN, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
OCT 1996					
*02...	1015	--	0.35	0.070	95
*07...	0735	0.80	--	0.140	91
17...	0445	--	19	3.80	2010
17...	0545	--	26	1.40	752
17...	0900	--	9.8	0.440	89
17...	1100	--	7.1	--	67
17...	1830	--	7.3	0.650	110
*18...	0855	--	0.73	0.210	67
22...	2045	--	9.6	2.10	373
22...	2245	--	6.2	0.810	174
23...	0200	--	7.1	0.680	81
*23...	0755	--	2.1	--	38
26...	1130	0.74	--	3.20	2180
*28...	1045	0.56	--	0.090	80
29...	1100	--	11	4.10	1630
29...	1230	--	30	1.90	948
29...	1300	--	59	2.70	1730
29...	1430	--	42	1.10	292
29...	1730	--	18	0.460	75
29...	2045	--	31	0.530	98
30...	0045	--	14	0.330	56
30...	0645	--	7.3	0.280	61
NOV					
*04...	0810	0.86	--	--	53
*04...	0920	0.86	--	0.040	--
DEC					
*16...	1230	--	2.0	0.060	9
23...	1600	--	14	1.90	2640
23...	1800	--	12	0.570	417
23...	2200	--	8.2	0.350	141
JAN 1997					
02...	1530	--	9.7	0.630	272
02...	1930	--	10	0.340	73
*06...	0810	--	1.7	0.070	56
22...	0045	9.0	--	0.460	145
22...	0430	9.0	--	0.570	185
22...	1030	9.0	--	0.390	75
22...	1830	9.0	--	0.340	61
FEB					
*05...	1030	--	1.6	0.110	62
18...	1230	--	11	1.70	1070
18...	1315	--	17	--	1210
18...	1415	--	35	1.60	913
18...	1545	--	45	1.30	754
18...	1945	--	31	--	173
18...	2145	--	24	0.510	87
19...	0745	--	10	0.290	21
19...	1700	--	10	0.290	39
*20...	0750	--	3.3	0.130	13
20...	2030	--	10	0.320	496
20...	2400	--	35	1.30	829
21...	0100	--	70	1.40	1560
21...	0130	--	91	--	1690
21...	0215	--	114	2.10	1560
21...	0415	--	114	1.20	989
21...	0615	--	103	1.10	544
21...	0815	--	108	1.10	484
21...	1015	--	102	--	407
21...	1130	--	78	0.800	295
21...	1430	--	40	0.520	125
21...	2030	--	20	0.940	50
22...	0230	--	12	0.250	37
*22...	0905	--	9.1	0.130	19
22...	1615	--	9.5	0.190	40
*23...	0900	--	4.4	0.050	13
MAR					
01...	0430	--	11	0.330	124
01...	1030	--	17	0.340	76
01...	1245	--	32	0.730	315
01...	1430	--	53	0.690	310
01...	1630	--	58	0.570	254
01...	1830	--	48	0.620	259
01...	2230	--	29	0.370	130
02...	0630	--	10	0.180	20
02...	1645	--	9.4	0.240	46
*03...	0805	--	4.8	0.110	10
09...	1200	--	13	0.870	505
09...	1600	--	9.3	0.300	65
*10...	0805	--	3.5	0.060	18
*19...	1015	--	1.9	0.020	60

* Equal-width increment (EWI) sample

ROCK RIVER BASIN

054310157 JACKSON CREEK TRIBUTARY NEAR ELKHORN, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
APR 1997					
*07...	0740	--	1.5	0.030	86
*24...	0900	--	1.8	0.031	33
30...	1745	--	12	1.55	1090
MAY					
*01...	0745	--	4.8	0.215	11
*05...	0730	--	2.3	0.049	8
*22...	1110	--	1.1	0.066	51
JUN					
*02...	0745	--	0.92	0.061	37
15...	2230	--	29	1.63	3040
15...	2245	--	39	1.76	1340
16...	0015	--	25	0.655	222
16...	0215	--	27	0.541	182
16...	0415	--	55	0.571	352
16...	0715	--	24	0.317	114
16...	1115	--	12	0.313	25
16...	1715	--	7.6	0.144	10
*17...	0740	--	2.5	0.118	47
21...	0815	--	13	2.02	1250
21...	0915	--	21	0.836	398
21...	1030	--	11	0.498	85
21...	1430	--	4.7	0.208	19
*23...	0805	--	0.48	0.107	15
24...	1845	--	9.8	0.692	649
24...	1900	--	14	1.38	597
24...	2300	--	4.7	0.313	79
24...	2400	--	18	1.25	684
25...	0100	--	27	0.869	375
25...	0430	--	10	0.306	41
*25...	1016	--	6.6	0.205	14
25...	1020	--	6.5	0.194	13
JUL					
*07...	0820	--	0.71	0.056	15
08...	1015	--	9.3	0.489	57
08...	1215	--	5.0	0.163	27
18...	1545	--	9.0	0.346	94
18...	1600	--	16	1.19	331
18...	1800	--	12	0.354	75
18...	2200	--	4.8	--	13
*19...	0715	--	1.7	0.111	10
*24...	1040	--	0.22	0.088	12
25...	1430	--	4.5	0.457	29
27...	1015	--	12	1.13	525
27...	1215	--	12	0.296	83
27...	1415	--	8.2	0.275	24
AUG					
*04...	0800	--	0.11	0.104	44
04...	1615	--	10	2.88	1200
04...	1815	--	8.4	0.359	113
06...	0115	0.50	--	0.143	22
06...	0315	0.50	--	0.167	38
12...	0615	--	28	1.70	1650
12...	0700	--	38	0.765	522
12...	0800	--	24	0.391	108
12...	1115	--	7.7	0.238	35
*13...	0740	--	0.54	0.130	40
15...	0645	--	15	1.62	970
15...	0815	--	13	--	76
15...	0845	--	9.4	0.423	--
*18...	0815	--	0.81	0.183	33
SEP					
*02...	1000	--	0.35	0.112	28
16...	2145	--	29	0.833	2910
16...	2200	--	39	2.09	1510
16...	2400	--	32	0.725	304
17...	0200	--	32	0.554	170
17...	0400	--	19	0.306	146
17...	0600	--	12	0.393	53
*17...	0900	--	7.4	0.250	255
19...	1345	--	18	0.525	1700
19...	1400	--	51	0.592	2530
19...	1600	--	36	0.948	716
19...	1800	--	35	0.565	241
19...	2200	--	27	0.544	160
20...	0200	--	15	0.411	136
20...	0400	--	12	--	120
20...	0600	--	9.7	0.309	--
20...	0800	--	8.0	0.296	43
*20...	0855	--	7.4	--	16

* Equal-width increment (EWI) sample

054310157 JACKSON CREEK TRIBUTARY NEAR ELKHORN, WI--CONTINUED

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.19	.07	.07	.25	15	.30	.40	.09	.96	.02	.02
2	.10	.15	.05	3.3	.35	.97	.25	e5.8	.09	.05	.02	.03
3	.11	.14	.05	.46	.30	.17	.23	e1.1	.09	.05	.01	.02
4	.10	.12	.04	4.2	.38	.10	.21	.06	.08	.06	1.6	.01
5	.07	.15	.04	.50	.29	.08	1.4	.06	.09	.04	.10	.01
6	.09	.16	.04	.26	.21	.07	1.2	.05	.09	.03	.05	.03
7	.25	.14	.04	.18	.19	.06	.38	2.1	.23	.03	.04	.01
8	.12	.10	.03	.14	.18	.06	.31	5.6	.08	.21	.05	.01
9	.03	.09	.03	.12	.15	1.8	.26	.33	.06	.08	.03	.01
10	.03	.07	.33	.10	.13	.32	.25	.07	.08	.05	.03	.00
11	.02	.08	1.0	.09	.11	.19	.54	.08	.07	.05	.02	.00
12	.03	.07	1.1	.07	.10	.15	2.5	.08	.07	.04	5.0	.00
13	.03	.07	.30	.06	.08	.14	4.3	.08	.07	.03	.06	.00
14	.04	.06	.30	.06	.08	.15	5.8	.11	.06	.03	.05	.00
15	.03	.06	3.1	.05	.07	.15	.80	.11	6.9	.03	1.5	.01
16	.18	.06	.05	.05	.06	.17	.43	.10	7.5	.03	.04	10
17	8.0	.44	.04	.04	.08	.23	.31	.11	.22	.04	.96	4.3
18	.16	.16	.03	.04	20	.28	.26	.90	.09	.93	.10	.10
19	.07	.07	.02	.04	.91	.30	2.5	.17	.06	.04	.04	24
20	.06	.06	.02	.03	5.4	.33	.42	.15	.05	.02	.04	1.4
21	.06	.06	.02	.25	113	.38	3.0	.15	2.3	.80	.03	.05
22	.89	.06	.02	6.6	.72	.37	.25	.15	.03	.03	.03	.04
23	.42	.06	7.5	.41	.18	.30	.20	.15	.02	.01	.03	.06
24	.07	.06	.40	.25	.09	.34	.16	.66	1.7	.01	.09	.05
25	.06	.05	.09	.16	.08	1.3	.13	.90	2.6	.36	.06	.05
26	.22	.05	.07	.13	1.8	.92	.11	.16	.05	.02	.05	.05
27	.12	.04	.07	.12	2.3	.78	.10	.15	.04	.99	.04	.05
28	.15	.04	.48	.10	.50	.42	.09	.32	.03	.02	.03	.06
29	19	.58	.21	.09	---	.46	.09	.66	.03	.01	.03	.07
30	.90	1.8	.08	.09	---	.45	4.6	.14	.60	.01	.02	.08
31	.26	---	.07	.13	---	.51	---	.12	---	.02	.02	---
TOTAL	31.74	5.24	15.69	18.19	147.99	26.95	31.38	21.02	23.47	5.08	10.19	40.52
WTR YR 1997	TOTAL 377.46											

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.14	.79	.44	.24	.87	76.2	.56	7.17	.30	2.40	.20	.14
2	.16	.45	.34	13.0	1.22	11.2	.51	11.0	.32	.73	.14	.23
3	.20	.28	.31	4.25	1.05	3.25	.51	9.00	.31	.61	.06	.14
4	.20	.25	.26	20.0	1.35	2.15	.50	3.10	.31	.68	8.51	.12
5	.17	.24	.26	6.00	1.04	1.74	.69	3.30	.34	.40	.66	.11
6	.24	.66	.33	.68	.77	1.39	.51	.57	.35	.29	.43	.23
7	1.40	.24	.36	.45	.76	1.21	.27	4.50	.45	.26	.36	.12
8	.18	.22	.28	.36	.76	1.13	.23	10.0	.35	2.64	.44	.09
9	.11	.22	.26	.32	.63	10.2	.21	.67	.31	1.00	.31	.06
10	.11	.18	.30	.28	.60	2.78	.21	.52	.38	.61	.25	.05
11	.08	.18	1.60	.23	.52	2.30	.30	.53	.39	.64	.23	.03
12	.09	.16	1.80	.20	.50	1.34	1.60	.49	.40	.51	17.2	.03
13	.11	.16	1.10	.18	.45	.89	3.00	.49	.40	.32	.44	.02
14	.12	.16	1.00	.16	.42	.65	4.40	.56	.37	.33	.30	.02
15	.09	.16	12.0	.15	.41	.44	2.30	.56	18.0	.36	10.0	.09
16	.56	.16	.66	.14	.38	.33	1.00	.46	40.7	.30	.35	26.9
17	38.0	.34	.51	.13	.49	.31	.39	.46	2.86	.39	2.40	21.4
18	1.16	.10	.37	.12	86.2	.26	.35	2.20	.81	8.61	1.04	.51
19	.46	.24	.29	.12	16.8	.21	1.70	.56	.48	1.08	.45	48.6
20	.40	.20	.26	.11	14.4	.24	.90	.47	.34	.42	.41	12.4
21	.38	.22	.24	.80	386	.29	e2.00	.41	2.11	2.00	.36	1.45
22	9.15	.22	.22	45.0	9.23	.32	e.70	.39	.36	.21	.32	.94
23	8.20	.23	16.9	2.50	1.50	.28	.35	.38	.28	.15	.29	1.13
24	1.24	.25	1.97	.81	.81	.45	.31	1.70	1.21	.14	.70	.74
25	.68	.24	.44	.54	.70	3.20	.27	2.20	4.02	1.10	.59	.54
26	1.30	.21	.34	.44	1.50	2.00	.23	.46	.85	.14	.45	.41
27	.23	.18	.30	.39	2.10	1.50	.23	.43	.68	7.38	.37	.30
28	.26	.20	.49	.34	1.70	.58	.23	.90	.56	.50	.30	.27
29	97.3	.58	.27	.31	---	.67	.24	1.70	.47	.19	.25	.27
30	8.68	4.50	.31	.32	---	.72	18.7	.43	1.60	.16	.20	.22
31	1.84	---	.26	.46	---	.87	---	.37	---	.19	.16	---
TOTAL	173.24	12.22	44.47	99.03	533.16	129.10	43.40	65.98	80.31	34.74	48.17	117.56
WTR YR 1997	TOTAL 1381.38											

e Estimated

ROCK RIVER BASIN

05431016 JACKSON CREEK AT MOUND ROAD NEAR ELKHORN, WI

LOCATION.--Lat 42°38'27", long 88°33'39", in SE 1/4 SE 1/4 sec.11, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, on left bank at bridge on Mound Road, 2.3 mi south of Elkhorn.

DRAINAGE AREA.--16.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1993 to current year.

GAGE.--Water-stage recorder. Datum of gage is 920.00 ft above sea level (Wisconsin Department of Transportation benchmark).

REMARKS.--Estimated daily discharges: Sept. 16-17 and ice-affected periods, Jan. 6-31, Feb. 1, 10-17, 24-25, and Mar. 6, 14-16. Records fair except those for estimated daily discharges, which are poor (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.92	4.2	5.4	3.6	4.0	117	12	18	4.4	19	.34	.34
2	.98	3.4	4.6	11	6.4	113	11	15	3.8	10	.37	.35
3	.82	2.7	3.7	21	8.1	41	9.9	23	3.6	6.3	.30	.42
4	.79	2.6	3.4	22	7.3	27	9.1	17	3.6	5.0	.37	.42
5	.75	2.5	3.4	23	6.8	21	10	14	3.3	4.0	1.2	.37
6	.76	2.5	3.5	11	5.7	17	12	11	3.6	3.5	.46	.35
7	1.1	2.7	3.2	9.0	5.2	14	12	9.6	3.8	3.0	.35	.30
8	1.4	2.4	3.1	7.0	4.8	13	9.4	19	3.9	3.4	.42	.29
9	1.2	2.2	2.6	6.0	4.4	17	7.2	14	2.3	3.5	.31	.38
10	1.1	1.8	2.8	5.2	4.0	20	7.0	10	1.8	2.5	.29	.34
11	.76	1.7	4.8	4.5	3.7	19	7.4	8.4	1.8	2.0	.32	.45
12	.76	1.7	8.4	3.7	3.4	16	9.6	8.1	1.8	1.9	4.0	.44
13	.69	1.6	8.1	3.0	3.0	15	11	7.3	1.8	1.8	2.5	.46
14	.70	1.5	7.9	2.5	2.7	13	18	7.2	1.5	1.7	.97	.45
15	.68	1.4	13	2.0	2.5	11	17	7.5	1.3	1.4	2.6	.42
16	1.2	1.7	11	1.8	2.2	8.0	15	5.8	72	.99	1.8	15
17	9.2	2.5	7.2	1.7	2.0	9.2	11	5.8	36	.84	1.5	35
18	5.5	2.5	5.7	1.6	43	9.2	10	6.1	18	1.8	2.7	4.6
19	2.5	2.1	4.1	1.6	74	8.6	13	7.1	12	3.4	1.4	41
20	1.7	1.9	3.4	1.5	27	9.3	12	5.4	8.9	1.6	1.0	58
21	1.4	2.1	3.0	1.7	316	11	15	4.6	13	2.1	.87	13
22	1.6	2.2	3.1	25	70	12	13	4.2	13	1.9	.64	6.4
23	6.1	2.1	7.1	14	32	11	10	3.8	8.4	.97	.55	5.5
24	3.1	2.2	9.2	9.0	20	9.9	9.3	4.1	6.7	.70	.46	3.7
25	2.2	1.9	5.0	6.0	17	13	8.1	11	19	.78	.48	2.7
26	1.9	1.5	3.5	4.5	18	13	7.3	9.9	9.9	1.3	.54	2.0
27	1.7	1.4	3.4	3.5	20	12	7.0	6.2	6.3	2.1	.58	1.4
28	1.4	1.5	3.7	3.0	17	12	6.9	5.0	5.1	2.4	.58	1.0
29	17	1.7	4.1	2.5	---	12	6.2	6.1	4.1	.90	.53	1.3
30	25	6.4	3.7	2.2	---	11	8.5	5.6	4.2	.56	.46	1.7
31	7.1	---	3.6	2.0	---	14	---	4.9	---	.43	.39	---
TOTAL	102.01	68.6	158.7	216.1	730.2	649.2	314.9	284.7	278.9	91.77	29.28	198.08
MEAN	3.29	2.29	5.12	6.97	26.1	20.9	10.5	9.18	9.30	2.96	.94	6.60
MAX	25	6.4	13	25	316	117	18	23	72	19	4.0	58
MIN	.68	1.4	2.6	1.5	2.0	8.0	6.2	3.8	1.3	.43	.29	.29
CFSM	.20	.14	.30	.41	1.55	1.25	.62	.55	.55	.18	.06	.39
IN.	.23	.15	.35	.48	1.62	1.44	.70	.63	.62	.20	.06	.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1997, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997
MEAN	4.98	8.76	6.24	6.95	16.0
MAX	10.8	22.4	10.5	11.6	33.9
(WY)	1996	1996	1996	1996	1996
MIN	1.60	2.29	4.65	1.18	3.83
(WY)	1995	1997	1994	1994	1995

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1993 - 1997

ANNUAL TOTAL	4778.75	3122.44	
ANNUAL MEAN	13.1	8.55	10.4
HIGHEST ANNUAL MEAN			15.8
LOWEST ANNUAL MEAN			7.87
HIGHEST DAILY MEAN	452	316	578
LOWEST DAILY MEAN	.43	.29	.29
ANNUAL SEVEN-DAY MINIMUM	.52	.35	.35
INSTANTANEOUS PEAK FLOW		549	1190
INSTANTANEOUS PEAK STAGE		10.90	11.60
ANNUAL RUNOFF (CFSM)	.78	.51	.62
ANNUAL RUNOFF (INCHES)	10.58	6.91	8.42
10 PERCENT EXCEEDS	28	17	26
50 PERCENT EXCEEDS	4.2	3.8	4.8
90 PERCENT EXCEEDS	.88	.62	1.1

(a) Also occurred Sept. 8, 1997

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1983 to September 1985, February 1993 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: February 1993 to current year.

DISSOLVED AMMONIA NITROGEN DISCHARGE: February 1993 to September 1995.

TOTAL AMMONIA PLUS ORGANIC NITROGEN DISCHARGE: February 1993 to September 1995.

DISSOLVED NITRITE PLUS NITRATE DISCHARGE: February 1993 to September 1995.

TOTAL PHOSPHORUS DISCHARGE: February 1993 to current year.

DISSOLVED ORTHO-PHOSPHORUS DISCHARGE: February 1993 to current year.

INSTRUMENTATION.--Automatic pumping sampler since February 1993.

REMARKS.--Records good.

COOPERATION.--Observer furnished by Delavan Lake Sanitary District.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--

TOTAL AMMONIA PLUS ORGANIC NITROGEN CONCENTRATIONS: Maximum observed, 2.1 mg/L, July 10, 1985; minimum observed, 0.30 mg/L, Jan. 24, 1985.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum observed, 0.55 mg/L, July 10, 1985; minimum observed, 0.03 mg/L, Apr. 2, 1985.

DISSOLVED ORTHO-PHOSPHORUS CONCENTRATIONS: Maximum observed, 0.20 mg/L, Nov. 20, 1984 and May 22, 1985; minimum observed, <0.01 mg/L, July 10, 23, 1985.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 1,420 mg/L, June 17, 1996; minimum observed, 2 mg/L, Sept. 16, 1993, July 25, 1995, and July 18, 1996.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 1,030 tons, June 17, 1996; minimum daily, 0.01 ton, Aug. 25-28 and Sept. 11, 1993, July 19, 22, 1995, and many days in 1994, 1996, and 1997 water years.

DISSOLVED AMMONIA NITROGEN CONCENTRATIONS: Maximum observed, 1.70 mg/L, Mar. 5, 1993; minimum observed, 0.01 mg/L, Aug. 1, 29, and Sept. 25, 1994.

DISSOLVED AMMONIA NITROGEN DISCHARGE: Maximum daily, 1,410 lb, Feb. 20, 1994; minimum daily, 0.07 lb, July 31, 1995.

TOTAL AMMONIA PLUS ORGANIC NITROGEN CONCENTRATIONS: Maximum observed, 4.6 mg/L, Mar. 5, 1993; minimum observed, 0.40 mg/L, Oct. 6 and Dec. 15, 1993, and Jan. 14, Mar. 28-29, 1995.

TOTAL AMMONIA PLUS ORGANIC NITROGEN DISCHARGE: Maximum daily, 4,900 lb, Apr. 20, 1993; minimum daily, 1.5 lb, June 19, 1994.

DISSOLVED NITRITE PLUS NITRATE CONCENTRATIONS: Maximum observed, 13.0 mg/L, Apr. 30, 1995; minimum observed, <0.05 mg/L, Sept. 2, 1993, and many days in 1994 and 1995 water years.

DISSOLVED NITRITE PLUS NITRATE DISCHARGE: Maximum daily, 5,310 lb, Apr. 20, 1993; minimum daily, 0.16 lb, July 19, 1995.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum observed, 1.6 mg/L, June 17, 1996; minimum observed, <0.01 mg/L, Mar. 19, 1997.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 2,630 lb, Apr. 20, 1993; minimum daily, 0.16 lb, Dec. 29, 1993.

DISSOLVED ORTHO-PHOSPHORUS CONCENTRATIONS: Maximum observed, 0.63 mg/L, Feb. 19, 1997; minimum observed, <0.01 mg/L, May 13, 1993 and Mar. 21, Apr. 14, 18, 1994, many days during 1995-96 water years, and May 22, 1997.

DISSOLVED ORTHO-PHOSPHORUS DISCHARGE: Maximum daily, 614 lb, Feb. 21, 1997; minimum daily, 0.05 lb, Feb. 14, 1995.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 496 mg/L, Feb. 21; minimum observed, 5 mg/L, July 7.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 258 tons, Feb. 21; minimum daily, 0.01 ton, on many days.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum observed, 1.30 mg/L, Feb. 21; minimum observed, <0.01 mg/L, Mar. 19.

TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 1,650 lb, Feb. 21; minimum daily, 0.17 lb, Aug. 11.

DISSOLVED ORTHO-PHOSPHORUS CONCENTRATIONS: Maximum observed, 0.63 mg/L, Feb. 19; minimum observed, <0.01 mg/L, May 22.

DISSOLVED ORTHO-PHOSPHORUS DISCHARGE: Maximum daily, 614 lb, Feb. 21; minimum daily, 0.09 lb, Aug. 11.

ROCK RIVER BASIN

05431016 JACKSON CREEK AT MOUND ROAD NEAR ELKHORN, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
OCT 1996						
*02...	1045	--	1.1	0.160	0.050	10
*07...	0750	--	0.96	0.100	--	11
*17...	0800	--	9.4	0.180	--	28
23...	0900	--	7.9	0.330	--	40
23...	1200	--	7.0	--	--	33
23...	1800	--	5.5	0.290	--	21
*24...	0905	--	3.1	--	--	26
*28...	1120	--	1.2	0.150	0.070	27
29...	1230	--	5.5	--	0.018	22
29...	1445	--	17	0.300	0.100	62
29...	1830	--	39	0.400	0.140	90
30...	0030	--	48	0.280	0.140	36
30...	0330	--	39	0.360	0.110	100
30...	0930	--	27	0.370	0.120	76
*30...	0931	--	27	0.350	0.140	69
30...	1830	--	15	0.230	0.100	31
31...	0330	--	8.9	0.260	0.070	68
NOV						
*04...	0825	--	2.7	--	--	49
*04...	0930	--	2.7	0.140	--	--
DEC						
15...	0500	--	9.4	0.290	0.140	33
15...	1100	--	14	0.120	0.020	35
15...	1700	--	15	0.090	0.030	25
16...	0200	--	13	0.110	0.030	37
16...	1100	--	10	0.090	0.020	33
23...	1430	--	5.1	0.070	--	18
23...	2030	--	15	0.190	--	160
23...	2330	--	16	0.070	--	--
24...	0530	--	12	0.140	--	--
JAN 1997						
*06...	0830	11	--	0.140	0.090	8
22...	0730	25	--	0.230	0.110	39
22...	1030	25	--	--	--	25
22...	1330	25	--	0.200	0.080	16
22...	1930	25	--	0.340	0.230	13
*23...	0755	14	--	0.380	0.280	10
FEB						
*05...	1105	--	6.6	0.110	0.060	7
18...	1515	--	29	0.180	0.020	50
18...	1730	--	75	0.410	0.150	62
18...	1915	--	116	--	--	75
18...	2045	--	136	1.00	0.620	56
18...	2345	--	140	--	--	52
19...	0845	--	77	0.880	0.590	25
*19...	0850	--	77	0.770	0.600	--
19...	1745	--	50	0.490	0.370	21
19...	2345	--	41	1.10	0.630	--
*20...	0820	--	22	0.460	0.320	14
21...	0115	--	59	0.380	0.190	33
21...	0330	--	168	0.450	0.180	88
21...	0500	--	310	0.790	0.250	258
21...	0615	--	400	1.10	0.300	333
21...	0715	--	444	--	--	379
21...	1000	--	526	1.00	0.380	496
21...	1200	--	535	--	--	371
21...	1300	--	495	1.30	0.430	356
*21...	1301	--	495	1.10	0.370	291
21...	1530	--	385	1.20	0.420	307
21...	1900	--	243	1.00	0.390	236
21...	2315	--	144	0.820	0.370	166
22...	0745	--	44	0.670	0.320	88
*22...	1440	--	88	0.530	0.200	--
22...	1445	--	87	0.500	0.250	66
22...	2045	--	53	0.420	0.190	53
*23...	0930	--	31	0.340	0.140	62

*Equal-width increment (EWI) sample

ROCK RIVER BASIN

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05431016 JACKSON CREEK AT MOUND ROAD NEAR ELKHORN, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	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)
MAR 1997						
01...	1045	--	51	0.190	0.080	28
01...	1430	--	116	--	--	125
01...	1515	--	138	0.610	0.250	111
01...	1630	--	198	--	--	90
01...	1815	--	258	0.750	0.400	76
01...	2115	--	267	0.560	0.310	67
02...	0315	--	170	0.760	0.370	132
02...	0830	--	165	0.620	0.350	83
*02...	1000	--	125	0.510	0.300	100
02...	1015	--	121	0.330	0.160	70
02...	1915	--	67	0.430	0.250	37
03...	1015	--	40	0.630	0.340	70
*04...	0840	--	27	0.200	0.120	55
*19...	1045	--	8.4	<0.010	0.010	72
APR						
*07...	0755	15	0.020	0.020	44	
*24...	1000	--	9.4	0.047	0.010	20
MAY						
*01...	0755	22	0.049	0.039	21	
*05...	0755	--	12	0.034	<0.010	--
*22...	1130	--	4.2	--	--	38
**22...	1215	--	4.2	0.066	<0.010	--
JUN						
*02...	0800	--	4.2	0.081	<0.010	11
16...	0430	--	35	0.290	0.082	110
16...	0630	--	71	0.281	0.064	75
16...	0815	--	93	0.278	0.055	89
*16...	0825	--	95	0.261	0.142	19
16...	1115	--	104	0.309	--	16
16...	1415	--	104	0.282	--	93
16...	2015	--	73	0.216	--	16
17...	0215	--	51	0.192	--	12
*17...	0800	--	39	0.197	--	9
17...	0815	--	39	0.116	--	11
25...	1120	--	24	0.097	0.048	--
*25...	1121	--	24	0.095	0.056	7
JUL						
*07...	0835	--	3.2	0.602	0.027	5
*24...	1130	--	0.72	0.292	0.128	6
AUG						
*04...	0820	--	0.29	0.247	0.144	11
12...	1145	--	5.8	0.293	0.028	49
12...	1445	--	7.0	0.138	0.022	15
12...	1745	--	6.6	0.123	0.028	16
12...	2345	--	4.8	0.133	0.047	10
13...	0545	--	3.4	0.195	0.047	9
*13...	0750	--	2.9	0.167	0.079	7
*18...	0835	--	3.1	0.212	0.086	9
SEP						
*02...	0930	--	0.34	0.231	0.070	16
17...	1015	35	--	0.281	0.143	14
17...	1215	35	--	0.279	0.157	25
17...	1415	35	--	--	--	17
17...	1615	35	--	0.282	0.175	15
17...	2015	35	--	0.251	0.162	10
18...	0215	--	7.9	0.248	0.121	24
18...	0815	--	5.5	0.266	0.084	19
19...	1515	--	25	0.207	0.074	25
19...	1645	--	51	--	--	80
19...	1800	--	91	0.339	0.155	83
19...	2000	--	129	0.355	0.135	64
19...	2200	--	138	0.365	0.186	65
19...	2400	--	131	--	--	54
20...	0200	--	116	0.370	0.201	50
20...	0600	--	81	0.665	0.213	41
*20...	0925	--	59	--	--	32
20...	1200	--	48	0.344	0.211	21
20...	2400	--	21	0.261	0.127	25
*21...	0915	--	13	--	--	21
21...	1200	--	12	0.240	0.044	21
22...	1000	--	6.2	0.231	0.067	17

* Equal-width increment (EWI) sample

** Grab sample

ROCK RIVER BASIN

05431016 JACKSON CREEK AT MOUND ROAD NEAR ELKHORN, WI--CONTINUED

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.67	e.36	.10	.08	22	1.7	.95	.15	e1.0	.01	.01
2	.03	.51	e.29	.28	.12	24	1.4	.74	.12	e.48	.01	.02
3	.02	.38	.13	.53	.15	6.4	1.3	1.2	.11	.08	.01	.02
4	.02	.35	.12	.52	.13	4.1	1.2	.68	.11	.06	e.02	.02
5	.02	.31	.11	.53	.12	3.2	1.3	.46	.10	.05	e.04	.01
6	.02	.30	.11	.24	.10	2.6	1.4	.39	.10	.04	.01	.01
7	.03	.31	.10	.20	.09	2.2	1.4	e.45	.11	.04	.01	.01
8	.04	.27	.09	.15	.08	2.0	1.1	e1.1	.11	.04	.01	.01
9	.03	.23	.07	.13	.07	2.7	.77	e.72	.06	.05	.01	.01
10	.03	.18	.07	.12	.06	3.2	.72	.46	.05	.03	.01	.01
11	.02	.16	.20	.10	.06	3.2	.72	.42	.05	.03	.01	.01
12	.02	.16	.52	.09	.05	2.8	.90	.43	.05	.03	.21	.01
13	.02	.14	.47	.07	.04	2.6	1.0	.42	.05	.03	.05	.01
14	.02	.13	.42	.06	.04	2.3	1.5	.44	.04	.02	.01	.01
15	.02	.12	.97	.05	.03	2.0	1.4	.48	.04	.02	e.09	.01
16	.03	.13	.93	.04	.03	1.5	1.1	.40	8.0	.01	e.06	e.80
17	.67	.18	.52	.04	.03	1.7	.84	.42	1.0	.01	.03	e2.2
18	.37	.17	.34	.04	6.2	1.8	.73	.48	.46	e.06	.07	.23
19	.12	.14	.21	.04	5.8	1.7	.91	.59	.28	e.13	.02	6.5
20	.07	.12	.14	.04	.99	1.8	.80	.49	.19	e.05	.01	5.5
21	.05	.13	.11	.04	258	1.9	.93	.44	e.66	e.07	.01	.72
22	.05	.13	.09	1.3	16	2.2	.74	.42	e.60	e.06	.01	.29
23	.47	.12	1.4	.38	4.9	1.9	.58	.35	.12	.02	.01	.27
24	.21	.12	.64	.23	2.4	1.7	.49	e.16	e.30	.01	.01	.20
25	.15	.10	.19	.15	1.5	2.1	.41	e.54	e1.0	e.02	.01	.17
26	.14	.07	.13	.11	1.1	2.1	.35	e.47	.14	e.04	.01	.13
27	.12	.07	.12	.08	.89	2.0	.32	e.27	.08	e.07	.01	.11
28	.09	.07	.12	.07	.53	1.9	.30	.26	.06	e.08	.02	.09
29	2.6	e.08	.13	.05	---	1.9	.25	.29	.05	.02	.02	.12
30	4.1	e.45	.11	.05	---	1.7	.36	.24	e.17	.01	.02	.18
31	1.2	---	.10	.04	---	2.1	---	.19	---	.01	.01	---
TOTAL	10.81	6.30	9.31	5.87	299.59	115.3	26.92	15.35	14.36	2.67	0.84	17.69
WTR YR 1997	TOTAL 525.01											

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	4.70	e5.40	2.62	3.31	331	1.07	4.55	1.87	e10.0	.47	.38
2	.79	3.33	e4.40	7.93	4.78	328	.94	3.96	1.65	e4.00	.50	.41
3	.61	2.34	1.18	16.0	5.51	107	.91	6.38	1.49	8.09	.40	.48
4	.54	2.01	1.05	16.5	4.50	31.0	.88	3.58	1.45	8.12	e.44	.47
5	.47	1.84	1.02	17.5	3.82	18.4	1.03	2.53	1.28	8.25	e1.50	.40
6	.44	1.79	1.01	8.27	2.99	12.0	1.21	2.10	1.32	9.14	.47	.36
7	.59	1.86	.90	6.61	2.56	8.03	1.26	e3.90	1.34	9.49	.31	.30
8	.73	1.63	.85	5.01	2.21	5.93	1.08	e9.60	1.34	10.4	.33	.28
9	.64	1.42	.70	4.19	1.92	6.23	.86	e6.50	.74	10.3	.22	.37
10	.57	1.15	.73	3.54	1.62	6.13	.87	2.19	.55	7.16	.18	.32
11	.40	1.01	2.20	2.98	1.41	4.82	.97	1.91	.54	5.46	.17	.40
12	.40	1.01	6.01	2.39	1.22	3.38	1.32	1.90	.52	4.78	3.24	.38
13	.36	.94	5.12	1.89	1.01	2.49	1.62	1.79	.51	4.51	1.96	.39
14	.36	.86	4.36	1.54	.85	1.81	2.65	1.82	.41	3.97	.49	.37
15	.35	.79	8.15	1.20	.74	1.25	2.75	1.95	.37	3.06	e3.40	.34
16	.69	.88	5.17	1.05	.61	.74	2.40	1.56	85.5	2.11	e2.30	11.7
17	16.9	1.28	3.02	.97	.52	.70	1.96	1.62	23.9	1.72	1.26	40.7
18	9.20	1.24	2.19	.89	157	.57	1.87	1.78	5.74	3.50	2.99	5.69
19	2.33	1.00	1.45	.87	306	.45	2.56	2.13	2.95	6.34	.85	69.4
20	1.35	.89	1.10	.79	72.4	.50	2.46	1.70	2.11	2.77	.54	124
21	.92	.97	.91	.87	1650	.58	3.15	1.49	e5.80	3.53	.49	16.1
22	.98	.99	.86	30.2	216	.69	2.75	1.39	e5.80	3.13	.38	7.50
23	8.98	.88	3.67	27.6	58.7	.66	2.38	1.30	1.78	1.51	.35	6.07
24	4.12	.91	5.90	16.5	31.4	.62	2.18	e1.30	e2.40	1.05	.31	3.89
25	2.55	.75	3.61	9.94	23.2	.83	1.78	e4.70	e9.80	e.96	.34	2.65
26	1.91	.58	2.51	6.75	21.0	.89	1.50	e3.90	3.01	e1.70	.41	1.82
27	1.47	.53	2.43	4.76	20.6	.87	1.34	e2.20	1.95	e2.70	.47	1.25
28	1.01	.56	2.70	3.69	14.9	.90	1.22	1.93	1.97	e3.20	.50	.83
29	27.7	e1.20	3.02	2.79	---	.95	1.03	2.42	2.06	1.27	.49	.97
30	39.8	e6.70	2.72	2.22	---	.90	1.51	2.30	e1.30	.78	.45	1.20
31	8.91	---	2.65	1.83	---	1.19	---	2.06	---	.59	.41	---
TOTAL	136.83	46.04	86.99	209.89	2610.78	879.51	49.51	88.44	171.45	143.59	26.62	299.42
WTR YR 1997	TOTAL 4749.07											

e Estimated

05431016 JACKSON CREEK AT MOUND ROAD NEAR ELKHORN, WI--CONTINUED

PHOSPHORUS ORTHO WATER, WHOLE, DISSOLVED, LBS/DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	1.44	e2.20	.99	2.07	178	1.09	e1.70	.24	e12.0	.26	.13
2	.26	1.08	e1.80	3.41	2.92	183	.96	e1.30	.21	e4.90	.28	.13
3	.20	.80	.49	7.49	3.32	62.4	.93	e2.50	.20	.95	.23	.16
4	.17	.72	.43	8.71	2.66	18.6	.89	1.54	.22	.74	e.30	.16
5	.15	.66	.42	10.2	2.20	11.5	1.04	.76	.21	.59	e.40	.14
6	.13	.65	.42	5.27	1.60	7.77	1.21	.59	.24	.51	.27	.13
7	.18	.67	.38	4.19	1.26	5.43	1.24	e.68	.27	.44	.18	.11
8	.26	.60	.36	3.14	1.01	4.16	.97	e1.90	.29	.55	.19	.11
9	.26	.52	.30	2.59	.80	4.55	.71	e1.20	.18	.62	.12	.15
10	.27	.42	.31	2.16	.63	4.64	.66	.54	.14	.49	.10	.13
11	.22	.37	1.11	1.80	.50	3.79	.67	.45	.16	.43	.09	.17
12	.25	.38	3.37	1.43	.40	2.76	.84	.44	.16	.43	.68	.17
13	.25	.35	2.82	1.12	.31	2.11	.95	.40	.17	.47	.79	.17
14	.29	.32	2.35	.90	.24	1.59	1.42	.39	.15	.47	.26	.17
15	.33	.30	2.76	.69	.19	1.14	1.35	.40	.15	.42	e.80	.16
16	.38	.33	1.33	.60	.15	.70	1.09	.31	17.7	.33	e.48	5.67
17	7.40	.49	.78	.54	.12	.69	.81	.31	5.71	.31	e.37	24.2
18	3.99	.47	.62	.49	93.7	.58	.71	.33	2.10	e.48	1.33	2.27
19	1.17	.38	.44	.47	218	.48	.89	.38	1.29	e1.20	.42	33.3
20	.59	.34	.37	.43	48.2	.52	.78	.29	.96	e.40	.28	61.4
21	.35	.38	.33	.47	614	.61	.92	.25	e1.10	e.60	.25	4.84
22	.33	.39	.34	17.8	103	.72	.74	.22	e1.00	e.52	.18	2.19
23	3.64	.34	1.70	20.2	24.8	.69	.58	.20	.90	.61	.16	1.79
24	1.58	.36	1.24	11.9	12.5	.64	.50	e.25	e.39	.48	.14	1.10
25	1.04	.30	.63	7.05	8.84	.87	.44	e.84	e1.90	e.15	.15	.72
26	.84	.23	.49	4.70	7.71	.92	.39	.54	1.86	e.30	.17	.47
27	.69	.21	.53	3.25	7.31	.91	.38	.34	1.02	e.60	.19	.31
28	.50	.23	.66	2.48	5.09	.93	.37	.27	.80	e.72	.19	.20
29	11.3	e.45	.82	1.84	---	.97	.34	.33	.65	.66	.18	.22
30	15.7	e2.80	.82	1.44	---	.92	e.55	.30	e1.50	.41	.16	.26
31	2.65	---	.90	1.16	---	1.21	---	.27	---	.32	.14	---
TOTAL	55.65	16.98	31.52	128.91	1163.53	503.80	24.42	20.22	41.87	32.10	9.74	141.13
MAX	15.7	2.80	3.37	20.2	614	183	1.42	2.50	17.7	12.0	1.33	61.4
MIN	.13	.21	.30	.43	.12	.48	.34	.20	.14	.15	.09	.11

WTR YR 1997 TOTAL 2169.87

e Estimated

ROCK RIVER BASIN

05431017 DELAVAN LAKE INLET AT STATE 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 downstream headwall of State Highway 50 bridge, and 1.0 mi east of Lake Lawn.

DRAINAGE AREA.--21.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1984 and 1985 water years (unpublished) to current year. Published as "at U.S. Highway 50" prior to October 1988.

GAGE.--Nonrecording gage. Datum of gage is 922.94 ft above sea level (Wisconsin Department of Transportation bench mark). Previously published datum of 914.48 ft in 1989-91 annual data reports was in error.

REMARKS.--Daily mean discharges were estimated based on discharges upstream at Jackson Creek near Elkhorn (05431014) and Jackson Creek Tributary near Elkhorn (054310157) for Oct. 1, 1992 to Jan. 31, 1993, and on discharges upstream at Jackson Creek at Mound Road near Elkhorn (05431016) for subsequent periods. Records poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	5.5	7.0	4.7	5.2	152	16	23	5.7	25	.44	.44
2	1.3	4.4	6.0	14	8.3	147	14	20	4.9	13	.48	.45
3	1.1	3.5	4.8	27	11	53	13	30	4.7	8.2	.39	.55
4	1.0	3.4	4.4	29	9.5	35	12	22	4.7	6.5	.48	.55
5	.97	3.3	4.4	30	8.8	27	13	18	4.3	5.2	1.6	.48
6	.99	3.3	4.5	14	7.4	22	16	14	4.7	4.5	.60	.45
7	1.4	3.5	4.2	12	6.8	18	16	12	4.9	3.9	.45	.39
8	1.8	3.1	4.0	9.1	6.2	17	12	25	5.1	4.4	.55	.38
9	1.6	2.9	3.4	7.8	5.7	22	9.4	18	3.0	4.5	.40	.49
10	1.4	2.3	3.6	6.8	5.2	26	9.1	13	2.3	3.3	.38	.44
11	.99	2.2	6.2	5.8	4.8	25	9.6	11	2.3	2.6	.42	.58
12	.99	2.2	11	4.8	4.4	21	12	11	2.3	2.5	5.2	.57
13	.90	2.1	11	3.9	3.9	20	14	9.5	2.3	2.3	3.3	.60
14	.91	1.9	10	3.3	3.5	17	23	9.4	1.9	2.2	1.3	.58
15	.88	1.8	17	2.6	3.3	14	22	9.8	1.7	1.8	3.4	.55
16	1.6	2.2	14	2.3	2.9	10	20	7.5	94	1.3	2.3	20
17	12	3.3	9.4	2.2	2.6	12	14	7.5	47	1.1	1.9	46
18	7.1	3.3	7.4	2.1	56	12	13	7.9	23	2.3	3.5	6.0
19	3.3	2.7	5.3	2.1	96	11	17	9.2	16	4.4	1.8	53
20	2.2	2.5	4.4	1.9	35	12	16	7.0	12	2.1	1.3	75
21	1.8	2.7	3.9	2.2	411	14	20	6.0	17	2.7	1.1	17
22	2.1	2.9	4.0	33	91	16	17	5.5	17	2.5	.83	8.3
23	7.9	2.7	9.2	18	42	14	13	4.9	11	1.3	.71	7.1
24	4.0	2.9	12	12	26	13	12	5.3	8.7	.91	.60	4.8
25	2.9	2.5	6.5	7.8	22	17	11	14	25	1.0	.62	3.5
26	2.5	1.9	4.5	5.8	23	17	9.5	13	13	1.7	.70	2.6
27	2.2	1.8	4.4	4.5	26	16	9.1	8.1	8.2	2.7	.75	1.8
28	1.8	1.9	4.8	3.9	22	16	9.0	6.5	6.6	3.1	.75	1.3
29	22	2.2	5.3	3.3	---	16	8.1	7.9	5.3	1.2	.69	1.7
30	33	8.3	4.8	2.9	---	14	11	7.3	5.5	.73	.60	2.2
31	9.2	---	4.7	2.6	---	18	---	6.4	---	.56	.51	---
TOTAL	133.03	89.2	206.1	281.4	949.5	844	410.8	369.7	364.1	119.50	38.05	257.80
MEAN	4.29	2.97	6.65	9.08	33.9	27.2	13.7	11.9	12.1	3.85	1.23	8.59
MAX	33	8.3	17	33	411	152	23	30	94	25	5.2	75
MIN	.88	1.8	3.4	1.9	2.6	10	8.1	4.9	1.7	.56	.38	.38
CFSM	.20	.14	.30	.42	1.56	1.25	.63	.55	.56	.18	.06	.39
IN.	.23	.15	.35	.48	1.62	1.44	.70	.63	.62	.20	.06	.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1997, BY WATER YEAR (WY)

	MEAN	7.44	15.2	12.1	7.69	17.2	26.4	24.2	13.9	15.5	8.07	5.43	7.58
MAX	25.9	54.5	30.3	19.5	44.1	68.3	101	35.4	86.0	29.3	30.5	37.4	
(WY)	1987	1986	1993	1993	1994	1986	1993	1996	1996	1993	1995	1986	
MIN	.67	1.14	1.12	1.11	1.31	5.41	3.28	1.44	.76	.61	.50	.61	
(WY)	1989	1990	1990	1991	1989	1996	1989	1989	1988	1988	1988	1988	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1984 - 1997

ANNUAL TOTAL	6205.47	4063.18	
ANNUAL MEAN	17.0	11.1	
HIGHEST ANNUAL MEAN			13.3
LOWEST ANNUAL MEAN			30.3
HIGHEST DAILY MEAN	588	411	751
LOWEST DAILY MEAN	.56	.38	.22
ANNUAL SEVEN-DAY MINIMUM	.68	.45	.25
ANNUAL RUNOFF (CFSM)	.78	.51	.61
ANNUAL RUNOFF (INCHES)	10.59	6.93	8.31
10 PERCENT EXCEEDS	36	22	30
50 PERCENT EXCEEDS	5.5	4.9	4.7
90 PERCENT EXCEEDS	1.1	.80	.84

(a) Also occurred Sept. 7

05431017 DELAVAN LAKE INLET AT STATE HIGHWAY 50 AT LAKE LAWN, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: 1984 and 1985 water years (unpublished), October 1989 to September 1995.

TOTAL-PHOSPHORUS DISCHARGE: 1984 and 1985 water years (unpublished) to current year.

DISSOLVED ORTHO-PHOSPHORUS DISCHARGE: April 1994 to current year.

REMARKS.--Records poor. Daily mean discharges are estimated based on discharges from upstream stations 05431014 and 054310157 from Oct. 1, 1992 to Jan. 31, 1993, and from station 05431016 from Feb. 1, 1993 to Sept. 30, 1994. Samples are equal-width increment unless otherwise indicated.

COOPERATION.--Observer furnished by Delavan Lake Sanitary District.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 345 mg/L, Apr. 16, 1984; minimum observed, 0 mg/L, Sept. 23, 1991, July 17, Sept. 26, 1992, and Nov. 16, 1994.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 468 tons, Apr. 20, 1993; minimum daily, 0.00 ton, Sept. 26, 1990, many days during 1992 to 1994 water years, and July 14, 15, 18, 19, 1995.

TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 3.8 mg/L, May 27, 1985; minimum observed, 0.01 mg/L, Mar. 7, 1990, Dec. 15, 1994, Apr. 17, 1995, Oct. 6, 1995, and Feb. 5, 1997.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 1,910 lb, Apr. 20, 1993; minimum daily, 0.10 lb, Dec. 28, 1989.

DISSOLVED ORTHO-PHOSPHORUS CONCENTRATIONS: Maximum observed, 0.789 mg/L, July 19, 1997; minimum observed, <0.01 mg/L, Apr. 14, 1994, many days during 1995 water year, Nov. 22, 1995, and several days in 1997 water year.

DISSOLVED ORTHO-PHOSPHORUS DISCHARGE: Maximum daily, 262 lb, Aug. 17, 1995; minimum daily, 0.14 lb, Jan. 9-10, 1995.

DISSOLVED CHLORIDE CONCENTRATIONS: Maximum observed, 130 mg/L, Aug. 8, 1995; minimum observed, 18 mg/L, June 1, 1995.

EXTREMES FOR CURRENT YEAR.--

TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 1.04 mg/L, July 19; minimum observed, 0.01 mg/L, Feb. 5.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 1,090 lb, Feb. 21; minimum daily, 0.14 lb, Feb. 17.

DISSOLVED ORTHO-PHOSPHORUS CONCENTRATIONS: Maximum observed, 0.789 mg/L, July 19; minimum observed, <0.010 mg/L, on several days.

DISSOLVED ORTHO-PHOSPHORUS DISCHARGE: Maximum daily, 345 lb, Feb. 21; minimum daily, 0.10 lb, Jan. 20.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT 1996				
01...	0810	1.2	0.250	0.180
02...	1140	1.3	0.290	0.190
17...	0845	12	0.190	--
17...	1515	12	0.240	--
18...	0910	7.1	0.310	--
18...	1510	7.1	0.090	--
19...	0910	3.2	0.300	--
23...	0835	7.9	0.250	--
28...	1200	1.8	0.130	0.080
30...	1140	32	0.150	0.090
31...	0855	9.2	0.100	0.030
NOV				
01...	1130	5.5	0.080	0.050
01...	1430	5.5	0.100	0.050
04...	0950	3.4	0.080	--
DEC				
*16...	1300	14	0.040	0.020
JAN 1997				
06...	0940	14	0.060	0.010

* Single vertical sample

ROCK RIVER BASIN

05431017 DELAVAN LAKE INLET AT STATE HIGHWAY 50 AT LAKE LAWN, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
FEB 1997				
*05...	1210	8.8	<0.010	<0.010
*19...	1215	96	0.370	0.250
*21...	1400	411	0.550	0.160
22...	1000	91	0.630	0.220
23...	0955	42	0.440	0.220
23...	1510	42	0.360	0.170
24...	0915	26	0.310	0.160
MAR				
03...	1000	53	0.390	0.230
03...	1500	53	0.160	0.230
04...	0935	35	0.190	0.130
04...	1545	35	0.230	0.170
05...	0755	27	0.370	0.140
06...	0900	22	0.110	--
19...	1245	11	0.020	0.010
APR				
24...	1030	12	0.154	<0.010
MAY				
01...	0840	23	0.134	<0.010
01...	1440	23	0.249	<0.010
02...	0830	19	0.251	0.013
02...	1510	19	0.304	0.025
03...	0940	30	0.253	<0.010
03...	1445	30	0.167	0.015
04...	0845	22	0.261	<0.010
05...	0905	18	0.098	<0.010
08...	0835	25	0.222	<0.010
08...	1500	25	0.048	0.011
09...	0810	18	0.118	0.010
10...	0920	13	0.221	<0.010
12...	0815	11	0.201	0.010
19...	0745	9.2	0.248	0.038
22...	1215	5.5	0.573	0.173
25...	1045	14	0.477	0.306
26...	1005	13	0.416	0.273
27...	1125	8.1	0.352	0.205
JUN				
02...	0945	4.9	0.363	0.278
09...	0930	3.0	0.460	0.363
16...	1005	94	0.333	0.281
16...	1450	94	0.261	0.258
17...	0835	47	0.432	0.348
17...	1505	47	0.443	0.374
18...	0855	23	0.375	0.311
20...	0755	12	0.239	0.180
23...	0930	11	0.201	0.127
25...	0830	25	0.251	0.177
30...	0835	5.5	0.035	--
JUL				
07...	0930	3.9	0.470	0.361
14...	0940	2.2	0.582	0.462
19...	0650	4.4	1.03	0.789
22...	0900	2.5	0.919	0.779
24...	1210	0.91	0.814	0.675
28...	0835	3.1	0.891	0.715
AUG				
04...	0930	0.48	0.756	0.607
11...	0840	0.42	0.734	0.592
12...	0840	5.2	0.714	0.549
13...	0840	3.2	0.809	0.650
14...	0810	1.3	0.743	0.599
18...	0925	3.5	0.761	0.503
25...	0905	0.62	0.530	0.419
SEP				
02...	1220	0.45	0.533	0.438
08...	0920	0.38	0.478	0.342
15...	1020	0.55	0.407	0.346
18...	1350	6.0	0.398	0.300
19...	0855	53	0.437	0.358
20...	0945	75	0.521	0.389
20...	1410	75	0.474	0.415
21...	0940	17	0.427	0.347
23...	1000	7.1	0.407	0.297
24...	0900	4.8	0.378	0.282
29...	1000	1.7	0.325	0.255

* Single vertical sample

05431017 DELAVAN LAKE INLET AT STATE HIGHWAY 50 AT LAKE LAWN, WI--CONTINUED

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

[illegible]

PHOSPHORUS ORTHO WATER, WHOLE, DISSOLVED, LBS/DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

[illegible]

LOCATION.--Lat 42°35'56", long 88°36'50", in SE 1/4 SW 1/4, sec.28, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, 2.6 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.

REMARKS.--Lake ice-covered during February measurements. Water-quality analyses done by the U.S. Geological Survey National Water Quality Laboratory. Samples for determination of chlorophyll-a concentration are collected from the top 1.5 ft of the lake.

WATER-QUALITY DATA, NOVEMBER 18, 1996 TO MAY 13, 1997
(Milligrams per liter unless otherwise indicated)

	Nov. 18		Feb. 19		Apr. 15		May 13		
Lake stage (ft)	4.87		5.04		5.00		4.99		
Secchi-depth (meters)	3.8		6.2		4.4		7.8		
Chlorophyll a, phytoplankton (µg/L)	0.4		<0.1		0.5		0.4		
Depth of sample (m)	0.5	16	0.5	16	0.5	16	0.5	2.0	16
Water temperature (°C)	5.5	5.0	1.5	3.0	5.5	5.5	11.5	11.0	11.0
Specific conductance (µS/cm)	570	570	614	832	582	583	585	585	585
pH (units)	8.1	8.1	8.0	7.7	8.1	8.2	7.9	8.0	8.1
Dissolved oxygen	12.1	11.3	13.3	5.6	12.2	11.3	10.7	10.4	9.5
Phosphorus, total (as P)	0.093	0.099	0.074	0.140	0.054	0.059	0.079	0.055	0.069
Phosphorus, ortho, dissolved (as P)	0.012	0.030	0.045	0.070	0.043	0.047	0.044	---	0.047
Nitrogen, NO ₂ + NO ₃ , diss. (as N)	0.130	---	0.280	---	0.280	---	0.282	---	---
Nitrogen, ammonia, dissolved (as N)	0.011	---	0.115	---	0.047	---	0.055	---	---
Nitrogen, amm. + org., total (as N)	0.80	---	0.60	---	0.60	0.50	0.56	---	---
Nitrogen, total (as N)	0.93	---	0.88	---	0.88	---	0.84	---	---
Color (Pt-Co. scale)	---	---	---	---	7	7	---	---	---
Turbidity (NTU)	---	---	---	---	0.60	0.80	---	---	---
Hardness, as CaCO ₃	---	---	---	---	240	250	---	---	---
Calcium, dissolved (Ca)	---	---	---	---	44	44	---	---	---
Magnesium, dissolved (Mg)	---	---	---	---	32	33	---	---	---
Sodium, dissolved (Na)	---	---	---	---	24	25	---	---	---
Potassium, dissolved (K)	---	---	---	---	3	3	---	---	---
Alkalinity, as CaCO ₃	---	---	---	---	180	180	---	---	---
Sulfate, dissolved (SO ₄)	---	---	---	---	30	30	---	---	---
Chloride, dissolved (Cl)	---	---	---	---	56	56	---	---	---
Fluoride, dissolved (F)	---	---	---	---	0.2	0.2	---	---	---
Silica, dissolved (SiO ₂)	---	---	---	---	0.3	0.3	---	---	---
Solids, dissolved, at 180°C	---	---	---	---	308	311	---	---	---
Manganese, dissolved (Mn) µg/L	---	---	---	---	2	1	---	---	---

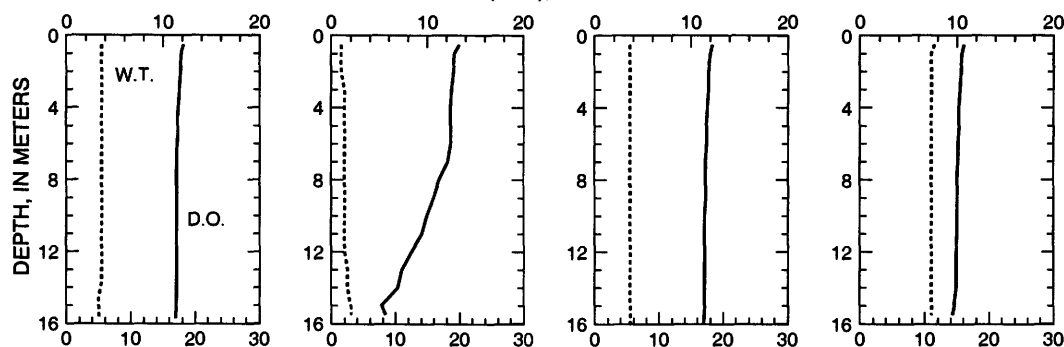
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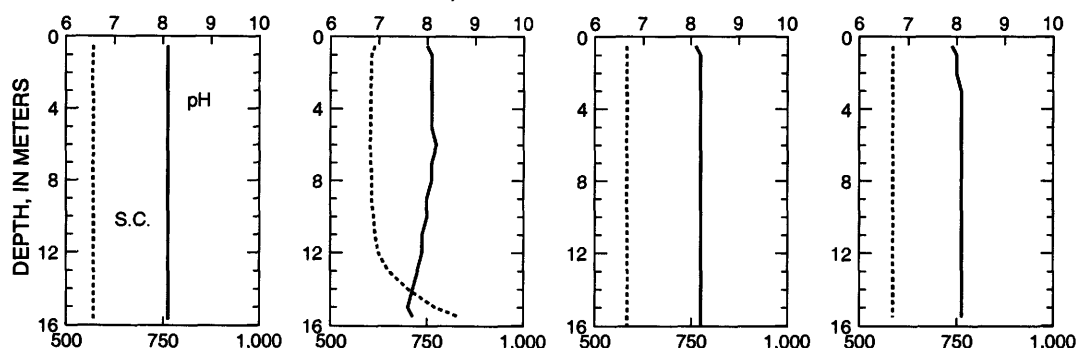
5-13-97

DISSOLVED OXYGEN (D.O.), IN MILLIGRAMS PER LITER



WATER TEMPERATURE (W.T.), IN DEGREES CELSIUS

pH, IN STANDARD UNITS



SPECIFIC CONDUCTANCE (S.C.), IN MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS

423556088365001 DELAVAN LAKE AT CENTER NEAR DELAVAN LAKE, WI--CONTINUED

WATER-QUALITY DATA, JUNE 10 TO AUGUST 14, 1997
(Milligrams per liter unless otherwise indicated)

	June 10				July 15				
Lake stage (ft)	4.95				4.87				
Secchi-depth (meters)	8.8				3.8				
Chlorophyll a, phytoplankton ($\mu\text{g/L}$)	2.2				0.5				
Depth of sample (m)	0.5	2.0	13	16	0.5	2.0	5.0	13	16
Water temperature ($^{\circ}\text{C}$)	18.0	17.5	13.5	13.0	24.5	24.0	23.5	14.5	14.0
Specific conductance ($\mu\text{S/cm}$)	566	568	582	588	572	574	574	611	616
pH (units)	8.3	8.3	7.8	7.6	8.4	8.4	8.4	7.6	7.5
Dissolved oxygen	10.5	10.2	5.0	2.8	9.5	9.1	8.7	1.1	1.0
Phosphorus, total (as P)	0.047	0.045	0.083	0.172	0.043	0.038	0.032	0.267	0.368
Phosphorus, ortho, dissolved (as P)	0.026	---	0.064	0.137	0.009	---	0.011	0.226	0.319
Nitrogen, $\text{NO}_2 + \text{NO}_3$, diss. (as N)	0.084	---	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	0.011	---	---	---	0.010	---	---	---	---
Nitrogen, amm. + org., total (as N)	0.67	---	---	---	---	---	---	---	---
Nitrogen, total (as N)	0.75	---	---	---	---	---	---	---	---

Aug. 14

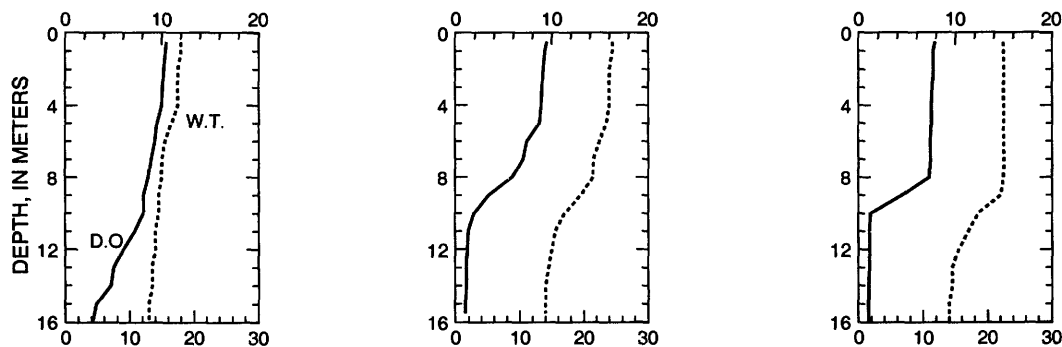
Lake stage (ft)	4.79							
Secchi-depth (meters)	3.6							
Chlorophyll a, phytoplankton ($\mu\text{g/L}$)	7.5							
Depth of sample (m)	0.5	2.0	8.0	9.0	11	13	15	17
Water temperature ($^{\circ}\text{C}$)	22.5	22.5	22.5	22.0	17.0	14.5	14.0	13.5
Specific conductance ($\mu\text{S/cm}$)	562	563	566	572	606	612	624	640
pH (units)	8.4	8.4	8.7	8.1	7.7	7.6	7.5	7.3
Dissolved oxygen	7.9	7.7	7.3	4.5	1.1	1.1	1.0	1.0
Phosphorus, total (as P)	0.051	0.045	0.033	0.037	0.297	0.393	0.533	0.680
Phosphorus, ortho, dissolved (as P)	0.007	---	0.007	---	---	0.367	---	0.586
Nitrogen, $\text{NO}_2 + \text{NO}_3$, diss. (as N)	<0.005	---	---	---	---	---	---	---
Nitrogen, ammonia, dissolved (as N)	0.017	---	---	---	---	---	---	---
Nitrogen, amm. + org., total (as N)	0.71	---	---	---	---	---	---	---
Nitrogen, total (as N)	0.71	---	---	---	---	---	---	---

6-10-97

7-15-97

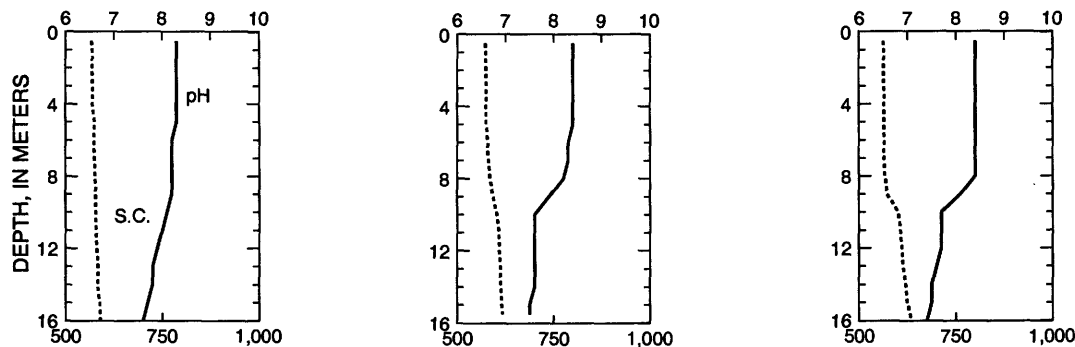
8-14-97

DISSOLVED OXYGEN (D.O.), IN MILLIGRAMS PER LITER



WATER TEMPERATURE (W.T.), IN DEGREES CELSIUS

PH, IN STANDARD UNITS



SPECIFIC CONDUCTANCE (S.C.), IN MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS

ROCK RIVER BASIN

423556088365001 DELAVAN LAKE AT CENTER NEAR DELAVAN LAKE, WI--CONTINUED

ADDITIONAL WATER-QUALITY DATA, OCTOBER 28, 1996 TO SEPTEMBER 26, 1997
(Milligrams per liter unless otherwise indicated)

	Oct. 28	May 27	June 03	June 18	June 26	July 07	July 24
Depth of sample (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lake stage (ft)	4.73	4.97	4.95	5.08	5.03	4.91	4.92
Water temperature (°C)	13.0	12.5	14.5	19.3	24.0	22.0	26.0
Secchi-depth (meters)	6.7	7.8	7.9	4.7	6.7	4.3	2.9
Phosphorus, total (as P)	0.078	0.055	0.054	0.040	0.039	0.040	0.038

	July 30	Aug. 07	Aug. 19	Aug. 26	Sept. 04	Sept. 12	Sept. 26
Depth of sample (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lake stage (ft)	4.91	4.80	4.85	4.79	4.71	4.63	4.97
Water temperature (°C)	23.0	23.0	21.5	21.5	22.0	20.0	19.0
Secchi-depth (meters)	2.9	3.0	5.0	4.9	5.9	4.0	4.6
Phosphorus, total (as P)	0.103	0.029	0.043	0.046	0.046	0.074	0.097

423526088380101 DELAVAN LAKE, AT SW END, NEAR DELAVAN LAKE, WI

LOCATION.--Lat 42°35'26", long 88°38'01", in SE 1/4 NW 1/4, sec.32, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, 2.6 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.

WATER-QUALITY DATA, APRIL 15 TO AUGUST 14, 1997

	Apr. 15	May 13	June 10	July 15	Aug. 14
Secchi-depth (meters)	2.0	7.5	7.9	3.0	2.9

423659088354401 DELAVAN LAKE, AT NORTH END, NEAR LAKE LAWN, WI

LOCATION.--Lat 42°36'59", long 88°35'44", in NW 1/4 SW 1/4, sec.22, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, 2.6 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.

WATER-QUALITY DATA, APRIL 15 TO AUGUST 14, 1997

	Apr. 15	May 13	June 10	July 15	Aug. 14
Secchi-depth (meters)	3.5	8.5	6.2	3.8	2.6

ROCK RIVER BASIN

377

423706088363400 DELAVAN LAKE NEAR DELAVAN, WI

LOCATION.--Lat 42°36'27", long 88°36'19", in SW 1/4 NE 1/4 sec.28, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, at Delavan Lake Sanitary District Lift Station No. 2 at Delavan Lake Yacht Club, 1.0 mi southeast of outlet, and 2.7 mi southeast of Delavan.

DRAINAGE AREA.--41.4 mi², of which 2.3 mi² is non-contributing. Area of Delavan Lake, 2,072 acres.

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 and Marvin D. Duerk.

GAGE.--Water-stage recorder. Datum of gage is 922.92 ft above sea level. Prior to Sept. 5, 1989, staff gage at bridge on North Shore Drive at same datum.

REMARKS.--No estimated daily gage heights. Records good (see page 11). Lake was ice covered from Dec. 26 to Mar. 28. Lake levels controlled by Delavan Lake Sanitary District. Prior to Mar. 20, 1995, lake levels were controlled by Town of Delavan.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 6.19 ft, Feb. 21, 1994; minimum daily, -4.44 ft Nov. 6, 1989 (lake drawn down for lake rehabilitation program).

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 5.55 ft, Feb. 22; minimum, 4.53 ft, Oct. 15.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.61	4.86	4.99	4.98	4.97	5.12	5.07	5.01	4.96	4.99	4.88	4.75
2	4.61	4.85	4.99	4.98	4.96	5.23	5.07	5.03	4.95	4.99	4.87	4.75
3	4.60	4.85	5.00	4.98	4.94	5.21	5.06	5.06	4.95	4.96	4.86	4.73
4	4.59	4.84	5.01	5.01	4.96	5.13	5.04	5.06	4.95	4.94	4.85	4.71
5	4.58	4.85	5.03	5.03	4.97	5.03	5.06	5.06	4.95	4.93	4.84	4.70
6	4.58	4.86	5.04	5.02	4.96	4.95	5.05	5.05	4.95	4.92	4.82	4.68
7	4.58	4.87	5.03	5.01	4.94	4.95	5.03	5.04	4.95	4.91	4.80	4.67
8	4.57	4.88	4.97	5.00	4.93	4.96	5.00	5.08	4.95	4.92	4.79	4.66
9	4.56	4.87	4.95	5.01	4.92	4.99	4.99	5.07	4.95	4.92	4.77	4.66
10	4.56	4.87	4.95	5.03	4.91	5.02	4.98	5.05	4.95	4.90	4.75	4.65
11	4.55	4.86	4.96	5.04	4.90	5.02	4.98	5.03	4.94	4.89	4.75	4.64
12	4.55	4.86	4.98	5.04	4.92	5.03	4.99	5.01	4.94	4.88	4.79	4.63
13	4.55	4.85	4.99	5.04	4.92	5.03	4.99	4.99	4.94	4.88	4.80	4.62
14	4.55	4.85	4.99	5.04	4.93	5.04	4.99	4.98	4.93	4.88	4.79	4.61
15	4.54	4.84	5.03	5.04	4.93	5.03	5.00	4.97	4.92	4.87	4.81	4.61
16	4.56	4.85	5.03	5.07	4.95	5.02	5.01	4.96	5.14	4.85	4.82	4.62
17	4.65	4.86	5.03	5.06	4.96	5.01	5.01	4.96	5.14	4.83	4.84	4.80
18	4.67	4.87	5.02	5.05	4.98	5.01	5.00	4.96	5.08	4.86	4.86	4.80
19	4.67	4.87	5.01	5.04	5.04	5.00	5.02	4.98	5.05	4.90	4.85	4.90
20	4.67	4.87	5.00	5.03	5.06	5.00	5.04	4.99	5.02	4.90	4.84	5.12
21	4.66	4.90	5.00	5.02	5.35	4.99	5.05	4.98	5.02	4.95	4.83	5.11
22	4.67	4.90	5.00	5.04	5.54	4.98	5.05	4.98	5.01	4.94	4.82	5.08
23	4.71	4.90	5.03	5.04	5.44	4.97	5.05	4.98	4.98	4.93	4.81	5.05
24	4.71	4.91	5.06	5.03	5.30	4.97	5.03	4.97	4.97	4.92	4.81	5.01
25	4.72	4.91	5.06	5.05	5.25	5.00	5.02	5.05	5.02	4.92	4.80	4.98
26	4.72	4.91	5.08	5.03	5.22	5.00	5.00	5.01	5.03	4.92	4.79	4.97
27	4.73	4.91	5.06	5.03	5.19	5.01	4.98	4.97	5.02	4.95	4.79	4.96
28	4.73	4.92	5.04	5.03	5.14	5.01	4.96	4.96	5.00	4.96	4.79	4.95
29	4.79	4.93	5.02	5.00	---	5.03	4.95	4.98	4.99	4.94	4.78	4.93
30	4.88	4.96	5.00	4.99	---	5.04	4.97	4.98	4.98	4.91	4.77	4.91
31	4.88	---	4.99	4.98	---	5.07	---	4.98	---	4.90	4.76	---
MEAN	4.65	4.88	5.01	5.02	5.05	5.03	5.01	5.01	4.99	4.91	4.81	4.81
MAX	4.88	4.96	5.08	5.07	5.54	5.23	5.07	5.08	5.14	4.99	4.88	5.12
MIN	4.54	4.84	4.95	4.98	4.90	4.95	4.95	4.96	4.92	4.83	4.75	4.61

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 50 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 and crest-stage gage. Elevation of gage is 914.50 ft above sea level (Public Service Commission bench mark).

REMARKS.--Estimated daily discharges: Oct. 27 to Nov. 1, Jan. 29 to Feb. 5, and ice-affected periods, Jan. 5-6, 16, and Mar. 15. Records good except those for estimated daily discharges, which are poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	.27	7.4	19	22	114	15	19	12	8.8	5.1	3.8
2	.26	.27	7.3	19	22	132	19	26	4.1	9.0	3.7	3.7
3	.27	.27	.35	26	22	134	24	23	.13	6.9	3.3	4.0
4	.28	.26	2.1	29	22	141	20	36	.14	6.1	3.2	4.3
5	.31	.24	1.0	28	22	136	18	37	.14	7.6	3.3	3.9
6	.31	.27	3.7	28	22	61	19	45	5.2	7.4	3.3	3.8
7	.31	.26	63	28	21	9.2	20	42	4.9	7.3	3.3	3.8
8	.32	.23	70	13	21	7.8	15	46	.17	6.7	3.3	3.8
9	.30	.19	2.7	4.7	21	12	9.7	49	.56	6.3	3.2	2.7
10	.31	.18	2.1	4.9	13	25	7.4	50	.78	5.8	3.2	2.3
11	.31	.19	2.9	5.0	7.9	26	8.5	49	.72	5.3	3.0	4.0
12	.31	.22	6.8	5.0	7.8	27	50	47	.73	4.5	3.3	2.1
13	.31	.19	11	5.0	3.8	24	14	46	.82	2.6	3.5	2.0
14	.43	.21	7.4	4.8	1.5	23	22	51	.93	.94	3.6	1.9
15	.49	.22	16	4.9	1.4	23	13	29	2.5	2.6	4.0	1.1
16	.51	.23	19	4.8	1.3	25	9.4	18	72	4.0	3.8	.98
17	.37	.24	7.5	14	.58	27	11	10	113	2.6	3.7	3.5
18	.27	.20	11	17	19	26	14	10	73	2.5	3.3	3.1
19	.29	.19	12	16	101	25	12	17	51	2.0	2.9	31
20	.37	.19	5.7	16	60	28	11	11	52	2.0	2.8	58
21	.38	.18	4.9	16	258	32	17	8.8	59	2.2	2.8	57
22	.44	.18	.15	33	246	32	16	6.7	60	4.4	2.7	57
23	.32	.19	3.5	41	234	17	18	9.3	50	5.4	2.5	57
24	.31	.19	14	29	160	12	25	6.3	17	5.2	2.5	56
25	.31	.18	.39	23	70	9.5	28	38	8.2	5.3	2.3	22
26	.31	.17	39	22	83	15	31	51	11	5.3	2.2	2.7
27	.26	.16	39	23	90	16	33	21	10	5.1	1.1	2.8
28	.48	.16	31	22	88	18	23	2.0	12	5.2	1.0	2.6
29	.38	.23	31	22	---	13	12	3.1	12	3.8	2.7	2.5
30	1.4	1.4	24	22	---	9.0	20	9.7	10	2.1	3.8	2.4
31	.30	---	19	22	---	13	---	11	---	2.2	3.9	---
TOTAL	11.47	7.56	464.89	567.1	1641.28	1212.5	555.0	827.9	644.02	147.14	96.3	405.78
MEAN	.37	.25	15.0	18.3	58.6	39.1	18.5	26.7	21.5	4.75	3.11	13.5
MAX	1.4	1.4	70	41	258	141	50	51	113	9.0	5.1	58
MIN	.25	.16	.15	4.7	.58	7.8	7.4	2.0	.13	.94	1.0	.98
AC-FT	23	15	922	1120	3260	2400	1100	1640	1280	292	191	805
CFSM	.01	.01	.38	.46	1.47	.98	.46	.67	.54	.12	.08	.34
IN.	.01	.01	.43	.53	1.53	1.13	.52	.77	.60	.14	.09	.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1997, BY WATER YEAR (WY)

	MEAN	24.3	21.7	21.5	18.4	29.0	31.1	35.2	17.5	20.7	11.4	5.27	16.9
MAX	127	93.1	51.1	44.7	97.8	71.2	145	56.0	105	53.7	32.6	110	
(WY)	1990	1986	1986	1993	1994	1986	1993	1996	1996	1993	1995	1989	
MIN	.000	.003	.000	.31	.71	.41	.000	.006	.014	.025	.011	.020	
(WY)	1991	1991	1990	1990	1990	1990	1990	1990	1990	1990	1991	1990	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1984 - 1997
ANNUAL TOTAL	8164.05	6580.94	
ANNUAL MEAN	22.3	18.0	21.0
HIGHEST ANNUAL MEAN			42.6
LOWEST ANNUAL MEAN			11.0
HIGHEST DAILY MEAN	246 Jun 19	258 Feb 21	406 Feb 22 1994
LOWEST DAILY MEAN	.10 Sep 27	.13 Jun 3	.00 (a) Jun 21, 22 1989
ANNUAL SEVEN-DAY MINIMUM	.18 Nov 22	.18 Nov 22	.00 (b) Nov 14 1989
INSTANTANEOUS PEAK FLOW		295 Feb 21	473 Feb 22 1994
INSTANTANEOUS PEAK STAGE		7.86 Feb 21	8.27 Feb 22 1994
ANNUAL RUNOFF (AC-FT)	16190	13050	15210
ANNUAL RUNOFF (CFSM)	.56	.45	.53
ANNUAL RUNOFF (INCHES)	7.63	6.15	7.17
10 PERCENT EXCEEDS	59	49	57
50 PERCENT EXCEEDS	7.4	6.7	7.4
90 PERCENT EXCEEDS	.27	.27	.03

(a) Also occurred many days during 1990 and 1991 water years (lake drawn down for lake rehabilitation program)

(b) Also occurred in 1991 water year

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.--

SUSPENDED-SEDIMENT DISCHARGE: Water years 1984-85, 1990-91.

TOTAL-PHOSPHORUS DISCHARGE: October 1983 to current year.

INSTRUMENTATION.--Automatic pumping sampler from October to December 1983. Manual samples from January 1984 to present.

REMARKS.--Records good. Samples collected using equal-width increment method.

COOPERATION.--Observer furnished by Delavan Lake Sanitary District.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 238 mg/L, Feb. 22, 1985; minimum observed, 1 mg/L, on many days.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 29 tons, Feb. 25, 1985; minimum daily, 0.00 ton, on many days during 1990 and 1991 water years.

DISSOLVED CHLORIDE CONCENTRATIONS: Maximum observed, 71 mg/L, June 5, 1995; minimum observed, 40 mg/L, July 5, 1995.

TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 6.00 mg/L, Jan. 5, 1990; minimum observed, <0.01 mg/L, Mar. 9-10, 1990, several days during 1992, 1994, and 1995 water years, and Oct. 2, 1995.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 585 lb, Feb. 22, 1994; minimum daily, 0.00 lb, Aug. 9, 13, 1987, and many days during 1990, 1991, and 1994 water years, Dec. 4, 1994, July 10-11, 1995, Oct. 1-5, 1995, and Sept. 27, 1996.

EXTREMES FOR CURRENT YEAR.--

TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 0.33 mg/L, Oct. 17; minimum observed, 0.023 mg/L, Sept. 29.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 371 lb, Feb. 23; minimum daily, 0.04 lb, Oct. 1-4.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT 1996					APR 1997			
*02...	1230	--	0.24	0.030	07...	0840	18	0.100
07...	0820	--	0.31	0.030	24...	1205	26	0.031
17...	0830	--	0.35	0.330	MAY			
17...	1505	--	0.27	0.100	01...	0815	17	0.067
*28...	1300	0.48	--	0.040	01...	1415	27	0.043
31...	0835	0.30	--	0.030	02...	0815	11	0.107
DEC					02...	1420	35	0.032
16...	1115	--	19	0.090	03...	0855	14	0.060
JAN 1997					04...	0850	37	0.028
06...	0910	28	--	0.070	05...	0825	39	0.043
23...	0910	--	41	0.080	08...	0820	46	0.032
FEB					09...	0740	50	0.036
05...	1415	22	--	0.070	10...	0915	50	0.031
19...	0845	--	0.30	0.070	12...	0750	47	0.041
19...	0920	--	158	0.090	22...	1010	0.43	0.048
20...	0840	--	55	0.050	*25...	0915	91	0.153
21...	0845	--	275	0.090	26...	0915	50	0.090
21...	1445	--	275	0.110	JUN			
22...	0950	--	248	0.250	02...	0935	11	0.111
22...	1400	--	245	0.320	16...	1430	116	0.171
23...	0940	--	238	0.310	17...	0820	118	0.053
23...	1440	--	232	0.280	17...	1455	111	0.054
24...	0840	--	222	0.250	18...	0845	58	0.050
MAR					19...	0745	52	0.044
02...	1030	--	133	0.140	20...	0735	49	0.054
03...	0915	--	131	0.170	23...	0850	59	0.072
03...	1450	--	147	0.180	25...	1300	10	0.080
04...	0905	--	141	0.210	30...	0810	12	0.077
04...	1520	--	139	0.200	JUL			
05...	0735	--	137	0.190	07...	0905	5.7	0.045
06...	0815	--	130	0.140	14...	0855	1.5	0.046
19...	1445	--	25	0.090	19...	0950	1.9	0.105
					22...	0845	2.0	0.052
					24...	0925	5.1	0.084

* Grab sample

05431022 DELAVAN LAKE OUTLET AT BORG ROAD NEAR DELAVAN, WI--CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
AUG 1997				SEP 1997			
04...	0855	3.2	0.051	18...	1335	3.1	0.048
12...	0810	3.3	0.059	19...	0830	3.0	0.065
14...	0755	3.4	0.040	20...	0830	58	0.054
18...	0905	3.2	0.057	20...	1350	58	0.038
25...	0840	2.5	0.052	21...	0925	58	0.026
SEP				21...	1335	57	0.025
*02...	1100	3.7	0.052	22...	0930	57	0.030
15...	0905	1.8	0.043	23...	0920	57	0.034
17...	0830	4.7	0.074	24...	0835	56	0.028
18...	0840	3.1	0.054	29...	0940	2.5	0.023

* Grab sample

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

[illegible]

ROCK RIVER BASIN
05431032 TURTLE CREEK AT DELAVAN, WI

381

LOCATION.--Lat 42°38'13", long 88°39'27", in NW 1/4 NW 1/4 sec.18, T.2 N., R.16 E., Walworth County, Hydrologic Unit 07090001, on left bank 0.1 mi downstream from bridge on County Highway P, 0.7 mi northwest of Post Office at Delavan.

DRAINAGE AREA.--83.3 mi², of which 2.33 mi² is noncontributing.

PERIOD OF RECORD.--June 1996 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 873.00 ft above sea level (levels by U.S. Geological Survey).

REMARKS.--No estimated daily discharges. Records good (see page 11). Some seasonal regulation caused by dams used to maintain levels of Turtle and Delavan Lakes. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	31	44	40	43	155	50	40	34	17	15	17
2	18	23	49	44	45	248	54	47	25	16	13	17
3	17	22	22	47	45	236	72	45	18	15	13	16
4	12	22	9.5	67	47	189	73	52	16	14	14	15
5	17	22	9.2	66	52	170	71	63	16	14	18	15
6	28	22	23	60	58	149	69	69	15	15	13	15
7	25	22	36	50	56	68	54	70	22	14	13	15
8	16	22	88	41	56	47	47	59	16	17	14	15
9	16	21	38	27	54	50	34	50	12	17	14	15
10	17	21	28	26	33	59	34	49	12	16	15	13
11	16	21	23	27	18	79	32	48	14	16	16	14
12	17	20	29	27	17	81	72	47	14	15	21	13
13	18	20	32	27	16	77	47	46	14	15	16	12
14	18	19	30	27	12	62	47	41	7.7	15	16	12
15	17	19	38	26	13	52	46	37	9.6	15	20	12
16	20	20	59	26	17	55	54	27	91	12	19	20
17	48	19	47	27	27	59	47	24	113	13	24	62
18	33	36	44	33	58	59	50	20	102	27	21	49
19	20	31	49	37	183	56	54	40	79	23	20	95
20	20	19	29	36	159	57	49	34	71	20	19	76
21	20	19	18	37	370	64	58	28	78	48	19	59
22	20	20	13	46	391	65	54	27	71	41	18	56
23	25	20	20	49	317	55	48	22	68	28	17	58
24	22	20	36	57	281	58	59	23	58	24	17	57
25	21	20	25	49	166	49	52	39	42	24	18	49
26	21	19	25	47	119	43	47	60	33	23	16	26
27	20	18	54	45	123	51	48	54	29	25	15	21
28	20	18	55	44	123	53	43	24	28	24	14	20
29	65	18	53	44	---	45	28	20	27	22	14	13
30	50	35	48	43	---	43	40	48	20	21	16	15
31	26	---	39	44	---	46	---	60	---	19	17	---
TOTAL	722	659	1112.7	1266	2899	2580	1533	1313	1155.3	625	515	892
MEAN	23.3	22.0	35.9	40.8	104	83.2	51.1	42.4	38.5	20.2	16.6	29.7
MAX	65	36	88	67	391	248	73	70	113	48	24	95
MIN	12	18	9.2	26	12	43	28	20	7.7	12	13	12
CFSM	.28	.26	.43	.49	1.24	1.00	.61	.51	.46	.24	.20	.36
IN.	.32	.29	.50	.57	1.29	1.15	.68	.59	.52	.28	.23	.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1997, BY WATER YEAR (WY)

	1996	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997
MEAN	23.3	22.0	35.9	40.8	104	83.2	51.1	42.4	105	25.6	18.1	23.4
MAX	23.3	22.0	35.9	40.8	104	83.2	51.1	42.4	171	31.1	19.7	29.7
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1996	1996	1996	1997
MIN	23.3	22.0	35.9	40.8	104	83.2	51.1	42.4	38.5	20.2	16.6	17.0
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1996

SUMMARY STATISTICS

FOR 1997 WATER YEAR

WATER YEARS 1996 - 1997

ANNUAL TOTAL	15272.0		
ANNUAL MEAN	41.8	41.8	
HIGHEST ANNUAL MEAN		41.8	1997
LOWEST ANNUAL MEAN		41.8	1997
HIGHEST DAILY MEAN	391	Feb 22	1997
LOWEST DAILY MEAN	7.7	Jun 14	1997
ANNUAL SEVEN-DAY MINIMUM	12	Jun 9	1997
INSTANTANEOUS PEAK FLOW	493	Feb 21	1997
INSTANTANEOUS PEAK STAGE	3.78	Feb 21	1997
INSTANTANEOUS LOW FLOW	7.2	(a) Jun 13	1996
ANNUAL RUNOFF (CFSM)	.50		
ANNUAL RUNOFF (INCHES)	6.82		
10 PERCENT EXCEEDS	68	78	
50 PERCENT EXCEEDS	28	27	
90 PERCENT EXCEEDS	15	14	

(a) Also occurred June 14 and Sept. 29

ROCK RIVER BASIN

05431486 TURTLE CREEK AT CARVERS ROCK ROAD NEAR CLINTON, WI

LOCATION.--Lat 42°35'50", long 88°49'45", in SW 1/4 sec.27, T.2 N., R.14 E., Rock County, Hydrologic Unit 07090001, on left bank 25 ft downstream from bridge on Carvers Rock Road, 3.3 mi northeast of Clinton, 13 mi northeast of Beloit, and 17.8 mi upstream from mouth.

DRAINAGE AREA.--199 mi², of which 2.33 mi² is noncontributing.

PERIOD OF RECORD.--September 1939 to current year. Prior to January 1980, all records published as "Turtle Creek near Clinton" (05431500).

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 above sea level, from topographic map. Prior to January 17, 1940, non-recording gage, and January 17, 1940 to December 31, 1979, water-stage recorder at site 1.8 mi downstream at a different datum.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 27-29, Dec. 18 to Feb. 17, Feb. 24, 25, and Mar. 15, 16. Records good except those for ice-affected periods, which are fair (see page 11). Some seasonal regulation caused by dams used to maintain levels of Turtle and Delavan Lakes. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	99	106	90	98	753	116	125	102	87	60	54
2	67	95	105	94	100	819	113	116	85	76	57	53
3	64	87	102	98	100	440	119	141	76	69	54	52
4	64	86	71	120	100	333	131	128	69	67	58	51
5	60	84	67	120	110	277	132	126	67	67	56	50
6	59	85	67	110	110	243	133	133	66	66	57	52
7	60	83	80	100	110	191	124	132	67	64	52	50
8	64	80	102	92	110	131	105	176	71	67	51	51
9	63	80	114	78	110	147	98	145	61	68	52	51
10	63	78	87	76	84	190	89	128	58	65	54	51
11	63	76	84	78	64	169	90	122	61	62	57	48
12	62	72	101	78	56	167	101	116	66	61	71	48
13	63	71	108	78	56	157	128	112	65	61	70	47
14	64	69	107	78	52	151	129	110	58	63	59	47
15	64	71	133	76	54	110	131	107	59	60	66	46
16	64	71	138	76	58	110	119	96	960	58	66	51
17	98	77	128	78	66	125	114	88	611	55	69	146
18	113	74	94	84	337	124	110	84	252	62	86	105
19	83	89	100	88	782	121	122	113	198	85	70	248
20	76	78	80	86	411	122	121	115	165	71	66	398
21	75	74	68	88	2210	129	128	93	210	81	64	162
22	74	71	64	96	1220	137	127	87	212	98	61	119
23	87	70	70	100	562	134	115	84	160	86	58	116
24	86	72	86	110	390	116	115	78	144	74	58	110
25	80	70	76	98	300	136	117	122	174	70	57	104
26	77	65	76	96	220	124	106	138	134	71	58	88
27	73	66	100	94	220	125	105	130	111	77	56	70
28	73	66	110	94	223	128	107	106	100	77	53	65
29	108	66	100	96	---	128	96	87	92	68	51	62
30	230	84	98	96	---	119	94	85	89	65	51	54
31	126	---	90	98	---	115	---	119	---	63	55	---
TOTAL	2479	2309	2912	2844	8313	6271	3435	3542	4643	2164	1853	2649
MEAN	80.0	77.0	93.9	91.7	297	202	115	114	155	69.8	59.8	88.3
MAX	230	99	138	120	2210	819	133	176	960	98	86	398
MIN	59	65	64	76	52	110	89	78	58	55	51	46
CFSM	.41	.39	.48	.47	1.51	1.03	.58	.58	.79	.35	.30	.45
IN.	.47	.44	.55	.54	1.57	1.19	.65	.67	.88	.41	.35	.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1997, BY WATER YEAR (WY)

MEAN	101	109	105	106	142	231	175	127	115	96.4	85.0	95.2
MAX	312	388	343	315	518	664	758	486	407	458	278	482
(WY)	1974	1986	1983	1946	1949	1959	1973	1973	1993	1978	1972	1972
MIN	30.1	37.9	34.5	24.5	30.4	55.4	52.7	31.6	35.2	24.8	21.5	19.6
(WY)	1958	1950	1965	1959	1959	1954	1958	1958	1965	1958	1958	1958

05431486 TURTLE CREEK AT CARVERS ROCK ROAD NEAR CLINTON, WI--CONTINUED

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR		FOR 1997 WATER YEAR		WATER YEARS 1939 - 1997	
ANNUAL TOTAL	46301		43414		124	
ANNUAL MEAN	127		119		289	1973
HIGHEST ANNUAL MEAN					43.0	1958
LOWEST ANNUAL MEAN					6400	Apr 21 1973
HIGHEST DAILY MEAN	1070	Jun 7	2210	Feb 21	16	Sep 13 1958
LOWEST DAILY MEAN	59	Oct 6	46	Sep 15	17	Sep 9 1958
ANNUAL SEVEN-DAY MINIMUM	61	Sep 19	48	Sep 9	(a) 16500	Apr 21 1973
INSTANTANEOUS PEAK FLOW			3070	Feb 21	(b) 12.85	Apr 21 1973
INSTANTANEOUS PEAK STAGE			9.56	Feb 21	(c) 8.0	Dec 29 1956
INSTANTANEOUS LOW FLOW			(c) 29	Nov 26		
ANNUAL RUNOFF (CFSM)	.64		.60		.63	
ANNUAL RUNOFF (INCHES)	8.76		8.21		8.55	
10 PERCENT EXCEEDS	222		153		227	
50 PERCENT EXCEEDS	84		87		83	
90 PERCENT EXCEEDS	64		57		43	

(a) From rating curve extended above 6,500 ft³/s on basis of slope-area measurement of peak flow

(b) Site and datum then in use

(c) Result of freezeup

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 27, 28, Dec. 5, 6, 19-26, Jan. 10-21, Jan. 26 to Feb. 1, and Feb. 11-23.
Records good except those for ice-affected periods, which are fair (see page 11). Gage-height telemeter at station.

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	150	157	109	180	790	175	261	124	151	143	124
2	110	138	138	113	227	1170	165	267	118	201	141	111
3	107	129	132	153	226	884	160	275	115	209	137	108
4	108	124	111	435	204	354	157	241	116	147	135	105
5	110	126	110	731	177	239	159	210	116	139	141	102
6	110	131	110	364	160	200	169	194	133	132	129	104
7	115	150	108	289	149	182	160	183	138	126	125	104
8	114	136	109	249	140	201	142	236	123	133	122	110
9	114	127	113	199	136	522	135	215	117	172	119	122
10	114	121	106	160	131	980	133	184	111	135	119	119
11	110	116	110	140	120	533	136	174	111	123	120	109
12	111	101	111	120	110	320	151	168	114	119	156	103
13	113	112	110	110	110	244	154	161	110	120	182	101
14	112	90	110	100	100	224	156	158	105	124	141	101
15	110	121	144	100	100	178	168	158	114	117	137	101
16	113	123	161	98	100	171	168	152	639	111	138	102
17	141	128	122	98	98	213	156	149	417	109	131	117
18	146	131	114	96	350	221	149	152	209	122	152	115
19	124	119	110	110	1000	196	161	160	176	144	140	104
20	118	113	110	120	800	190	165	147	165	213	131	108
21	117	111	110	130	1200	204	161	139	270	158	131	102
22	125	122	110	707	1500	207	154	134	296	168	125	98
23	166	114	110	866	900	184	144	132	196	159	120	106
24	158	116	110	411	374	161	138	132	174	163	117	108
25	135	105	110	258	269	187	133	135	219	152	116	101
26	126	79	110	220	240	215	127	132	205	288	114	100
27	122	94	117	200	232	189	125	126	164	198	114	96
28	116	100	120	180	296	189	124	124	153	271	113	96
29	142	111	122	170	---	214	122	131	148	201	109	99
30	297	136	115	160	---	205	129	135	149	164	112	94
31	194	---	110	160	---	191	---	130	---	151	141	---
TOTAL	4010	3574	3640	7356	9629	10158	4476	5295	5345	4920	4051	3170
MEAN	129	119	117	237	344	328	149	171	178	159	131	106
MAX	297	150	161	866	1500	1170	175	275	639	288	182	124
MIN	107	79	106	96	98	161	122	124	105	109	109	94
CFSM	.47	.44	.43	.87	1.26	1.20	.55	.63	.65	.58	.48	.39
IN.	.55	.49	.50	1.00	1.31	1.38	.61	.72	.73	.67	.55	.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1997, BY WATER YEAR (WY)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1997, BY WATER YEAR (WY)												
MEAN	129	141	123	158	219	380	238	195	229	199	149	139
MAX	302	674	338	546	738	951	731	780	773	1796	610	487
(WY)	1985	1962	1983	1960	1953	1959	1959	1960	1969	1993	1993	1942
MIN	39.9	43.8	34.6	31.6	38.3	60.9	69.8	51.1	42.2	32.7	42.1	38.3
(WY)	1965	1965	1959	1959	1959	1957	1957	1958	1965	1965	1958	1958

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1939 - 1997
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ANNUAL TOTAL	69836		65624				
ANNUAL MEAN	191		180				
HIGHEST ANNUAL MEAN					191		
LOWEST ANNUAL MEAN					534		1993
HIGHEST DAILY MEAN	1060	Jun 17, 18	(a) 1500	Feb 22	66.5		1958
LOWEST DAILY MEAN	(b) 79	Nov 26	(b) 79	Nov 26	11200		Jul 16 1950
ANNUAL SEVEN-DAY MINIMUM	(a) 83	Jan 3	99	Sep 24	24	(c)	Jul 25 1965
INSTANTANEOUS PEAK FLOW			(d)		25		Jul 24 1965
INSTANTANEOUS PEAK STAGE			(a) 14.69	Feb 21	(e) 22000		Jul 16 1950
INSTANTANEOUS LOW FLOW			(b) 37	Nov 26	20.71		Jul 16 1950
ANNUAL RUNOFF (CFSM)	.70		.66		(b) 17		Nov 29 1966
ANNUAL RUNOFF (INCHES)	9.52		8.94		.70		
10 PERCENT EXCEEDS	317		246		9.53		
50 PERCENT EXCEEDS	140		134		325		
90 PERCENT EXCEEDS	110		107		123		
					56		

- (a) Ice affected
- (b) Result of freezeup
- (c) Also occurred July 26, 27, 30, 1965
- (d) Unknown, ice affected
- (e) From rating curve extended above 11,000 ft³/s on basis of slope-area determination of peak flow

LOCATION.--Lat 42°47'08" long 89°51'40", in SE 1/4 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.

PERIOD OF RECORD.--September 1939 to September 1986, October 1987 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 796.8 ft above sea level. Prior to Dec. 20, 1939, nonrecording gage at bridge 50 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 27-30, Dec. 5-7, and Dec. 19 to Feb. 23. Records good except those for ice-affected periods, which are poor (see page 11). Gage-height telemeter at station.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	142	157	162	130	230	532	207	316	140	150	147	124
2	141	152	140	140	270	998	198	250	137	154	147	121
3	138	147	141	160	270	530	195	282	135	144	143	120
4	139	147	129	420	240	247	192	226	136	139	143	119
5	140	147	130	680	210	201	199	209	135	138	143	119
6	140	149	130	400	190	183	216	199	158	134	137	119
7	143	162	130	280	180	170	194	190	145	131	134	118
8	142	150	132	230	170	177	179	234	144	165	131	120
9	142	145	130	200	160	380	172	203	136	198	127	123
10	140	142	131	160	150	753	172	184	132	140	129	122
11	138	139	131	140	140	388	174	180	132	134	128	117
12	140	135	132	130	130	274	188	176	134	132	161	116
13	141	135	132	120	130	228	187	171	132	132	181	116
14	139	126	132	120	130	225	202	170	128	134	138	116
15	137	140	160	120	120	190	218	174	139	129	136	115
16	139	137	164	120	120	187	197	168	408	125	134	116
17	166	150	145	110	120	207	184	167	229	126	138	128
18	162	147	139	110	200	241	179	164	158	141	158	122
19	142	137	130	130	800	198	190	168	149	182	136	117
20	141	135	140	160	500	210	188	159	147	161	135	118
21	141	138	150	250	800	232	188	152	303	159	136	114
22	148	135	140	720	1100	241	178	150	280	150	140	113
23	201	136	140	760	300	216	169	148	170	181	132	118
24	168	137	140	400	196	200	166	148	161	182	129	116
25	149	133	110	300	176	254	163	154	187	159	128	114
26	145	126	140	260	187	267	158	148	177	218	126	112
27	143	140	140	240	198	233	158	144	152	205	125	110
28	139	130	140	220	237	246	157	142	146	324	124	112
29	165	130	140	200	---	282	155	154	143	184	121	112
30	250	140	140	190	---	240	157	156	179	161	126	110
31	179	---	130	190	---	221	---	147	---	152	140	---
TOTAL	4680	4224	4270	7790	7654	9151	5480	5633	5052	4964	4253	3517
MEAN	151	141	138	251	273	295	183	182	168	160	137	117
MAX	250	162	164	760	1100	998	218	316	408	324	181	128
MIN	137	126	110	110	120	170	155	142	128	125	121	110
CFSM	.68	.64	.62	1.14	1.24	1.34	.83	.82	.76	.72	.62	.53
IN.	.79	.71	.72	1.31	1.29	1.54	.92	.95	.85	.84	.72	.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1997, BY WATER YEAR (WY)

MEAN	112	119	109	127	168	266	193	161	166	151	119	118
MAX	252	311	278	354	597	574	547	584	403	885	303	332
(WY)	1985	1962	1983	1960	1948	1950	1959	1973	1993	1993	1993	1981
MIN	54.9	55.8	47.6	46.4	52.1	62.7	71.5	54.5	59.6	48.2	43.7	44.6
(WY)	1965	1965	1959	1959	1959	1957	1957	1958	1958	1958	1958	1958

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1939 - 1997
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	1966-1967		1967-1968		1968-1969		1969-1970	
ANNUAL TOTAL	74652		66668					
ANNUAL MEAN	204		183					
HIGHEST ANNUAL MEAN						151		
LOWEST ANNUAL MEAN						338		1993
HIGHEST DAILY MEAN	1900	Jul 18	(a) 1100	Feb 22		7560	Feb 28	1948
LOWEST DAILY MEAN	(a) 96	Jan 5-11	(a) 110	(b) Dec 25		41	(c) Aug 18	1958
ANNUAL SEVEN-DAY MINIMUM	(a) 96	Jan 5	112	Sep 24		42	Oct 1	1958
INSTANTANEOUS PEAK FLOW			(d)			(e) 11700	Feb 28	1948
INSTANTANEOUS PEAK STAGE			(a) 13.18	Feb 22		16.54	Jul 6	1993
INSTANTANEOUS LOW FLOW			(f) 97	Dec 25		(f) 18	Nov 29	1966
ANNUAL RUNOFF (CFSM)	.92		.83			.68		
ANNUAL RUNOFF (INCHES)	12.57		11.22			9.26		
10 PERCENT EXCEEDS	295		246			235		
50 PERCENT EXCEEDS	151		147			110		
90 PERCENT EXCEEDS	130		122			65		

(a) Ice affected

(b) Also occurred Jan. 17, 18, ice affected, and Sept. 27, 30

(c) Also occurred on Sept. 1, 22, 23, 29, Oct. 2, 6, 1958, and Dec. 19, 20, 1964

(d) Unknown, ice affected

(e) Gage height, 15.74 ft

(f) Result of freezeup

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 sea level. Prior to Jan. 6, 1940, nonrecording gage at same site and datum. Auxiliary wire-weight gage 1.2 mi downstream, at same datum.

REMARKS.--Estimated daily discharges: Ice-affected period, Nov. 27 to Mar. 1. Records good except those for ice-affected period, which is poor (see page 11). Diurnal fluctuation at low flow caused by powerplant in Argyle, 28.2 mi upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	602	900	580	540	660	2200	809	744	574	753	573	520
2	587	748	600	560	680	2690	763	930	551	740	548	510
3	574	674	580	660	720	2770	729	1090	532	775	532	477
4	568	645	560	800	760	2850	709	1060	521	774	521	462
5	565	629	540	1000	700	2580	704	976	516	700	515	451
6	570	629	520	1100	660	1750	709	877	599	642	518	446
7	572	649	520	1000	620	1110	715	823	619	610	511	445
8	579	657	500	900	600	898	699	917	614	589	492	449
9	585	648	500	800	580	1130	657	974	579	589	482	460
10	581	622	500	700	560	1780	622	935	544	645	478	476
11	579	601	500	680	540	1970	619	839	524	612	479	478
12	572	585	490	620	520	2000	637	778	544	563	512	463
13	575	572	490	540	500	1610	661	749	540	545	615	447
14	577	533	500	490	500	1180	690	720	517	538	656	438
15	573	540	520	490	500	976	704	700	512	534	731	435
16	573	580	520	480	500	859	715	691	980	523	715	444
17	623	605	540	470	500	791	713	678	1320	506	619	515
18	649	609	500	470	720	828	684	663	1380	503	614	516
19	667	607	490	460	1500	849	686	677	1000	533	603	619
20	632	587	540	450	2000	838	699	678	776	603	583	729
21	601	574	540	450	3300	817	722	648	1130	654	552	588
22	599	569	540	860	4200	841	723	615	1480	640	544	523
23	651	566	540	1300	4900	849	694	592	1350	675	537	498
24	729	567	520	1400	4700	817	656	583	1070	726	521	496
25	725	564	500	1200	4000	779	630	584	1070	678	502	494
26	664	520	480	860	2700	813	613	586	1050	665	493	480
27	626	500	500	780	2000	875	597	577	946	728	487	466
28	606	500	520	760	1600	852	587	559	812	778	482	456
29	634	540	540	740	---	851	582	571	734	808	474	447
30	832	560	540	680	---	882	585	588	716	736	482	440
31	963	---	540	640	---	859	---	592	---	629	527	---
TOTAL	19433	18080	16250	22880	41720	40894	20313	22994	24100	19994	16898	14668
MEAN	627	603	524	738	1490	1319	677	742	803	645	545	489
MAX	963	900	600	1400	4900	2850	809	1090	1480	808	731	729
MIN	565	500	480	450	500	779	582	559	512	503	474	435
CFSM	.61	.58	.51	.71	1.44	1.28	.65	.72	.78	.62	.53	.47
IN.	.70	.65	.58	.82	1.50	1.47	.73	.83	.87	.72	.61	.53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1997, BY WATER YEAR (WY)

MEAN	529	586	514	588	815	1412	950	787	802	783	575	567
MAX	1226	2429	1492	2049	2512	3155	2943	3200	2075	5190	1752	1920
(WY)	1987	1962	1983	1960	1953	1950	1960	1973	1993	1993	1993	1965
MIN	187	211	162	147	182	259	328	234	233	181	167	166
(WY)	1957	1965	1959	1959	1959	1957	1957	1958	1965	1965	1958	1958

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1940 - 1997
ANNUAL TOTAL	323073	278224	
ANNUAL MEAN	883	762	742
HIGHEST ANNUAL MEAN			1720
LOWEST ANNUAL MEAN			292
HIGHEST DAILY MEAN	5150	4900	14600
LOWEST DAILY MEAN	(a) 350	435	132
ANNUAL SEVEN-DAY MINIMUM	(a) 353	454	(a) 140
INSTANTANEOUS PEAK FLOW		(b)	15100
INSTANTANEOUS PEAK STAGE		(a) 19.09	21.46
INSTANTANEOUS LOW FLOW		Feb 23	(c) .00
ANNUAL RUNOFF (CFSM)	.85	.74	.72
ANNUAL RUNOFF (INCHES)	11.62	10.01	9.75
10 PERCENT EXCEEDS	1500	1050	1320
50 PERCENT EXCEEDS	660	612	519
90 PERCENT EXCEEDS	520	490	253

(a) Ice affected

(b) Unknown, ice affected

(c) Result of regulation

05435943 BADGER MILL CREEK AT VERONA, WI

LOCATION.--Lat 42°58'37", long 89°32'22", in NW 1/4 SW 1/4 sec.22, T.6 N., R.8 E., Dane County, Hydrologic Unit 07090004, on left bank 40 ft downstream of Bruce Street, 0.8 mi southwest of intersection of State Highway 69 and County Trunk Highway M, at Verona.

DRAINAGE AREA.--20.3 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1996 to September 1997.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 930 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1-10. Records good (see page 11). Gage-height and water temperature telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	6.2	6.0	4.6	4.9	102	6.2	26	4.5	5.8	4.5	3.7
2	5.0	5.9	5.2	6.2	6.4	45	6.1	12	4.5	4.9	4.4	3.7
3	5.0	5.7	5.1	8.3	6.6	14	6.1	9.4	4.4	4.7	4.4	3.7
4	5.2	5.5	5.0	49	5.3	7.4	6.0	6.0	4.4	4.5	4.4	3.6
5	5.0	5.5	5.2	15	4.5	6.3	6.4	5.8	4.5	4.5	4.3	3.7
6	4.8	5.7	5.1	6.1	4.3	6.0	6.8	5.5	4.6	7.5	4.2	3.6
7	6.0	5.4	4.9	5.2	4.4	6.4	6.0	5.9	5.0	4.7	4.1	3.6
8	5.4	5.4	4.8	5.0	4.3	5.9	5.8	6.3	5.3	52	4.1	3.7
9	5.2	5.3	4.9	5.0	4.3	70	5.7	5.4	4.5	15	4.1	3.7
10	5.1	5.2	4.9	4.9	4.2	20	5.7	5.2	4.4	5.8	4.1	3.6
11	5.1	5.2	4.9	4.7	4.2	9.1	5.9	5.2	4.4	5.0	4.1	3.6
12	5.1	5.1	4.9	4.5	4.5	6.9	6.3	5.3	4.3	4.7	11	3.6
13	5.0	5.1	4.9	4.5	4.5	6.4	7.4	5.0	4.3	4.6	6.2	3.5
14	4.9	5.1	4.9	4.5	4.5	6.3	8.7	5.1	4.2	4.6	4.3	3.5
15	4.8	5.1	8.6	4.6	4.4	5.8	7.8	5.0	6.5	4.4	5.5	3.6
16	4.9	5.2	5.7	4.4	4.3	5.8	6.4	5.0	29	4.4	4.5	4.1
17	11	5.5	5.2	4.4	4.5	6.4	6.1	4.9	5.7	6.9	5.3	7.0
18	6.4	5.2	5.0	4.3	98	6.4	5.9	5.2	5.0	9.8	5.4	3.7
19	5.8	5.2	4.8	4.4	61	5.8	5.8	5.0	4.7	6.7	4.3	3.8
20	5.7	5.1	4.7	4.4	18	6.1	7.5	4.8	4.6	4.8	4.3	3.6
21	5.8	5.2	4.8	4.5	166	6.3	9.0	4.8	29	14	4.2	3.5
22	6.8	5.1	4.7	41	30	6.2	5.7	4.7	7.4	5.5	4.1	3.7
23	15	5.2	5.1	7.7	11	5.9	5.5	4.5	5.3	5.3	3.9	3.8
24	6.7	5.1	4.7	5.3	6.3	6.1	5.5	4.6	6.2	5.0	3.9	3.6
25	6.0	5.1	4.6	4.7	5.8	9.8	5.4	5.6	8.7	7.9	3.9	3.7
26	5.8	4.9	4.6	4.5	5.9	7.0	5.4	4.4	5.1	6.1	3.9	3.6
27	5.7	4.9	4.6	4.5	6.4	6.7	5.6	4.4	4.7	14	3.9	3.5
28	5.6	4.9	4.6	4.4	6.5	6.8	5.3	4.7	4.6	8.5	3.8	3.6
29	24	5.3	4.5	4.4	---	6.7	5.3	13	6.2	5.3	3.8	3.6
30	22	7.4	4.5	4.4	---	6.4	9.0	5.0	12	4.7	3.9	3.6
31	6.9	---	4.5	4.8	---	6.5	---	4.5	---	4.6	3.7	---
TOTAL	220.7	160.7	155.9	244.2	495.0	422.4	190.3	198.2	208.0	246.2	140.5	112.8
MEAN	7.12	5.36	5.03	7.88	17.7	13.6	6.34	6.39	6.93	7.94	4.53	3.76
MAX	24	7.4	8.6	49	166	102	9.0	26	29	52	11	7.0
MIN	4.8	4.9	4.5	4.3	4.2	5.8	5.3	4.4	4.2	4.4	3.7	3.5
CFSM	.35	.26	.25	.39	.87	.67	.31	.31	.34	.39	.22	.19
IN.	.40	.29	.29	.45	.91	.77	.35	.36	.38	.45	.26	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1997, BY WATER YEAR (WY)

	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997
MEAN	7.12	5.36	5.03	7.88	17.7	13.6	6.34	6.39	6.93	7.94	4.53	3.76
MAX	7.12	5.36	5.03	7.88	17.7	13.6	6.34	6.39	6.93	7.94	4.53	3.76
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997
MIN	7.12	5.36	5.03	7.88	17.7	13.6	6.34	6.39	6.93	7.94	4.53	3.76
(WY)	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS

FOR 1997 WATER YEAR

ANNUAL TOTAL	2794.9
ANNUAL MEAN	7.66
HIGHEST DAILY MEAN	166 Feb 21
LOWEST DAILY MEAN	3.5 (a) Sep 13
ANNUAL SEVEN-DAY MINIMUM	3.6 Sep 9
INSTANTANEOUS PEAK FLOW	309 Feb 18
INSTANTANEOUS PEAK STAGE	7.78 Feb 18
ANNUAL RUNOFF (CFSM)	.38
ANNUAL RUNOFF (INCHES)	5.12
10 PERCENT EXCEEDS	8.7
50 PERCENT EXCEEDS	5.1
90 PERCENT EXCEEDS	3.9

(a) Also occurred Sept. 14, 21, 27

ROCK RIVER BASIN
05435943 BADGER MILL CREEK AT VERONA, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1996 to September 1997.

INSTRUMENTATION.--Continuous water temperature recorder since November 1996.

REMARKS.--Records represent water temperature at sensor within 0.5°C.

EXTREMES FOR PERIOD NOVEMBER 1996 TO SEPTEMBER 1997.--

WATER TEMPERATURE: Maximum, 24.0°C, June 24; minimum, 0.0°C on many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	8.0	4.5	6.0	4.5	3.5	4.0	6.0	4.5	5.5
2	---	---	---	8.0	5.0	6.0	5.0	2.5	4.0	7.5	3.5	6.0
3	---	---	---	9.0	5.0	7.0	6.5	4.0	5.0	6.0	2.5	4.5
4	---	---	---	8.5	6.5	7.5	5.5	3.5	4.5	4.0	.5	2.0
5	---	---	---	9.5	8.0	9.0	6.0	3.5	5.0	2.5	.5	1.5
6	---	---	---	11.0	9.0	10.0	6.5	5.0	6.0	3.0	.0	1.5
7	---	---	---	9.5	7.0	8.5	6.0	3.5	4.5	3.5	.5	1.5
8	---	---	---	8.0	6.0	7.0	5.0	4.0	4.5	4.5	1.0	2.5
9	---	---	---	7.5	5.5	6.5	6.0	4.0	5.0	5.0	3.5	4.0
10	---	---	---	7.0	4.0	5.5	7.0	4.5	5.5	5.0	2.5	3.5
11	---	---	---	7.0	4.0	5.0	6.5	5.5	6.0	2.5	.0	1.0
12	---	---	---	6.0	3.0	4.5	7.0	5.5	6.5	1.5	.0	.5
13	---	---	---	6.5	3.5	4.5	7.5	5.0	6.0	2.5	.0	1.0
14	---	---	---	6.0	2.5	4.0	6.5	5.5	6.0	2.5	.0	1.5
15	---	---	---	6.0	4.0	5.0	6.5	3.0	4.5	3.5	1.5	2.5
16	---	---	---	9.5	5.5	7.5	5.5	3.0	4.0	3.0	.0	.5
17	---	---	---	8.5	5.0	7.5	5.0	2.5	4.0	2.0	.0	.0
18	---	---	---	6.0	4.0	5.0	3.0	.5	2.0	2.0	.0	.5
19	---	---	---	6.0	4.5	5.0	3.0	.0	1.5	3.0	.0	1.5
20	---	---	---	6.0	4.0	5.0	2.0	.0	1.0	5.5	2.0	4.0
21	---	---	---	8.0	4.5	6.0	5.0	1.5	3.5	6.0	3.5	4.5
22	---	---	---	7.0	5.5	6.0	6.0	4.0	5.0	5.5	.0	1.0
23	---	---	---	6.5	5.5	6.0	5.5	4.0	5.0	3.5	.5	2.0
24	---	---	---	5.5	4.5	5.0	4.5	.5	2.5	4.5	2.5	3.0
25	---	---	---	5.5	3.0	4.5	1.5	.0	.5	4.0	.0	1.5
26	---	---	---	4.5	1.5	2.5	2.0	.0	.5	1.5	.0	.5
27	---	---	---	4.0	1.0	3.0	4.5	.5	2.5	3.5	.0	2.0
28	---	---	---	5.5	3.0	4.0	6.5	4.5	5.5	2.0	.0	.5
29	---	---	---	6.0	4.0	5.0	6.0	3.0	4.0	2.5	.0	1.0
30	---	---	---	6.5	4.5	5.0	5.0	3.0	4.0	4.0	.5	2.0
31	---	---	---	---	---	---	4.5	3.0	4.0	6.5	3.0	4.5
MONTH	---	---	---	11.0	1.0	5.8	7.5	.0	4.1	7.5	.0	2.2

ROCK RIVER BASIN

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05435943 BADGER MILL CREEK AT VERONA, WI--CONTINUED

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	6.5	3.5	5.0	5.5	.0	1.5	14.5	5.5	9.5	14.5	4.5	9.0
2	7.5	2.0	5.0	4.0	.0	1.5	14.5	6.5	10.5	10.0	8.5	9.0
3	4.5	1.5	3.0	4.5	.5	2.5	16.0	9.0	11.5	15.0	8.0	10.5
4	4.0	2.0	3.0	5.5	3.0	4.5	14.0	8.5	11.5	17.5	6.5	11.5
5	6.5	3.5	4.5	6.5	3.5	5.0	11.5	10.0	11.0	17.5	9.0	12.0
6	6.0	3.5	4.5	7.5	2.0	4.0	10.0	3.5	7.5	18.0	7.5	12.5
7	6.0	3.0	4.5	8.5	2.0	5.0	11.5	2.5	6.0	11.0	8.0	10.0
8	7.0	3.0	4.5	9.5	4.0	6.0	10.5	3.0	6.0	18.5	9.5	13.0
9	7.0	2.5	4.5	5.5	.5	2.5	13.0	3.0	7.0	16.0	8.5	11.5
10	6.0	3.0	4.5	7.5	.5	3.5	8.5	4.5	6.5	18.0	7.0	12.0
11	6.0	3.0	4.5	10.0	3.5	6.0	7.5	3.5	5.5	17.0	10.0	13.0
12	6.0	.5	3.0	8.0	4.0	5.5	5.0	3.5	4.0	16.5	8.0	12.0
13	5.0	.0	2.0	6.0	3.5	4.5	13.5	3.5	7.5	16.0	7.5	11.5
14	6.5	1.0	3.5	6.5	2.0	4.5	13.0	4.0	7.5	11.0	8.5	9.5
15	5.5	1.0	3.0	7.5	.5	3.5	14.5	5.5	9.0	12.0	7.5	9.0
16	6.0	1.5	3.5	7.0	1.0	4.0	9.5	6.0	8.0	13.0	6.5	9.5
17	7.5	1.5	4.5	9.5	3.9	6.5	15.0	4.5	9.0	18.5	7.5	12.5
18	8.5	.0	3.5	8.0	3.5	5.5	10.0	6.0	8.0	13.0	9.0	11.0
19	3.0	.0	1.0	10.0	3.0	6.5	10.0	8.0	8.5	15.0	10.0	12.0
20	3.5	.5	2.0	13.0	5.0	8.5	13.0	7.0	9.5	17.0	8.0	12.0
21	1.0	.0	.0	12.0	6.5	9.0	16.0	8.5	11.5	18.0	7.5	12.5
22	3.0	.0	1.0	10.0	5.5	7.0	15.5	6.0	10.5	19.0	8.0	13.0
23	5.5	1.0	2.5	10.5	4.5	6.5	13.5	7.5	10.0	18.5	9.5	13.5
24	6.5	1.0	3.0	5.5	4.0	4.5	15.0	7.0	11.0	13.5	10.5	12.5
25	7.5	1.0	4.0	6.0	3.0	5.0	17.5	6.5	11.5	14.0	10.5	12.0
26	6.0	4.0	5.0	13.0	4.0	8.0	15.0	7.0	11.0	14.5	8.5	11.0
27	7.0	3.5	5.5	15.0	6.0	10.0	15.0	8.5	11.0	16.5	8.0	12.0
28	6.5	4.0	5.5	10.0	8.0	9.5	18.0	7.5	12.0	14.0	10.0	12.0
29	---	---	---	9.0	7.5	8.0	18.5	9.0	13.0	13.5	11.0	12.5
30	---	---	---	11.0	6.5	8.0	12.5	6.0	10.5	14.5	11.0	12.5
31	---	---	---	14.0	5.0	9.0	---	---	---	20.0	9.5	14.5
MONTH	8.5	.0	3.6	15.0	.0	5.7	18.5	2.5	9.2	20.0	4.5	11.6
JUNE			JULY			AUGUST			SEPTEMBER			
1	20.5	10.0	15.0	22.5	17.5	19.5	16.5	14.5	15.5	18.5	13.5	16.0
2	20.5	10.5	15.5	21.5	16.5	18.5	20.0	14.0	16.5	16.5	13.5	15.0
3	17.0	11.5	14.0	16.5	14.5	15.5	19.0	15.0	16.5	17.0	12.0	14.0
4	20.0	10.5	14.5	16.0	13.5	14.5	18.5	15.0	16.5	16.5	11.0	13.0
5	16.0	11.5	13.5	18.5	12.0	15.0	18.5	13.5	15.5	14.0	12.0	13.0
6	16.0	11.5	13.5	20.0	14.0	16.5	18.0	14.0	15.5	18.0	12.5	14.5
7	14.0	11.5	12.5	19.0	13.5	16.0	18.5	13.5	15.5	14.5	13.5	14.0
8	19.0	11.0	14.5	21.5	15.0	18.5	18.5	13.5	16.0	14.5	13.5	14.0
9	20.5	11.0	15.5	20.5	16.5	19.0	17.0	14.0	15.0	16.0	13.0	14.0
10	21.0	11.5	16.0	20.5	14.0	17.0	16.5	14.5	15.0	16.5	12.5	14.0
11	19.0	12.5	15.0	20.5	14.5	17.0	14.5	13.5	14.0	16.0	11.5	13.5
12	19.5	12.5	15.5	18.0	15.0	16.5	18.5	13.5	15.0	16.0	11.0	13.5
13	19.0	12.5	16.0	21.5	15.5	18.0	19.5	15.0	16.5	14.0	11.5	13.0
14	20.5	12.0	15.5	22.0	16.5	18.5	16.0	13.5	15.0	16.0	13.0	14.0
15	19.5	11.5	15.0	22.0	16.0	18.5	20.5	15.0	17.0	17.0	12.5	14.5
16	21.5	16.0	18.5	22.5	16.5	19.0	19.5	16.0	17.5	17.5	13.5	15.5
17	21.0	14.0	17.0	20.0	16.0	18.5	17.5	14.5	16.0	20.0	14.5	17.5
18	20.5	13.5	16.5	22.5	17.0	19.0	16.5	13.5	15.0	18.0	13.0	15.5
19	18.0	13.5	15.5	20.5	16.5	18.0	14.5	13.0	14.0	16.0	14.5	15.5
20	19.5	14.5	16.5	19.5	15.0	17.0	15.0	13.0	14.0	16.0	12.0	14.0
21	22.5	16.0	19.5	21.5	16.0	19.0	17.5	12.5	14.5	15.0	10.0	12.0
22	21.5	17.5	19.5	20.5	16.5	18.0	17.5	12.5	14.5	12.5	11.0	12.0
23	22.5	15.5	19.0	18.5	15.0	16.5	15.5	12.5	14.0	15.0	11.5	12.5
24	24.0	16.0	19.5	19.5	14.0	16.5	15.5	13.5	14.0	15.0	9.5	12.0
25	22.5	16.5	20.0	23.0	15.0	17.5	16.0	13.0	14.0	16.5	11.0	13.5
26	21.5	15.0	18.0	22.5	18.5	20.0	17.0	13.0	15.0	16.0	11.0	13.5
27	21.5	14.5	17.5	22.5	16.0	19.0	18.0	14.5	16.0	15.0	11.5	13.5
28	22.0	15.0	18.0	22.0	18.0	19.5	19.0	14.0	16.0	16.5	13.0	14.0
29	20.0	16.0	17.5	20.0	16.0	17.5	17.0	13.5	15.0	15.0	11.5	13.0
30	23.0	18.0	20.0	19.5	14.0	16.0	14.5	13.5	14.0	15.0	12.0	13.0
31	---	---	---	19.0	13.5	16.0	18.0	13.5	15.0	---	---	---
MONTH	24.0	10.0	16.5	23.0	12.0	17.6	20.5	12.5	15.3	20.0	9.5	13.9

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 26-28, Dec. 20-31, Jan. 5-20, 25-30, and Feb. 6-17. Records good except those for ice-affected periods, which are fair (see page 11). Some regulation from dam and powerplant upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	305	571	384	281	530	1140	426	409	314	392	325	286
2	299	470	389	289	581	1890	404	537	276	388	305	278
3	298	387	352	340	693	2040	384	679	280	361	304	270
4	290	362	331	456	686	1530	377	652	280	346	307	264
5	290	358	317	580	591	1010	379	575	278	336	312	260
6	293	350	316	500	440	654	396	461	289	331	304	258
7	295	354	312	460	380	496	401	400	304	323	292	256
8	300	363	306	420	320	453	379	445	304	314	277	257
9	308	348	299	380	310	554	353	462	325	356	273	260
10	295	338	297	350	290	846	342	431	300	376	274	261
11	314	330	299	330	280	1130	343	392	280	371	277	258
12	302	316	306	320	270	1020	359	369	278	333	304	253
13	295	313	314	300	260	744	370	354	269	315	362	249
14	296	305	318	290	240	562	382	347	260	308	391	245
15	294	311	355	270	230	488	410	344	258	298	398	248
16	293	306	419	260	230	426	428	339	432	274	435	251
17	331	323	441	250	270	423	411	335	651	275	388	277
18	336	331	339	250	386	419	381	335	691	286	383	274
19	338	329	283	320	1310	420	369	347	589	322	407	284
20	319	318	280	390	2240	414	366	340	418	363	367	286
21	311	316	280	427	3550	416	371	322	474	359	338	270
22	313	312	280	585	3950	428	374	311	788	363	324	259
23	345	312	280	729	3290	439	349	306	1020	385	310	261
24	374	314	270	838	2030	421	333	303	921	367	302	265
25	378	314	260	880	1250	415	341	304	643	423	297	268
26	346	260	250	780	714	435	332	304	614	388	292	257
27	330	250	250	580	562	472	324	300	545	371	288	248
28	318	270	270	540	513	462	320	294	467	402	285	246
29	345	318	280	500	---	455	315	306	392	454	279	243
30	465	346	290	500	---	456	325	330	371	412	275	234
31	560	---	290	522	---	448	---	335	---	353	277	---
TOTAL	10176	10095	9657	13917	26396	21506	11044	11968	13311	10945	9952	7826
MEAN	328	337	312	449	943	694	368	386	444	353	321	261
MAX	560	571	441	880	3950	2040	428	679	1020	454	435	286
MIN	290	250	250	250	230	414	315	294	258	274	273	234
CFSM	.63	.64	.60	.86	1.80	1.33	.70	.74	.85	.68	.61	.50
IN.	.72	.72	.69	.99	1.88	1.53	.79	.85	.95	.78	.71	.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 1997, BY WATER YEAR (WY)

	MEAN	282	306	270	294	429	670	454	362	353	297	256	295
	MAX	788	836	597	1168	1691	1698	1159	1368	1244	1248	694	1579
	(WY)	1928	1962	1929	1916	1938	1929	1993	1973	1996	1993	1924	1938
	MIN	126	127	120	89.4	127	181	198	140	113	117	105	106
	(WY)	1965	1965	1956	1956	1959	1934	1938	1934	1934	1958	1934	1958

SUMMARY STATISTICS

SUMMARY STATISTICS	FOR 1996	CALENDAR YEAR	FOR 1997	WATER YEAR	WATER YEARS	1914 - 1997
ANNUAL TOTAL	184420		156793			
ANNUAL MEAN	504		430		356	
HIGHEST ANNUAL MEAN					694	1993
LOWEST ANNUAL MEAN					172	1934
HIGHEST DAILY MEAN	4290	Jun 19	3950	Feb 22	10800	Mar 14 1929
LOWEST DAILY MEAN	(a) 230	Jan 6-12	(a) 230	Feb 15, 16	51	Jun 13 1934
ANNUAL SEVEN-DAY MINIMUM	(a) 230	Jan 6	252	Sep 24	71	Jun 28 1934
INSTANTANEOUS PEAK FLOW			4840	Feb 21	(b) 14800	Sep 13 1915
INSTANTANEOUS PEAK STAGE			8.45	Feb 21	(c) 11.40	Sep 13 1915
INSTANTANEOUS LOW FLOW					35	Sep 19 1959
ANNUAL RUNOFF (CFSM)	.96		.82		.68	
ANNUAL RUNOFF (INCHES)	13.12		11.15		9.24	
10 PERCENT EXCEEDS	809		583		579	
50 PERCENT EXCEEDS	355		335		260	
90 PERCENT EXCEEDS	286		269		150	

(a) Ice affected

(b) From rating curve extended above 7,500 ft³/s

(c) From floodmarks

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 sea level (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: Dec. 26-28 and Jan. 8 to Feb. 3. Records good except those for estimated daily discharges, which are poor (see page 11). Low flow regulated by powerplant above station. U.S. Army Corps of Engineers satellite telemeter at station.

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.

REVISIONS.--Revised daily discharges for Dec. 10-23, 1995, are given below in cubic feet per second. These figures supersede those published in the report for 1996.

Dec. 10	e3500	Dec. 14	e5000	Dec. 18	e4400	Dec. 22	e3100
11	e4000	15	e4900	19	e4200	23	e3400
12	e4500	16	e4800	20	e3900		
13	e4900	17	e4600	21	e3500		

MONTH	TOTAL	MEAN	MAX	MIN	CFSM	IN
Dec. 1995	128090	4132	5510	2920	.65	.75
Cal Yr 1995	1538870	4216	9940	2100	.66	9.00
Wtr Yr 1996	2298110	6279	19300	2470	.99	13.44

e Estimated

ROCK RIVER BASIN
05437500 ROCK RIVER AT ROCKTON, IL--CONTINUED

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3410	5130	3570	3480	4400	16600	7820	6170	4000	6510	4830	3900
2	3220	5100	3620	3650	4400	18100	7720	6230	3840	6280	4600	3900
3	2720	4970	3490	3800	4500	17500	7610	6690	3630	5880	4510	3940
4	2680	4720	3550	4110	5010	16900	7430	6860	3470	5950	4540	3700
5	2710	4590	3770	4770	4850	16100	7440	6820	3390	5850	4450	3470
6	2620	4480	3720	4380	4780	14700	7230	6810	3370	5590	4190	3010
7	2760	4340	3660	3910	4690	13400	6480	6790	3330	5620	4010	3060
8	3240	4210	3670	3300	4440	12400	7140	6980	3400	5440	3680	3080
9	3070	4190	3630	3400	4200	11700	7160	6910	3470	5530	3560	3110
10	3090	4170	3650	3600	4010	11900	7050	7020	3300	5450	3590	2820
11	2720	4100	3600	3800	3870	11600	6920	6760	2960	5400	3520	2690
12	2550	3940	3670	3900	3820	11500	7130	6330	3050	5440	3390	2700
13	2570	3860	3710	4100	3580	11500	7040	6210	3070	5290	3430	2630
14	2790	3640	3760	3800	3590	11400	6970	6040	3040	5160	3380	2620
15	3120	3500	3970	3600	3510	10900	7090	5840	2990	4980	3770	2610
16	2890	3630	4040	3400	3460	10200	7000	5650	7240	4780	3790	2670
17	2880	3720	4340	3300	3390	9540	7060	5330	8970	4570	4200	3230
18	2840	3610	4030	3100	3970	9070	7020	5660	7650	4680	4250	3130
19	3250	3680	3060	3050	8080	8660	7010	5390	7180	4680	3990	3420
20	3190	3800	3370	3100	7760	8480	6970	5180	6770	4630	3840	4110
21	3100	3840	4060	3600	13400	8330	7040	4980	6660	4850	3600	3930
22	3220	3740	3970	5600	18600	8180	7050	4840	6750	4800	3450	3700
23	3360	3670	4030	5400	19800	8040	6850	4620	6740	4770	3100	3480
24	3400	3670	3870	5100	19700	7910	6540	4290	7200	4920	2970	3320
25	3380	3560	3440	4800	19600	7980	6330	4830	7860	4980	3120	3120
26	3390	3220	3200	4700	18700	7830	6250	5580	8210	4860	3840	3070
27	3350	2870	3500	4700	17500	7760	6010	5180	8110	5040	3910	3020
28	3020	2920	3700	4700	16600	7860	6020	4410	7790	4960	3900	2910
29	3790	2840	3740	4600	---	7920	5960	4050	7190	5030	3840	2750
30	4340	3240	3530	4600	---	7890	5920	3930	6740	5080	3870	2580
31	5040	---	3490	4500	---	7890	---	3900	---	5030	3900	---
TOTAL	97710	116950	114410	125850	234210	339740	207260	176280	161370	162030	119020	95680
MEAN	3152	3898	3691	4060	8365	10960	6909	5686	5379	5227	3839	3189
MAX	5040	5130	4340	5600	19800	18100	7820	7020	8970	6510	4830	4110
MIN	2550	2840	3060	3050	3390	7760	5920	3900	2960	4570	2970	2580
CFSM	.50	.61	.58	.64	1.31	1.72	1.09	.89	.85	.82	.60	.50
IN.	.57	.68	.67	.74	1.37	1.99	1.21	1.03	.94	.95	.70	.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1997, BY WATER YEAR (WY)

	MEAN	3052	3492	3261	3218	3778	7348	7281	5145	4142	3571	2785	2830
MAX	13340	11320	9049	9432	8365	13920	18530	17770	13700	17000	9039	7753	
(WY)	1987	1986	1983	1960	1997	1974	1993	1973	1996	1993	1993	1972	
MIN	857	1100	1004	800	1000	1692	2476	1103	1248	1056	793	780	
(WY)	1965	1940	1959	1940	1940	1954	1958	1958	1977	1965	1958	1958	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1940 - 1997

ANNUAL TOTAL	2177930	1950510	
ANNUAL MEAN	5951	5344	4158
HIGHEST ANNUAL MEAN			9484
LOWEST ANNUAL MEAN			1568
HIGHEST DAILY MEAN	19300	Jul 20	29700
LOWEST DAILY MEAN	2550	Oct 12	501
ANNUAL SEVEN-DAY MINIMUM	2770	Jan 11	622
INSTANTANEOUS PEAK FLOW			20300
INSTANTANEOUS PEAK STAGE			11.79
INSTANTANEOUS LOW FLOW			1710
ANNUAL RUNOFF (CFSM)	.94	.84	15.54
ANNUAL RUNOFF (INCHES)	12.73	11.40	501
10 PERCENT EXCEEDS	11100	7940	8310
50 PERCENT EXCEEDS	4830	4200	3100
90 PERCENT EXCEEDS	2930	3070	1290

05438283 PISCASAW CREEK NEAR WALWORTH, WI

LOCATION.--Lat 42°31'18", long 88°39'39", in NE 1/4 NE 1/4 sec.25, T.1 N., R.15 E., Walworth County, Hydrologic Unit 07090006, on right bank 0.9 mi upstream from County Trunk Highway B bridge, 3.2 mi southwest of Walworth.

DRAINAGE AREA.--9.58 mi².

PERIOD OF RECORD.--September 1992 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 935 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records are fair (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.2	1.2	.80	.80	104	1.6	1.6	1.7	2.0	1.2	.89
2	1.7	1.1	1.1	2.6	.85	13	1.6	1.7	1.7	1.8	1.2	.89
3	1.7	1.1	1.1	1.4	1.0	5.1	1.5	1.8	1.6	1.8	1.2	.88
4	1.8	1.1	1.1	1.5	.89	3.4	1.5	1.8	1.6	1.8	1.2	.86
5	1.8	1.0	1.2	1.3	.81	2.8	1.6	1.9	1.5	1.8	1.2	.89
6	1.8	1.0	1.1	1.1	.80	2.4	1.6	1.7	1.5	1.8	1.1	.88
7	1.8	1.0	.99	.96	.80	2.2	1.7	1.7	1.5	1.8	1.1	.89
8	1.7	.99	1.0	.89	.80	2.0	1.6	2.5	1.5	1.7	1.0	.89
9	1.7	.99	1.0	.89	.80	5.9	1.4	2.4	1.4	1.4	1.0	.92
10	1.7	.99	.99	.86	.80	3.7	1.4	2.4	1.3	1.4	1.0	.95
11	1.7	.99	1.1	.80	.80	2.8	1.4	2.4	1.5	1.4	1.0	.94
12	1.7	.93	1.2	.80	.89	2.3	1.5	2.4	1.5	1.5	1.1	.89
13	1.7	.95	1.2	.80	.88	2.0	1.5	2.3	1.5	1.4	1.1	.91
14	1.7	.99	1.2	.80	.89	2.0	1.8	2.3	1.5	1.4	1.0	.91
15	1.7	.99	1.4	.78	.86	1.8	2.0	2.3	9.3	1.5	1.1	.99
16	1.7	.99	1.5	1.1	.86	1.7	1.9	2.2	49	1.5	.99	1.2
17	1.9	1.0	1.3	.82	.86	1.7	1.8	2.2	5.8	1.6	1.2	2.6
18	1.7	1.0	1.2	.76	40	1.6	1.7	2.5	3.9	1.6	1.1	.99
19	1.7	1.1	1.1	.74	26	1.7	1.7	2.0	3.1	1.5	1.0	6.2
20	1.7	1.1	.99	.74	11	1.7	1.7	1.8	2.7	1.7	1.1	1.8
21	1.6	1.2	.99	.75	251	1.9	1.8	1.8	3.7	1.8	1.1	1.3
22	1.5	1.2	.99	13	7.5	2.0	1.6	1.7	2.6	1.8	1.1	1.2
23	1.7	1.2	1.0	1.9	3.7	1.9	1.5	1.5	2.5	1.8	1.1	1.2
24	1.5	1.2	1.0	1.0	2.7	1.9	1.5	1.6	2.7	1.7	1.0	1.1
25	1.5	1.2	.99	.90	2.3	1.9	1.5	2.4	2.5	1.5	.99	1.1
26	1.4	1.2	.98	.81	2.3	1.8	1.5	2.2	2.5	1.5	.99	.99
27	1.3	1.2	.90	.80	2.5	1.8	1.5	1.9	2.5	1.7	.99	.99
28	1.3	1.2	.89	.74	2.8	1.8	1.4	1.8	2.3	1.6	.96	.99
29	2.3	1.2	.89	.78	---	1.8	1.4	1.8	2.3	1.6	.96	1.1
30	1.4	1.2	.89	.80	---	1.7	1.6	1.7	2.2	1.4	.99	1.1
31	1.2	---	.85	.81	---	1.7	---	1.7	---	1.2	.90	---
TOTAL	51.1	32.51	33.34	42.73	366.19	184.0	47.8	62.0	120.9	50.0	32.97	37.44
MEAN	1.65	1.08	1.08	1.38	13.1	5.94	1.59	2.00	4.03	1.61	1.06	1.25
MAX	2.3	1.2	1.5	13	251	104	2.0	2.5	49	2.0	1.2	6.2
MIN	1.2	.93	.85	.74	.80	1.6	1.4	1.5	1.3	1.2	.90	.86
CFSM	.17	.11	.11	.14	1.37	.62	.17	.21	.42	.17	.11	.13
IN.	.20	.13	.13	.17	1.42	.71	.19	.24	.47	.19	.13	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1997, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997
MEAN	1.91	1.91	2.03	2.34	6.19	5.10
MAX	3.68	3.29	4.54	5.85	13.1	12.0
(WY)	1994	1993	1993	1993	1997	1993
MIN	1.24	1.08	1.02	1.16	1.23	.69
(WY)	1996	1997	1996	1996	1995	1996

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1992 - 1997

ANNUAL TOTAL	905.52	1060.98	
ANNUAL MEAN	2.47	2.91	3.26
HIGHEST ANNUAL MEAN			6.41
LOWEST ANNUAL MEAN			1.32
HIGHEST DAILY MEAN	192	251	251
LOWEST DAILY MEAN	.58	.74	.58
ANNUAL SEVEN-DAY MINIMUM	.62	.79	.62
INSTANTANEOUS PEAK FLOW		484	544
INSTANTANEOUS PEAK STAGE		9.26	10.05
INSTANTANEOUS LOW FLOW		.68	.58
ANNUAL RUNOFF (CFSM)	.26	.30	.34
ANNUAL RUNOFF (INCHES)	3.52	4.12	4.63
10 PERCENT EXCEEDS	3.0	2.4	4.6
50 PERCENT EXCEEDS	1.3	1.5	1.7
90 PERCENT EXCEEDS	.68	.89	.91

(a) Also occurred Mar. 10-12, 1996

ILLINOIS RIVER BASIN
05527800 DES PLAINES RIVER AT RUSSELL, IL

LOCATION.--Lat 42°29'22", long 87°55'32", in SE 1/4 sec.3, T.46 N., R.11 E., Lake County, Hydrologic Unit 07120004, 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 and crest-stage gage. Datum of gage is 662.00 ft above sea level. 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. 5-8, 16-21, and Dec. 25 to Feb. 19. Records good except those for estimated daily discharges, which are poor (see page 11). Recording rain gage and gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	49	28	20	43	421	69	143	68	51	5.5	7.3
2	5.6	30	34	22	54	423	64	192	58	50	5.0	4.9
3	4.2	20	25	30	70	409	60	229	52	46	4.6	4.3
4	3.1	16	21	44	90	392	60	239	46	38	5.4	4.3
5	3.0	14	20	66	120	361	60	234	40	32	6.0	3.3
6	2.6	12	25	100	135	328	66	217	63	25	5.2	3.2
7	1.9	12	26	110	125	289	59	193	91	18	4.4	3.0
8	1.6	11	25	78	115	252	50	178	89	16	3.3	2.7
9	1.8	10	24	60	87	220	44	162	71	19	3.5	2.8
10	2.8	9.5	17	48	70	189	40	145	55	17	3.3	2.8
11	2.1	8.6	35	44	59	163	38	127	45	14	3.4	2.9
12	1.8	7.4	103	39	50	143	46	105	42	10	6.0	2.8
13	1.9	6.9	106	35	46	128	68	85	48	8.1	15	2.4
14	1.5	6.8	87	32	42	122	97	74	53	6.6	12	2.3
15	1.2	6.3	75	30	37	114	114	70	47	5.8	9.7	2.2
16	1.2	6.2	63	27	33	101	120	68	189	5.5	12	2.0
17	2.4	7.6	56	25	30	94	112	62	256	4.2	13	39
18	5.6	7.7	41	23	46	88	99	61	286	3.7	21	70
19	5.2	7.6	31	21	90	82	87	117	301	3.3	17	63
20	4.6	7.5	25	20	207	77	78	164	296	3.1	13	117
21	3.7	7.1	23	21	409	74	76	162	298	28	12	167
22	2.6	7.2	23	50	691	72	76	132	287	97	11	193
23	5.5	8.0	26	108	797	71	75	98	247	85	7.9	203
24	9.5	11	42	120	799	67	71	75	228	51	27	193
25	8.0	17	34	110	684	74	65	83	208	32	54	160
26	6.6	23	27	90	549	86	60	103	176	22	44	102
27	6.9	15	22	78	486	89	55	109	122	19	26	56
28	6.0	12	21	64	434	85	52	98	77	17	14	39
29	15	10	21	55	---	82	49	86	55	12	12	27
30	73	16	20	47	---	80	54	78	51	8.9	8.0	18
31	73	---	20	41	---	76	---	74	---	6.8	6.9	---
TOTAL	271.6	382.4	1146	1658	6398	5252	2064	3963	3945	755.0	391.1	1500.2
MEAN	8.76	12.7	37.0	53.5	229	169	68.8	128	132	24.4	12.6	50.0
MAX	73	49	106	120	799	423	120	239	301	97	54	203
MIN	1.2	6.2	17	20	30	67	38	61	40	3.1	3.3	2.0
CFSM	.07	.10	.30	.43	1.86	1.38	.56	1.04	1.07	.20	.10	.41
IN.	.08	.12	.35	.50	1.94	1.59	.62	1.20	1.19	.23	.12	.45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1997, BY WATER YEAR (WY)

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MEAN	42.7	71.6	94.2	64.5	99.0	222	220	119	81.5	56.8	45.0	57.3																			
MAX	364	390	382	279	327	673	718	410	356	363	417	410																			
(WY)	1987	1986	1983	1993	1974	1979	1993	1996	1996	1978	1978	1972																			
MIN	.056	2.75	3.06	1.46	2.35	14.9	33.4	6.15	1.90	.78	.87	.060																			
(WY)	1995	1972	1977	1977	1977	1968	1977	1977	1988	1988	1988	1994																			

SUMMARY STATISTICS

	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1967 - 1997
ANNUAL TOTAL	38497.11	27726.3	
ANNUAL MEAN	105	76.0	97.9
HIGHEST ANNUAL MEAN			206
LOWEST ANNUAL MEAN			9.24
HIGHEST DAILY MEAN	1160	799	2100
LOWEST DAILY MEAN	.37	1.2	.00
ANNUAL SEVEN-DAY MINIMUM	.62	1.7	.00
INSTANTANEOUS PEAK FLOW		853	(b)2120
INSTANTANEOUS PEAK STAGE		7.77	10.75
INSTANTANEOUS LOW FLOW		.97	(c)Mar 6 1976
ANNUAL RUNOFF (CFSM)	.86	.62	.80
ANNUAL RUNOFF (INCHES)	11.64	8.39	10.82
10 PERCENT EXCEEDS	330	190	271
50 PERCENT EXCEEDS	32	44	32
90 PERCENT EXCEEDS	2.7	4.2	3.0

(a) At times in most years

(b) Gage height, 9.69 ft

(c) Also occurred Sept. 27, 1986

05543800 FOX RIVER, AT WATERTOWN ROAD, NEAR WAUKESHA, WI

LOCATION.--Lat 43°03'12", long 88°11'41", in NW 1/4 SE 1/4 sec.24, T.7 N., R.19 E., Waukesha County, Hydrologic Unit 07120006, on left bank at upstream side of Watertown Road bridge, 3.5 mi northeast of Waukesha.

DRAINAGE AREA.--77.4 mi².

PERIOD OF RECORD.--December 1992 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 820 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 18-20, 25, 26, Jan. 6, 7, 15-18, and 25-28. Records are good (see page 11). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	129	56	42	48	149	104	175	52	322	46	55
2	22	105	44	47	49	223	96	189	48	362	42	49
3	22	76	45	66	51	227	89	209	44	398	41	45
4	22	63	41	95	51	220	82	207	42	357	44	40
5	21	56	41	135	50	197	79	193	38	317	43	37
6	21	50	42	80	49	157	86	179	39	291	40	36
7	38	49	43	70	47	123	83	160	41	255	37	33
8	38	46	43	65	46	113	73	158	41	287	36	37
9	29	44	40	54	45	119	66	146	40	334	34	36
10	29	43	40	51	42	126	62	130	37	258	36	38
11	28	39	42	47	41	131	61	116	34	218	36	37
12	27	38	53	42	40	132	70	101	32	188	62	34
13	26	36	60	38	38	124	85	85	31	160	83	34
14	25	33	60	36	38	116	101	75	28	133	61	34
15	25	34	71	34	37	97	112	75	26	107	57	32
16	26	34	79	33	37	85	112	75	106	85	58	34
17	107	39	69	32	34	85	106	67	112	93	51	65
18	117	41	45	32	64	86	96	64	82	84	61	54
19	72	38	43	32	139	86	92	62	59	73	54	43
20	50	37	40	32	140	85	90	58	69	63	51	53
21	39	36	40	34	322	88	84	56	418	66	52	44
22	36	36	40	74	444	98	76	53	849	74	48	39
23	83	35	46	79	409	102	70	49	1010	68	43	46
24	75	36	72	69	340	98	65	46	850	64	199	45
25	56	35	44	58	267	98	63	49	689	59	243	39
26	49	30	42	52	217	102	60	51	537	61	179	37
27	45	32	41	50	181	106	58	48	424	82	137	33
28	40	31	39	48	155	112	56	45	338	71	104	32
29	69	31	43	45	---	115	53	55	268	60	72	33
30	193	50	43	45	---	116	60	67	257	52	59	33
31	167	---	41	45	---	113	---	58	---	45	61	---
TOTAL	1620	1382	1488	1662	3421	3829	2390	3101	6641	5087	2170	1207
MEAN	52.3	46.1	48.0	53.6	122	124	79.7	100	221	164	70.0	40.2
MAX	193	129	79	135	444	227	112	209	1010	398	243	65
MIN	21	30	39	32	34	85	53	45	26	45	34	32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1997, BY WATER YEAR (WY)

	MEAN	48.3	55.3	53.5	54.8	77.5	112	157	90.9	142	112	51.9	46.8
MAX	57.4	77.6	84.6	86.0	122	163	418	114	250	178	70.0	109	
(WY)	1994	1996	1993	1993	1997	1994	1993	1996	1996	1993	1997	1993	
MIN	31.5	45.7	40.4	23.4	29.7	62.5	72.3	41.7	28.5	25.2	31.2	25.4	
(WY)	1995	1994	1994	1994	1995	1996	1994	1994	1994	1995	1996	1995	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1993 - 1997

ANNUAL TOTAL	28319	33998	
ANNUAL MEAN	77.4	93.1	73.2
HIGHEST ANNUAL MEAN			93.1
LOWEST ANNUAL MEAN			53.5
HIGHEST DAILY MEAN	687	Jun 20	1130
LOWEST DAILY MEAN	20	Sep 2	16
ANNUAL SEVEN-DAY MINIMUM	22	Sep 1	18
INSTANTANEOUS PEAK FLOW			1170
INSTANTANEOUS PEAK STAGE			11.52
INSTANTANEOUS LOW FLOW			13
10 PERCENT EXCEEDS	162	193	176
50 PERCENT EXCEEDS	51	56	52
90 PERCENT EXCEEDS	26	34	24

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 sea level (levels by City of Waukesha).

REMARKS.--Estimated daily discharges: Ice-affected periods, Dec. 19-21, 25, 26, Jan. 6-21, 26, and 28-30. Records good except those for ice-affected periods, which are fair (see page 11). There is occasional regulation from mill dam 1.0 mi upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	182	88	63	79	241	146	226	74	436	55	132
2	49	148	68	84	80	326	137	258	66	520	54	120
3	50	115	75	100	81	328	131	273	60	560	65	107
4	50	100	66	152	81	303	124	268	55	499	62	76
5	47	90	66	192	81	269	122	241	52	433	56	53
6	45	80	71	130	79	222	125	218	51	405	51	52
7	89	81	72	120	75	186	127	194	51	344	47	47
8	75	83	71	96	73	171	112	201	48	462	42	50
9	62	85	68	82	68	179	99	189	46	485	41	51
10	54	82	67	78	.68	189	91	167	44	384	43	67
11	40	76	69	76	64	195	90	146	42	320	46	66
12	36	61	81	70	62	194	110	132	39	281	103	60
13	36	62	92	62	58	186	128	115	39	249	118	51
14	35	63	93	52	60	174	145	106	33	216	90	47
15	35	64	111	52	58	153	154	111	33	184	84	44
16	34	63	122	52	57	139	153	108	167	166	86	57
17	204	70	110	52	54	140	146	100	152	173	76	100
18	177	76	74	50	106	141	133	93	112	162	85	83
19	115	67	70	52	202	137	132	82	82	144	76	75
20	80	63	64	52	204	131	131	91	94	131	72	80
21	68	64	62	54	545	132	123	86	716	140	71	64
22	70	61	63	117	612	142	115	82	1150	140	65	61
23	121	61	81	130	557	143	109	75	1290	134	64	68
24	119	59	106	113	445	135	106	71	1070	125	401	65
25	93	57	72	102	364	141	104	75	845	126	365	64
26	81	47	68	98	293	149	98	73	677	140	286	53
27	71	53	65	93	253	152	94	68	550	150	236	45
28	68	49	66	88	222	160	91	66	451	136	192	42
29	149	55	68	82	---	160	73	84	375	105	152	43
30	265	80	68	72	---	159	106	97	389	72	140	42
31	244	---	63	77	---	156	---	84	---	57	140	---
TOTAL	2698	2297	2380	2693	4981	5633	3555	4180	8853	7879	3464	1965
MEAN	87.0	76.6	76.8	86.9	178	182	119	135	295	254	112	65.5
MAX	265	182	122	192	612	328	154	273	1290	560	401	132
MIN	34	47	62	50	54	131	73	66	33	57	41	42
CFSM	.69	.61	.61	.69	1.41	1.44	.94	1.07	2.34	2.02	.89	.52
IN.	.80	.68	.70	.80	1.47	1.66	1.05	1.23	2.61	2.33	1.02	.58

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1997, BY WATER YEAR (WY)

	MEAN	75.6	84.3	84.5	64.5	87.9	194	207	123	94.5	78.1	59.1	75.1
MAX	346	303	207	188	213	451	598	371	370	271	146	385	
(WY)	1987	1986	1992	1973	1984	1974	1993	1990	1996	1993	1980	1986	
MIN	6.44	8.14	4.80	6.35	6.26	22.5	53.4	26.6	19.0	9.33	8.23	6.44	
(WY)	1964	1964	1964	1964	1964	1968	1963	1977	1964	1963	1963	1963	

SUMMARY STATISTICS

FOR 1996 CALENDAR YEAR

FOR 1997 WATER YEAR

WATER YEARS 1963 - 1997

ANNUAL TOTAL	42461	50578	
ANNUAL MEAN	116	139	
HIGHEST ANNUAL MEAN			104
LOWEST ANNUAL MEAN			193
HIGHEST DAILY MEAN	870	Jun 20	2160
LOWEST DAILY MEAN	19	Sep 16	33
ANNUAL SEVEN-DAY MINIMUM	26	Sep 15	39
INSTANTANEOUS PEAK FLOW			1320
INSTANTANEOUS PEAK STAGE			6.74
ANNUAL RUNOFF (CFSM)	.92		1.10
ANNUAL RUNOFF (INCHES)	12.54		14.93
10 PERCENT EXCEEDS	220		268
50 PERCENT EXCEEDS	81		88
90 PERCENT EXCEEDS	37		51

(a) Ice affected

(b) Also occurred Jan. 1, 1964

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 and crest-stage gage. Datum of gage is 779.23 ft above sea level (Southeastern Wisconsin Regional Planning Commission bench mark). Prior to Oct. 19, 1981, at datum 0.85 ft higher.

REMARKS.--Estimated daily discharges: Ice-affected periods, Nov. 26, 27, Dec. 26-28, Jan. 27-30, and Feb. 12-17. Records good except those for ice-affected periods, which are fair (see page 11). Discharge affected by manipulation of gates at dams 800 ft and 11.4 mi upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	141	53	41	47	79	73	70	53	26	26	53
2	34	127	50	40	47	92	70	84	25	31	26	26
3	30	109	48	41	47	97	69	102	13	31	24	16
4	29	47	46	47	47	92	69	100	15	15	26	17
5	29	25	50	52	45	49	67	97	16	9.3	29	17
6	29	31	53	54	42	36	71	89	16	11	33	16
7	28	35	51	57	39	42	71	51	16	12	37	14
8	28	53	48	55	38	51	66	46	16	15	41	15
9	28	62	45	54	37	56	59	55	17	24	40	16
10	28	59	43	53	36	74	54	57	18	27	37	24
11	35	56	41	52	34	91	24	72	17	23	33	25
12	37	44	44	49	34	101	16	70	16	21	66	21
13	35	29	48	49	34	95	35	29	16	19	44	19
14	32	33	48	47	34	93	46	15	15	18	30	19
15	39	34	53	45	34	89	55	20	20	17	71	19
16	41	36	53	44	35	70	78	38	114	19	93	20
17	81	38	53	41	36	62	84	44	129	36	84	45
18	116	33	51	40	39	58	77	43	130	41	39	49
19	90	32	48	39	44	57	73	43	114	37	19	41
20	83	32	47	37	49	44	70	40	55	23	26	38
21	80	34	48	37	121	42	70	38	76	18	31	43
22	52	34	47	43	158	47	71	37	93	19	33	44
23	47	33	49	48	215	51	60	36	90	22	33	42
24	49	34	52	54	228	69	55	36	60	24	69	39
25	52	34	49	55	138	76	57	36	52	23	100	38
26	45	34	49	52	105	75	57	35	53	26	81	34
27	41	50	49	50	100	78	45	34	44	34	66	19
28	39	60	48	48	95	75	40	33	34	52	62	13
29	86	58	48	48	---	72	40	35	31	57	59	14
30	130	56	46	48	---	71	43	54	28	34	59	12
31	137	---	42	48	---	72	---	60	---	24	58	---
TOTAL	1646	1483	1500	1468	1958	2156	1765	1599	1392	788.3	1475	808
MEAN	53.1	49.4	48.4	47.4	69.9	69.5	58.8	51.6	46.4	25.4	47.6	26.9
MAX	137	141	53	57	228	101	84	102	130	57	100	53
MIN	28	25	41	37	34	36	16	15	13	9.3	19	12
CFSM	.72	.67	.65	.64	.94	.94	.79	.70	.63	.34	.64	.36
IN.	.83	.74	.75	.74	.98	1.08	.89	.80	.70	.40	.74	.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1997, BY WATER YEAR (WY)

	MEAN	48.8	57.6	55.8	46.8	53.9	78.0	78.0	62.8	51.1	43.5	45.6	47.3
MAX		98.7	110	83.7	77.8	83.8	151	150	155	138	80.8	83.5	88.7
(WY)		1987	1986	1983	1974	1974	1974	1993	1975	1975	1993	1979	1986
MIN		25.5	29.2	26.2	22.8	31.1	43.9	43.3	16.9	14.4	13.3	18.5	23.4
(WY)		1990	1977	1990	1977	1978	1981	1977	1977	1988	1988	1991	1995

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1973 - 1997
ANNUAL TOTAL	18828	18038.3	
ANNUAL MEAN	51.4	49.4	55.6
HIGHEST ANNUAL MEAN			90.3
LOWEST ANNUAL MEAN			30.8
HIGHEST DAILY MEAN	206	228	275
LOWEST DAILY MEAN	12	9.3	1.8
ANNUAL SEVEN-DAY MINIMUM	18	16	6.8
INSTANTANEOUS PEAK FLOW		270	(a) 300
INSTANTANEOUS PEAK STAGE		3.47	3.55
ANNUAL RUNOFF (CFSM)	.69	.67	.75
ANNUAL RUNOFF (INCHES)	9.45	9.06	10.19
10 PERCENT EXCEEDS	97	85	102
50 PERCENT EXCEEDS	44	44	48
90 PERCENT EXCEEDS	21	19	22

(a) Gage height, 2.50 ft, datum then in use

ILLINOIS RIVER BASIN

05544385 (REVISED) MUSKEGO LAKE OUTLET NEAR WIND LAKE, WI

LOCATION.--Lat 42°51'09", long 88°07'50", in SE 1/4 NE 1/4 sec.33, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, on right bank at dam outlet of Muskego Lake, 700 ft north of Muskego Dam Drive, 2 mi northeast of Wind Lake.

DRAINAGE AREA.--28.3 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1987 to September 1989, October 1995 to current year.

GAGE.--Water-stage recorder. Datum of gage is 760.00 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 18, 1987, non-recording gage at same site and datum, October 1989 to September 1995, nonrecording gage at same datum.

REMARKS.--Flows were significantly influenced by the drawdown of Muskego Lake as part of a rehabilitation project of the lake. Flows were regulated by variable gate openings and by pumping. Flows for the period Oct. 1 to Dec. 23 were calculated using knowledge of pump operating times and pumping rates. Flows for the Dec. 24 to Sept. 30 period, except for days when discharge was estimated, were based on upstream-stage/downstream-stage-discharge ratings for flow through the variably-opened gate or upstream-stage-discharge rating for the dam crest or combination of gate and crest overflow. Estimated daily discharges: Jan. 5 to Feb. 26. Records fair except those for estimated daily discharges, which are poor (see page 11).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	8.3	9.9	52	10	19	.00	.00	.00	23	.00	4.4
2	.00	3.5	5.7	59	10	19	.00	.00	.00	16	.00	7.0
3	.31	7.2	5.6	63	9.6	19	.00	.00	.00	17	.11	6.0
4	.00	11	5.1	73	9.2	19	.00	.00	.00	20	.98	2.1
5	.00	12	5.9	69	9.0	19	.00	.00	.00	15	.71	1.1
6	.00	13	6.5	50	8.8	15	.00	.00	.00	19	.08	1.0
7	.00	15	6.7	35	8.8	11	.00	.00	.00	17	.01	1.8
8	.05	15	3.8	30	8.6	11	.00	.1	.00	21	.00	1.7
9	.00	15	5.9	20	8.4	11	.00	.00	.00	24	.00	1.5
10	.00	15	7.6	15	8.4	11	.00	.00	.00	17	.00	2.6
11	.00	12	6.3	12	9.0	11	.00	.00	.00	14	.04	1.1
12	.00	8.0	14	10	9.0	11	.00	.00	.00	11	.16	.61
13	.00	8.0	9.1	9.0	9.0	11	.00	.00	.00	8.4	.25	.42
14	.00	8.3	15	8.0	9.4	11	.00	.00	.00	7.1	.08	.44
15	.00	6.8	14	7.6	10	11	.00	.00	.00	5.2	.06	.36
16	.00	9.3	8.3	7.4	15	11	.00	.00	.02	4.2	.28	.17
17	.00	5.0	14	7.4	52	11	.00	.00	.00	3	.94	3
18	.00	2.5	6.1	7.2	64	11	.00	.00	.01	3.8	.49	1.5
19	.00	8.8	4.6	7.2	78	9.7	.00	.00	.00	3.7	.29	2.3
20	.00	8.2	3.7	7.0	66	7.6	.00	.00	.02	1.5	.29	4.7
21	.00	.00	3.0	7.0	50	7.6	.00	.00	13	3.3	.62	2.9
22	.00	.00	1.9	7.0	44	7.6	.00	.00	45	3.1	.34	2.1
23	.00	.00	7.9	7.0	56	7.6	.00	.00	55	1.8	.09	4.5
24	.00	.00	35	7.0	72	7.6	.00	.00	59	.77	6.7	2.5
25	.00	8.0	60	6.8	66	5.6	.00	.13	74	.33	7.3	2.3
26	.00	5.4	54	6.8	59	3.8	.00	.01	81	.55	6.0	2.6
27	.00	3.0	49	6.6	46	3.8	.00	.00	69	.60	5.9	1.7
28	.00	2.6	51	6.6	35	1.7	.00	.00	60	1.2	6.7	1.2
29	.00	3.2	52	6.8	---	.00	.00	.00	26	.59	5.3	.33
30	.00	8.2	54	7.0	---	.00	.00	.00	20	.16	4.1	.97
31	9.8	---	55	8.0	---	.00	---	.00	---	.00	5.8	---
TOTAL	10.16	222.30	580.6	625.4	840.2	304.60	0.00	0.24	502.05	263.30	53.62	64.90
MEAN	.33	7.41	18.7	20.2	30.0	9.83	.000	.008	16.7	8.49	1.73	2.16
MAX	9.8	15	60	73	78	19	.00	.13	81	24	7.3	7.0
MIN	.00	.00	1.9	6.6	8.4	.00	.00	.00	.00	.00	.00	.17
CFSM	.01	.26	.66	.71	1.06	.35	.00	.00	.59	.30	.06	.08
IN.	.01	.29	.76	.82	1.10	.40	.00	.00	.66	.35	.07	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1997, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	13.0	15.7	25.3	22.4	33.6	24.8	21.7	9.25	17.1	7.33	3.78	8.26
MAX	44.2	45.6	44.2	43.9	51.2	33.1	46.5	27.9	51.5	20.5	6.94	30.6
(WY)	1996	1996	1988	1988	1988	1996	1988	1996	1996	1996	1989	1989
MIN	.000	.25	8.30	10.9	13.3	9.98	.000	.008	.003	.000	.000	.000
(WY)	1989	1989	1989	1989	1989	1997	1997	1997	1989	1988	1988	1988

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1988 - 1997
ANNUAL TOTAL	7461.83	3472.84	
ANNUAL MEAN	20.4	9.51	17.0
HIGHEST ANNUAL MEAN			28.2
LOWEST ANNUAL MEAN			9.42
HIGHEST DAILY MEAN	79 Jun 9	81 Jun 26	115 Apr 8 1988
LOWEST DAILY MEAN	.00 Many days	.00 Many days	.00 Many days
ANNUAL SEVEN-DAY MINIMUM	.00 Many periods	.00 Many periods	.00 Many periods
ANNUAL RUNOFF (CFSM)	.72	.34	.60
ANNUAL RUNOFF (INCHES)	9.81	4.57	8.14
10 PERCENT EXCEEDS	54	25	48
50 PERCENT EXCEEDS	13	3.0	9.0
90 PERCENT EXCEEDS	.00	.00	.00

05544385 MUSKEGO LAKE OUTLET NEAR WIND LAKE, WI--CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1987 to September 1989, October 1995 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1995 to current year.

TOTAL-PHOSPHORUS DISCHARGE: October 1987 to September 1989, October 1995 to current year.

REMARKS.--Total-phosphorus discharge records are fair. Suspended-sediment discharge records are fair to poor. Samples to define the temporal fluctuation in total-phosphorus and suspended-sediment concentrations were collected by a local observer and U.S. Geological Survey personnel. Phosphorus analyses by the Wisconsin State Laboratory of Hygiene. Single-vertical samples were collected unless otherwise indicated.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 44 tons, June 14, 1996; minimum daily, 0 ton, many days.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 359 lb, Sept. 10, 1989; minimum daily, 0.00 lb, many days.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 5.9 tons, Feb. 25; minimum daily, 0 ton, many days.

TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 105 lb, June 26; minimum daily, 0.00 lb, many days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	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)
OCT 1996					
31...	1005	9.8	0.159	--	--
NOV					
01...	1000	8.3	0.073	--	--
05...	1255	12	0.072	--	--
06...	1110	13	0.072	--	15
16...	1730	9.3	0.041	--	--
20...	1445	8.2	0.061	0.003	20
DEC					
03...	1800	5.6	0.039	--	--
04...	1120	5.1	0.043	--	8
04...	1310	5.1	0.036	--	--
04...	1715	5.1	0.105	--	--
09...	1300	5.9	0.031	--	8
09...	1715	5.9	0.035	--	24
10...	1830	7.6	0.031	--	--
11...	1645	6.3	0.035	--	6
12...	1550	14	0.032	--	4
13...	1045	9.1	0.033	--	5
15...	1145	14	0.037	--	9
17...	1200	14	0.035	--	4
17...	1930	14	0.056	--	13
18...	1735	6.1	0.053	--	--
JAN 1997					
09...	0800	20	0.050	--	1
27...	1450	6.6	0.038	--	13
30...	1135	7.0	0.028	--	4
FEB					
11...	1545	9.0	0.034	--	5
19...	1400	78	0.142	--	7
25...	1400	66	0.201	--	35
MAR					
03...	1055	19	0.129	--	22
JUN					
23...	1930	55	0.279	--	16
25...	1715	74	0.258	--	9
30...	2030	20	0.155	--	7
JUL					
*01...	1105	23	0.105	--	6
01...	1115	23	0.098	--	3
05...	2000	15	0.132	--	7
08...	2300	21	0.130	--	9
10...	2010	17	0.113	--	9
14...	2030	7.1	0.107	--	--
15...	2045	5.2	0.113	--	7
*16...	1110	4.2	0.090	0.044	6
16...	1115	4.2	0.093	--	7
SEP					
24...	1635	2.5	0.046	--	--

* Equal-width increment (EWI) sample

ILLINOIS RIVER BASIN
05544385 MUSKEGO LAKE OUTLET NEAR WIND LAKE, WI--CONTINUED

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.34	.26	1.8	.11	1.3	.00	.00	.00	.39	.00	.08
2	.00	.14	.14	2.1	.11	1.2	.00	.00	.00	.27	.00	.13
3	.01	.29	.13	2.2	.11	1.1	.00	.00	.00	.30	.00	.11
4	.00	.45	.11	2.6	.11	1.1	.00	.00	.00	.36	.02	.04
5	.00	.49	.13	2.4	.11	1.1	.00	.00	.00	.28	.01	.02
6	.00	.53	.14	1.8	.11	.89	.00	.00	.00	.38	.00	.02
7	.00	.62	.14	1.2	.11	.65	.00	.00	.00	.37	.00	.03
8	.00	.63	.08	1.0	.11	.65	.00	.01	.00	.49	.00	.03
9	.00	.65	.13	.70	.11	.65	.00	.00	.00	.58	.00	.03
10	.00	.66	.14	.53	.11	.65	.00	.00	.00	.41	.00	.05
11	.00	.54	.10	.42	.12	.65	.00	.00	.00	.33	.00	.02
12	.00	.37	.17	.35	.13	.65	.00	.00	.00	.25	.00	.01
13	.00	.37	.13	.32	.13	.65	.00	.00	.00	.18	.00	.01
14	.00	.40	.28	.28	.14	.65	.00	.00	.00	.14	.00	.01
15	.00	.33	.31	.27	.16	.65	.00	.00	.00	.10	.00	.01
16	.00	.46	.14	.26	.25	.65	.00	.00	.00	.08	.01	.00
17	.00	.25	.28	.26	.90	.65	.00	.00	.00	.06	.02	.06
18	.00	.13	.21	.25	1.2	.65	.00	.00	.00	.07	.01	.03
19	.00	.46	.16	.25	1.5	.58	.00	.00	.00	.07	.01	.04
20	.00	.44	.13	.25	1.6	.45	.00	.00	.00	.03	.01	.09
21	.00	.00	.11	.25	1.6	.45	.00	.00	.60	.06	.01	.05
22	.00	.00	.07	.25	1.8	.45	.00	.00	2.1	.06	.01	.04
23	.00	.00	.28	.25	3.0	.45	.00	.00	2.5	.03	.00	.09
24	.00	.00	1.2	.25	5.1	.45	.00	.00	2.2	.01	.13	.05
25	.00	.31	2.1	.24	5.9	.33	.00	.01	2.0	.01	.14	.04
26	.00	.20	1.9	.24	5.2	.23	.00	.00	1.9	.01	.11	.05
27	.00	.10	1.7	.23	3.7	.23	.00	.00	1.5	.01	.11	.03
28	.00	.08	1.8	.16	2.6	.10	.00	.00	1.3	.02	.13	.02
29	.00	.10	1.8	.11	---	.00	.00	.00	.53	.01	.10	.01
30	.00	.23	1.9	.08	---	.00	.00	.00	.38	.00	.08	.02
31	.40	---	1.9	.09	---	.00	---	.00	---	.00	.11	---
TOTAL	0.41	9.57	18.07	21.39	36.13	18.21	0.00	0.02	15.01	5.36	1.02	1.22

WTR YR 1997 TOTAL 126.41

PHOSPHORUS TOTAL, POUNDS PER DAY, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	3.53	2.25	14.3	1.56	15.4	.00	.00	.00	13.7	.00	2.21
2	.00	1.37	1.25	16.2	1.59	14.2	.00	.00	.00	9.09	.00	3.52
3	.27	2.82	1.20	17.3	1.55	13.3	.00	.00	.00	10.3	.03	3.00
4	.00	4.29	1.07	20.0	1.51	13.2	.00	.00	.00	13.0	.24	1.02
5	.00	4.67	1.11	18.8	1.50	13.2	.00	.00	.00	10.4	.18	.52
6	.00	5.02	1.19	13.6	1.49	10.4	.00	.00	.00	13.5	.02	.45
7	.00	5.51	1.19	9.50	1.51	7.66	.00	.00	.00	12.0	.00	.79
8	.04	5.22	.66	8.12	1.50	7.66	.00	.07	.00	14.8	.00	.72
9	.00	4.94	1.03	5.38	1.49	7.66	.00	.00	.00	16.2	.00	.62
10	.00	4.68	1.32	3.98	1.51	7.66	.00	.00	.00	10.6	.00	1.03
11	.00	3.54	1.15	3.14	1.65	7.66	.00	.00	.00	8.47	.01	.42
12	.00	2.23	2.48	2.57	1.65	7.66	.00	.00	.00	6.56	.04	.23
13	.00	2.12	1.63	2.28	1.65	7.66	.00	.00	.00	4.94	.06	.15
14	.00	2.08	2.84	2.00	1.73	7.66	.00	.00	.00	4.13	.02	.15
15	.00	1.61	2.77	1.87	1.92	7.66	.00	.00	.00	3.10	.01	.12
16	.00	2.10	1.61	1.79	3.97	7.66	.00	.00	.01	2.17	.07	.06
17	.00	1.20	3.20	1.77	19.5	7.66	.00	.00	.00	1.51	.23	.95
18	.00	.66	1.77	1.69	34.1	7.66	.00	.00	.01	1.91	.12	.46
19	.00	2.59	1.31	1.67	56.9	6.76	.00	.00	.00	1.86	.07	.68
20	.00	2.64	1.05	1.60	53.4	5.29	.00	.00	.01	.75	.07	1.34
21	.00	.00	.85	1.57	42.9	5.29	.00	.00	13.6	1.66	.15	.80
22	.00	.00	.54	1.55	40.0	5.29	.00	.00	56.3	1.51	.08	.56
23	.00	.00	2.23	1.53	53.9	5.29	.00	.00	79.1	.72	.02	1.16
24	.00	.00	9.86	1.51	73.4	5.29	.00	.00	86.4	.24	3.12	.63
25	.00	2.23	16.9	1.44	70.5	3.90	.00	.09	104	.08	3.67	.57
26	.00	1.46	15.1	1.42	59.8	2.65	.00	.01	105	.14	3.01	.65
27	.00	.78	13.7	1.35	43.2	2.65	.00	.00	80.7	.15	2.96	.42
28	.00	.65	14.2	1.23	30.5	1.18	.00	.00	63.5	.30	3.36	.30
29	.00	.78	14.5	1.14	---	.00	.00	.00	24.9	.15	2.66	.08
30	.00	1.93	15.0	1.07	---	.00	.00	.00	17.3	.04	2.06	.24
31	7.53	---	15.2	1.23	---	.00	---	.00	---	.00	2.91	---
TOTAL	7.84	70.65	150.16	162.60	605.88	215.21	0.00	0.17	630.83	163.98	25.17	23.85

WTR YR 1997 TOTAL 2056.34

ILLINOIS RIVER BASIN
05545750 FOX RIVER NEAR NEW MUNSTER, WI

401

LOCATION.--Lat 42°36'39", long 88°13'33", in NW 1/4 NW 1/4 sec.26, T.2 N., R.19 E., Kenosha County, Hydrologic Unit 07120006, on right bank 40 ft downstream from bridge on County Trunk Highway JB, 2.2 mi north of New Munster, and 17.0 mi upstream from Fox Chain of Lakes.

DRAINAGE AREA.--811 mi².

PERIOD OF RECORD.--October 1939 to current year. Prior to October 1993, published as "at Wilmot" under station number 05546500.

REVISED RECORDS.--WSP 1308: 1943(M), 1945(M). WDR WI-67-1: Drainage area. WDR WI-92-1: 1991.

GAGE.--Water-stage recorder. Datum of gage is 735.72 ft above sea level (Racine County Surveyor bench mark). Prior to Sept. 1, 1965, nonrecording gage at bridge in Wilmot 11 mi downstream at datum 0.50 ft lower, and recording gage Sept. 1, 1965 to Sept. 30, 1993.

REMARKS.--Estimated daily discharges: Feb. 24, 25, and ice-affected periods, Nov. 9-16, 25-30, Dec. 17 to Jan. 3, Jan. 6-22, and Jan. 25 to Feb. 18. Records are good, except those for estimated daily discharges, which are fair (see page 11). Gage-height telemeter and data-collection platform at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	295	649	419	330	370	1720	712	575	435	1330	266	435
2	193	667	446	400	360	2070	633	696	411	1240	169	349
3	213	634	496	560	360	2130	629	933	366	1060	196	278
4	227	594	486	721	360	1950	616	997	253	934	258	234
5	215	582	456	754	360	1660	470	894	252	884	291	282
6	192	463	432	600	350	1370	540	871	279	832	227	226
7	204	404	397	560	340	1190	580	883	283	805	233	192
8	241	276	372	520	330	1120	658	829	293	774	241	195
9	237	290	358	450	320	1070	553	854	301	809	226	199
10	248	290	352	420	320	1040	513	844	314	791	218	209
11	251	280	333	410	310	1000	416	693	253	669	218	233
12	178	270	422	380	300	977	455	656	215	676	247	202
13	241	270	440	350	290	933	489	576	264	674	261	183
14	231	270	464	290	290	903	521	325	236	670	299	190
15	194	270	480	290	280	862	564	466	224	622	311	199
16	229	280	510	290	270	816	575	496	614	548	311	212
17	257	344	500	290	270	797	656	456	1070	375	360	388
18	289	305	410	280	450	746	616	435	841	372	411	426
19	359	313	440	290	1340	710	591	453	742	474	330	377
20	445	324	370	290	1570	652	566	507	644	440	332	732
21	460	331	340	320	2000	647	583	478	800	399	310	677
22	430	342	340	500	3130	670	607	406	1340	378	265	422
23	363	330	360	767	2900	728	596	321	1220	386	250	369
24	400	314	390	746	2600	693	539	294	1050	369	342	374
25	393	300	360	640	2120	724	510	411	1080	336	452	348
26	382	300	350	540	1920	774	469	547	1230	330	491	327
27	366	300	340	480	1800	725	475	448	1290	359	472	304
28	319	300	340	450	1700	749	451	277	1360	369	534	288
29	310	310	340	420	---	755	400	313	1360	376	508	259
30	553	360	340	370	---	770	345	417	1320	326	504	144
31	667	---	340	370	---	766	---	460	---	321	481	---
TOTAL	9582	10962	12423	14078	27010	31717	16328	17811	20340	18928	10014	9253
MEAN	309	365	401	454	965	1023	544	575	678	611	323	308
MAX	667	667	510	767	3130	2130	712	997	1360	1330	534	732
MIN	178	270	333	280	270	647	345	277	215	321	169	144
CFSM	.38	.45	.49	.56	1.19	1.26	.67	.71	.84	.75	.40	.38
IN.	.44	.50	.57	.65	1.24	1.45	.75	.82	.93	.87	.46	.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1997, BY WATER YEAR (WY)

	MEAN	386	483	457	420	517	1133	1074	690	515	388	328	339
MAX	1931	1536	1755	1818	1354	2434	3591	2078	1711	1382	902	1763	
(WY)	1987	1986	1983	1960	1974	1979	1993	1973	1996	1969	1952	1972	
MIN	79.5	113	91.4	87.7	105	252	256	108	124	69.2	57.2	62.7	
(WY)	1957	1950	1964	1940	1940	1968	1958	1958	1988	1958	1958	1946	

SUMMARY STATISTICS	FOR 1996 CALENDAR YEAR	FOR 1997 WATER YEAR	WATER YEARS 1940 - 1997
ANNUAL TOTAL	209603	198446	
ANNUAL MEAN	573	544	561
HIGHEST ANNUAL MEAN			1240
LOWEST ANNUAL MEAN			174
HIGHEST DAILY MEAN	2890	Jun 20	7100
LOWEST DAILY MEAN	123	Sep 21	35
ANNUAL SEVEN-DAY MINIMUM	170	Sep 17	41
INSTANTANEOUS PEAK FLOW		3260	Feb 22
INSTANTANEOUS PEAK STAGE		12.60	Feb 22
INSTANTANEOUS LOW FLOW		126	Sep 30
ANNUAL RUNOFF (CFSM)	.71	.67	.69
ANNUAL RUNOFF (INCHES)	9.61	9.10	9.40
10 PERCENT EXCEEDS	1260	951	1260
50 PERCENT EXCEEDS	397	411	360
90 PERCENT EXCEEDS	200	241	123

(a) Gage height, 9.25 ft, from graph based on gage readings, site and datum then in use

(b) Backwater from ice

(c) Also occurred Aug. 10, 1990

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. 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 some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at miscellaneous sites for both low flows and high flows are given in separate tables.

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 maximum has been determined.

Maximum discharge at crest-stage partial-record stations

Station Number and Name	Location and Drainage Area	Period of Record	Water Year 1997 Maximum			Period of Record Maximum		
			Date	Gage height (feet)	Dis- charge (ft ³ /s)	Date	Gage height (feet)	Dis- charge (ft ³ /s)
STREAMS TRIBUTARY TO LAKE SUPERIOR								
04024400 Stony Brook near Superior	Lat 46°35'01", long 92°07'10" in SE 1/4 sec. 4, T.47 N., R.14 W., Douglas County, Hydrologic Unit 04010301, 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; drainage ares, 1.86 mi ² .	1959-97	07-04-97 04-14-97	12.59 G13.41	94.3	09-02-85	35.23	595
04025200 Pearson Creek near Maple	Lat 46°38'51", long 91°42'55" on com- mon boundary of secs. 11 and 14, T.48 N., R.11 W., Douglas County, Hydrologic Unit 04010301, at box culvert on State Highway 13, 4.0 mi north of Maple; drainage area, 4.07 mi ²	1957-97	04-06-97	13.96	366	09-02-85	31.83	1,440
04026200 Sand River Tributary near Red Cliff	Lat 46°53'53", long 90°56'47" in NE 1/4 section 14, T.51 N., R.5 W., Bayfield County, Hydrologic Unit 04010301, at box culvert on State Highway 13, 8.0 mi northwest of Red Cliff; drain- age area, 1.09 mi ² .	1959-97	04-06-97 07-24-97	11.36 D11.41	68.6	05-23-64	16.86	624
04026300 Sioux River near Washburn	Lat 46°41'20", long 90°57'02" in NE 1/4 sec. 35, T.49 N., R.5 W., Bayfield County, Hydrologic Unit 04010301, on County Trunk Highway C, 2.5 mi west of Washburn; drainage area, 33.9 mi ²	1959-65 1966# 1967-97	07-14-97	12.67	561	09-02-85	29.45	2,200
04026450 Bad River near Mellen	Lat 46°16'14", long 90°42'26" in NE 1/4 NW 1/4 sec.26, T.44 N., R.3 W., Ash- land County, Hydrologic Unit 04010302, on left bank 150 ft down- stream from bridge on U.S. Forest Service Road, 4.4 mi southwest of Mellen; drainage area, 82.0 mi ² .	1971-75# 1976-97	04-06-97	6.27	1,360	07-02-92	8.65	2,450

Station Number and Name	Location and Drainage Area	Period of Record	Water Year 1997 Maximum			Period of Record Maximum		
			Date	Gage height (feet)	Dis- charge (ft ³ /s)	Date	Gage height (feet)	Dis- charge (ft ³ /s)
STREAMS TRIBUTARY TO LAKE SUPERIOR--CONTINUED								
04027200 Pearl Creek at Grandview	Lat 46°22'05", long 91°05'27" in NE 1/4 sec.22, T.45 N., R.6 W., Bayfield County, Hydrologic Unit 04010302, at bbox culvert on U.S. Highway 63, 0.8 mi east of Grandview; drainage area, 16.9 mi ² .	1960-97	04-06-97	12.83	192	07-02-92	28.47	1,920
STREAMS TRIBUTARY TO LAKE MICHIGAN								
04059900 Allen Creek Tributary near Alvin	Lat 45°58'05", long 88°47'24" on north boundary sec. 7, T.40 N., R.14 E., Forest County, Hydrologic Unit 04030106, at culvert on State High- way 70, 2.2 mi southeast of Alvin; drainage area, 1.22 mi	1960-97	1997	9.29	B	05-22-83	11.38	40
04063640 North Branch Pine River at Windsor Dam near Alvin	Lat 45°55'43", long 88°51'38" in SE 1/4 sec.21,T.40 Nl, R.13 E., Forest County, Hydrologic Unit 04030108, at bridge on country road, at Windsor Dam, 3.8 mi upstream from conflu- ence of North and South Forks, 4.0 mi southwest of Alvin; drainage area, 27.8 mi ² .	1967-68# 1970-97	04-05-97	2.60	70	04-09-80	3.89	165
04067760 Peshtigo River near Cavour	Lat 45°39'20", long 88°38'52" in SW 1/4 sec.29, T.37 N., R.15 E., Forest County, Hydrologic Unit 04040105, at bridge on U.S. Highway 8, 0.7 mi northwest of Cavour; drainage area, 150 mi ² .	1970-97	04-05-97	12.27	550	04-21-96	15.78	1,600
04069700 North Branch Oconto River near Wabeno	Lat 45°26'19", long 88°37'40" in SW 1/4 sec.9, T.34 N., R.15 E., Forest County, Hydrologic Unit 04030104, at pipe arch culvert on County Trunk Highway C, 0.6 mi east of intersec- tion with State Highway 32 at Wabeno; drainage area, 34.1 mi ² .	1970-97	04-05-97	12.91	250	04-20-96	14.21	621
04071700 North Branch Little River near Coleman	Lat 45°00'37", long 88°02'43" on com- mon boundary of secs. 2 and 3, T.29 N., R.20 E., Oconto County, Hydro- logic Unit 04030104, at bridge on U.S. Highway 141, 3.8 mi south of Coleman; drainage area, 21.4 mi ² .	1958-97	04-05-97	12.69	217	03-30-67	14.50	640
04071800 Pensaukee River near Pulaski	Lat 44°45'48" long 88°15'07" in NE 1/4 sec.1, T.26 N., R.18 E., Shawano County, Hydrologic Unit 04030103, at bridge on State Highway 32, 6.1 mi north of Pulaski; drainage area, 48.80 mi ² .	1961-97	03-29-97	14.07	910	06-18-96	16.96	1,810
04073400 Bird Creek at Wautoma	Lat 44°04'06", long 89°18'08" in S 1/2 section 34, T.19 N., R.10 E., Waush- ara County, Hydrologic Unit 04030201, at concrete culvert on State Highway 21, 0.2 mi west of Wautoma; drainage area, 4.14 mi ² .	1959-97	07-17-97	12.59	142	03-07-73	13.07	190

Station Number and Name	Location and Drainage Area	Period of Record	Water Year 1997 Maximum			Period of Record Maximum		
			Date	Gage height (feet)	Dis-charge (ft ³ /s)	Date	Gage height (feet)	Dis-charge (ft ³ /s)
STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED								
04074850 Lily River near Lily	Lat 45°20'59", long 88°49'52" in SE 1/4 sec.11, T.33 N., R.13 E., Langlade County, Hydrologic Unit 04030202, at culvert on County Trunk Highway A, 3.2 mi north from junction of State Highways 55 and 52 at Lily; drainage area, 45.6 mi ² .	1970-97	04-05-97	10.15	152	04-20-96	10.25	167
*04075200 Evergreen Creek near Langlade	Lat 45°10'11", long 88°48'12" in NW 1/4 sec.18, T.31 N., R.14 E., Langlade County, Hydrologic Unit 04030202, on culvert on State Highway 64, 3.5 mi southeast of Langlade; drainage area, 8.09 mi ² .	1959-65 1966-72# 1973-97	04-05-97	10.53	33	07-11-82	11.66	80
04079700 Spaulding Creek near Big Falls	Lat 44°38'13", long 89°01'20" on common boundary of secs. 14 and 15, T.25 N., R.12 E., Waupaca County, Hydrologic Unit 04030202, at culvert on County Trunk Highway E, 1.5 mi north of Big Falls; drainage area, 5.57 mi ² .	1959-65 1966# 1967-97	04-05-97	E10.65	45	05-07-60	11.64	101
04081900 Sawyer Creek at Oshkosh	Lat 44°02'00", long 88°35'00" in SW 1/4 sec.15, T.18 N., R.16 E., Winnebago County, Hydrologic Unit 04030201, at bridge on U.S. Highway 41, 1.0 mi southwest of bridge on Algoma Street at Fox River, at Oshkosh; drainage area, 12.10 mi ² .	1961-97	06-21-97	12.51	680	09-11-86	17.47	2,350
04085145 Red River near Dykesville	Lat 44°38'59", long 87°42'47" in SW 1/4 SE 1/4 sec.9, T.25 N., R.23 E., Kewaunee County, Hydrologic Unit 04030102, at upstream crossing of County Highway A, 2.5 mi east of Dykesville.	1996-97	03-29-97	12.43	E205	06-18-96	12.41	203
04085400 Killsnake River near Chilton	Lat 44°03'33", long 88°08'36" in E 1/2 sec.6, T.18 N., R.20 E., Calumet County, Hydrologic Unit 04030101, at bridge on country road, 2.4 mi northeast of Chilton; drainage area, 29.4 mi ² .	1961-97	06-21-97	11.26	420	03-30-79	14.37	1,840
04087100 Honey Creek at Milwaukee	Lat 42°58'41", long 87°59'52" in SE 1/4 sec.15, T.6 N., R.21 E., Milwaukee County, Hydrologic Unit 04040003, 400 ft upstream from bridge on S. 68th Street, 6.0 mi northwest of mouth of Milwaukee River, at Milwaukee; drainage area, 3.26 mi ² .	1959-97	06-21-97	22.70	1,100	06-21-97	22.70	1,100
04087200 Oak Creek near South Milwaukee	Lat 42°52'58", long 87°53'31" on common boundary of sec. 21 and 22, T.5 N., R.22 E., Milwaukee County, Hydrologic Unit 04040002, at bridge on West Nicholson Road, 3.0 mi southwest of South Milwaukee; drainage area, 13.8 mi ² .	1958-97	06-21-97	17.37	E560	03-30-60	17.49	1,100

Station Number and Name	Location and Drainage Area	Period of Record	Water Year 1997 Maximum			Period of Record Maximum		
			Date	Gage height (feet)	Dis- charge (ft ³ /s)	Date	Gage height (feet)	Dis- charge (ft ³ /s)
STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED								
04087250 Pike Creek near Kenosha	Lat 42°36'12", long 87°53'41" in W 1/2 sec.27, T.2 N., R.22 E., Kenosha County, Hydrologic Unit 04040002, at box culvert on State Highway 43, 3.0 mi northwest of Kenosha; drainage area, 7.25 mi ² .	1960-97	02-21-97	15.26	129	09-17-78	17.6	220
ST. CROIX RIVER BASIN								
05340300 Trade River near Frederic	Lat 45°37'41", long 92°29'19" in SW 1/4 sec.4, T.36 N., R.17 W., Polk County, Hydrologic Unit 07030005, at box culvert on State Highways 35 and 48, 2.5 mi southwest of Frederic; drainage area, 6.34 mi ² .	1958-97	04-02-97	10.42	98	06-12-84	18.89	1,050
05341313 Bull Brook near Amery	Lat 45°17'03", long 92°19'00" in SW 1/4 SE 1/4, sec.2, T.32 N., R.16 W., Polk County, Hydrologic Unit 07030005, on right bank just upstream from 32-ft concrete box culvert on County Trunk Highway F, 1.8 mi south of junction of County Trunk Highway J, and about 2.5 mi southeast of Amery.	1996-97	11-17-96	12.76	228	11-17-96	12.76	228
05341900 Kinnickin- nic River Tributary at River Falls	Lat 44°49'57", long 92°38'23" in NE 1/4 sec.14, T.27 N., R.19 W., Pierce County, Hydrologic Unit 07030005, at bridge on County Trunk Highway FF, 1.6 mi southwest of River Falls; drainage area, 7.26 mi ² .	1959-97	07-01-97	14.43	1,290	08-09-88	15.99	5,200
CHIPPEWA RIVER BASIN								
05357360 Bear River near Powell	Lat 46°04'40", long 90°00'52" in NE 1/4 sec.32, T.42 N., R.4 E., Iron County, Hydrologic Unit 07050002, at bridge on State Highway 182, 3.0 mi west of Powell; drainage area, 120 mi ² .	1970-97	04-05-97	12.91	650	04-26-96 04-21-96	13.06 G13.18	730
05359600 Price Creek near Phillips	Lat 45°43'33", long 90°40'12" in SW 1/4 sec.31, T.38 N., R.2 W., Price County, Hydrologic Unit 07050002, at culvert on County Trunk Highway W, 13.0 mi west of Phillips; drainage area, 16.9 mi ² .	1958-65 1966# 1967-97	04-04-97	13.45	229	09-15-94	17.43	552
05361400 Hay Creek near Prentice	Lat 45°32'32", long 90°21'37" in SE 1/4 sec.4, T.35 N., R.1 E., Price County, Hydrologic Unit 07050004, at culvert on U.S. Highway 8, 3.5 mi west of Prentice; drainage area, 22.6 mi ² .	1961-97	04-04-97	13.14	660	09-16-94	15.39	1,650
05361420 Douglas Creek near Prentice	Lat 45°31'06", long 90°15'28" in NE 1/4 sec.17, T.35 N., R.2 E., Price County, Hydrologic Unit 07050004, at culvert on County Trunk Highway C, 2.3 mi southeast of intersection with State Highway 13 at Prentice; drainage area, 25.2 mi ² .	1970-97	04-03-97	14.89	902	09-15-94	17.66	1,620

Station Number and Name	Location and Drainage Area	Period of Record	Water Year 1997 Maximum			Period of Record Maximum		
			Date	Gage height (feet)	Dis- charge (ft ³ /s)	Date	Gage height (feet)	Dis- charge (ft ³ /s)
CHIPPEWA RIVER BASIN--CONTINUED								
05361989 Jump River Tributary near Jump River	Lat 45°21'08", long 90°49'23" in SW 1/4 SW 1/4 sec.12, T.33 N., R.4 W., Taylor County, Hydrologic Unit 07050004, on left bank just upstream from a 23-ft concrete box culvert at a cut-off road at Junction of Hwys 73 and I-94, 1 mi west of Jump River and 7.5 mi northeast of Sheldon.	1996-97	03-29-97	11.35	139	03-29-97	11.35	139
05363775 Babit Creek at Gilman	Lat 45°10'00", long 90°47'49" in NW 1/4 SW 1/4 sec.18, T.31 N., R.3 W., Taylor County, Hydrologic Unit 07050005, on right bank just upstream from a 30 ft concrete cul- vert on State Highway 64 at east side of Gilman; drainage area, 8.49 mi ² .	1996-97	04-02-97	11.84	195	04-19-96	11.89	148
05364000 Yellow River at Cadott	Lat 44°57'21", long 91°08'48" in NE 1/4 sec.31, T.29 N., R.6 W., Chippewa County, Hydrologic Unit 07050005, at bridge on State Highway 27, at Cadott; drainage area, 364 mi ² .	1943-61# 1962-97	04-05-97	11.18	4,900	09-22-86	15.82	16,600
05364100 Seth Creek near Cadott	Lat 44°59'24", long 91°08'48" in SW 1/4 sec.17, T.29 N., R.6 W., Chippewa County, Hydrologic Unit 07050005, at culvert on State High- way 27, 3.1 mi north of Cadott; drainage area, 3.25 mi ² .	1962-97	09-02-97 04/01/97	11.89 G13.27	89	09-22-86	18.00	785
05364500 Duncan Creek at Bloomer	Lat 45°07'00", long 91°30'00" in sec.8, T.30 N., R.9 W., Chippewa County, Hydrologic Unit 07070005, 0.2 mi below Bloomer dam, at Bloomer; drainage area, 50.3 mi ² .	1945-51# 1958-97	11-17-96	6.34	658	06-29-79	11.81	5,400
05366500 Eau Claire River near Fall Creek	Lat 44°48'35", long 91°16'50" in NW 1/4 sec.19, T.27 N., R.7 W., Eau Claire County, Hydrologic Unit 07050006, 500 ft east of County Trunk Highway K, 3.2 mi north of Fall Creek; drainage area, 760 mi ² .	1943-55# 1958-97	03-31-97	12.14	9,830	06-20-93	19.38	24,500
05367030 Willow Creek near Eau Claire	Lat 44°44'11", long 91°26'48" on com- mon boundary of secs. 14 and 15, T.26 N., R.9 W., Eau Claire County, Hydrologic Unit 07050005, at box culvert on State Highway 93, 4.0 mi south of Eau Claire; drainage area, 3.83 mi ² .	1958-97	1997	C	<60	07-08-59	14.12	400
053674588 Rock Creek Tributary near Canton	Lat 42°27'06", long 90°36'08" in SW 1/4 SW 1/4 sec.3, T.34 N., R.10 W., Barron County, Hydrologic Unit 07050007, 3 mi north of U.S. Hwy 8 on 27th Street, about 40 ft north of intersection of 27th Street and 17th Avenue, and 2.5 mi east and 1.7 mi north of Canton.	1996-97	03-29-97	11.39	146	08-14-95	12.11	247

Station Number and Name	Location and Drainage Area	Period of Record	Water Year 1997 Maximum			Period of Record Maximum		
			Date	Gage height (feet)	Dis- charge (ft ³ /s)	Date	Gage height (feet)	Dis- charge (ft ³ /s)
CHIPPEWA RIVER BASIN--CONTINUED								
05367700 Lightning Creek at Almena	Lat 45°25'17", long 92°01'57" in NW 1/4 sec.19, T.34 N., R.13 W., Barron County, Hydrologic Unit 07050007, at bridge on County Trunk Highway P, at Almena; drainage area, 19.0 mi ² .	1958-97	04-02-97	12.08	402	03-30-67	12.39	1,550
05370900 Spring Creek near Durand	Lat 44°34'13", long 91°57'48" in S 1/2 sec.9, T.24 N., R.13 W., Buffalo County, Hydrologic Unit 07050005, at bridge on country road, 4.0 mi south of bridge on Chippewa River at Durand; drainage area, 6.45 mi ² .	1962-97	1997	C	<200	08-23-75	15.71	860
BUFFALO RIVER BASIN								
05371800 Buffalo River Tributary near Osseo	Lat 44°35'01" long 91°05'40" in S 1/2 sec.3, T.24 N., R.6 W., Jackson County, Hydrologic Unit 07040003, at culvert on U.S. Highway 10, 6.5 mi east of Osseo; drainage area, 1.44 mi ² .	1960-97	09-16-97	11.04	51	09-12-78	12.85	188
05371920 Buffalo River near Mondovi	Lat 44°31'36" long 91°41'46" in SW 1/4 SE 1/4 sec.27, T.24 N., R.11 W., Buf- falo County, Hydrologic Unit 07040003, at bridge on State High- way 88, 4.0 mi south of Mondovi; drainage area, 279 mi ² .	1974-97	04-01-97	11.86	770	09-10-75	15.39	5,180
WAUMANDEE CREEK BASIN								
05378185 Eagle Creek near Fountain City	Lat 44°12'34" long 91°40'42" in SW 1/4 NE 1/4 sec.15, T.20 N., R 11 W., Buffalo County, Hydrologic Unit 07040003, on right bank, at CTH "G" and 5.7 mi north of Fountain City; drainage area, 14.3 mi ² .	1997	08-15-97	6.88	320	08-15-97	6.88	320
TREMPEALEAU RIVER BASIN								
05379187 Pine Creek near Taylor	Lat 44°20'07", long 91°05'17" in NE 1/4 NE 1/4 sec.3, T.21 N., R.6 W., Jack- son County, Hydrologic Unit 07040005, at bridge on Taylor Road, about 2 mi northeast of Taylor; drain- age area, 10.9 mi ² .	1996-97	11-16-96	10.09	95	11-16-96	10.09	95
05379288 Bruce Valley Creek near Pleasantville	Lat 44°26'45", long 91°21'40" in SE 1/4 NW 1/4 sec.28, T.23 N., R.8 W., Trempealeau County, Hydrologic Unit 07040005, on left bank, 100 ft upstream from bridge on CTH D, 0.9 mi upstream from Elk Creek, and 2.9 mi west of Pleasantville; drainage area, 10.1 mi ² .	1996-97	07-02-97	6.47	105	03-19-96	7.61	185

Station Number and Name	Location and Drainage Area	Period of Record	Water Year 1997 Maximum			Period of Record Maximum		
			Date	Gage height (feet)	Dis-charge (ft ³ /s)	Date	Gage height (feet)	Dis-charge (ft ³ /s)
BLACK RIVER BASIN								
05380900 Poplar River near Owen	Lat 44°53'10", long 90°34'17" in NW 1/4 sec.25, T.28 N., R.2 W., Clark County, Hydrologic Unit 07040007, at bridge on County Trunk Highway N, 4.2 mi south of Owen; drainage area, 157 mi ² .	1958-65 1966# 1967-97	04-01-97	17.05	4,800	06-06-80	20.12	12,500
05380970 Cawley Creek near Neillsville	Lat 44°35'42", long 90°34'31" in SW 1/4 sec.25, T.25 N., R.2 W., Clark County, Hydrologic Unit 07040007, at bridge on State Highway 73, 3.7 mi north of Neillsville; drainage area, 38.6 mi ² .	1961-97	04-01-97	16.99	2,540	09-22-86	20.62	7,880
05382200 French Creek near Ettrick	Lat 44°11'04", long 91°18'49" in NE 1/4 sec.27, T.20 N., R.8 W., Trempealeau County, Hydrologic Unit 07040007, at bridge on County Trunk Highways D and T, 2.5 mi west of Ettrick; drainage area, 14.3 mi ² .	1960-97	03-25-97	9.48	650	08-14-95	11.43	1,790
BAD AXE RIVER BASIN								
05387100 North Fork Bad Axe River near Genoa	Lat 43°33'10", long 91°08'58" in SW 1/4 sec.36, T.13 N., R.7 W., Vernon County, Hydrologic Unit 07060001, at bridge on State Highway 56, 4.1 mi southeast of Genoa; drainage area, 80.8 mi ² .	1959-65 1966# 1967-97	09-17-97	11.48	430	08-27-59	19.59	10,000
WISCONSIN RIVER BASIN								
05391260 Gudegast Creek near Starks	Lat 45°41'41", long 89°15'42" in NW 1/4 sec.16, T.37 N., R.10 E., Oneida County, Hydrologic Unit 07070001, at corrugated culvert on country road, 3.0 mi northwest of Starks; drainage area, 14.0 mi ² .	1970-97	04-05-97	12.32	81	05-09-90	13.33	130
05391950 Squaw Creek near Harrison	Lat 45°32'47" long 89°29'16" in SW 1/4 sec.3, T.35 N., R.8 E., Lincoln County, Hydrologic Unit 07070001, at culvert on County Trunk Highway A, 5.0 mi northeast of Harrison.; drainage area, 3.23 mi ² .	1970-97	04-05-97 04-21-96F	10.42 F10.57	18 F22	03-03-87	11.35	F51
05392150 Mishonagon Creek near Woodruff	Lat 45°54'41", long 89°45'30" in NE 1/4 sec.32, T.40 N., R.6 E., Vilas County, Hydrologic Unit 07070001, at Twin culverts on Stte Highway 47, 3.0 mi northwest of Woodruff; drainage area, 17.6 mi ² .	1958-97	04-05-97 03-31-97	9.91 G10.20	60	08-17-72	11.33	117
05392350 Bearskin Creek near Harshaw	Lat 45°38'43", long 89°41'12" in SW 1/4 sec.36, T.37 N., R.6 E., Oneida County, Hydrologic Unit 07070001, at culvert on County Trunk Highway K, 2.1 mi southwest of Harshaw; drainage area, 31.1 mi ² .	1958-65 1966# 1967-97	04-05-97 07-02-97	9.62 H9.93	74	06-14-81	10.97	180

Station Number and Name	Location and Drainage Area	Period of Record	Water Year 1997 Maximum			Period of Record Maximum		
			Date	Gage height (feet)	Dis- charge (ft ³ /s)	Date	Gage height (feet)	Dis- charge (ft ³ /s)
WISCONSIN RIVER BASIN--CONTINUED								
05393640 Little Pine Creek near Irma	Lat 45°23'37", long 89°40'20" in NW 1/4 sec.31, T.34 N., R.7 E., Lincoln County, Hydrologic Unit 07070002, at box culvert on U.S. Highway 51, 3.0 mi north of Irma; drainage area, 22.0 mi ² .	1970-97	04-05-97	13.37	182	06-14-81	14.38	310
05394200 Devil Creek near Merrill	Lat 45°08'56", long 89°47'13" in N 1/2 sec.30, T.31 N., R.6 E., Lincoln County, Hydrologic Unit 07070002, at culvert on County Trunk Highway F, 5.8 mi southwest of Merrill; drain- age area, 9.58 mi ² .	1961-97	04-05-97	13.10	310	06-13-90	17.98	1,600
05395020 Lloyd Creek near Doering	Lat 45°13'57", long 89°22'04" in SE 1/4, T.32 N., R.9 E., Langlade County, Hydrologic Unit 07070002, at bridge on County Trunk Highway C, 4.5 mi east of Doering; drainage area, 7.80 mi ² .	1970-97	04-05-97	12.67	270	06-13-90	>16.00	>1,000
05395100 Trappe River Tributary near Merrill	Lat 45°08'07" long 89°30'08" in SW 1/4 sec.28, T.31 N., R.8 E., Lincoln County, Hydrologic Unit 07070002, at culvert on County Trunk Highway P, 9.5 mi southeast of Merrill; drain- age area, 1.58 mi ² .	1959-97	04-05-97	12.05	76	08-15-95	F17.79	F396
05396300 Wisconsin River Tributary at Wausua	Lat 44°57'28", long 89°39'52" in NE 1/4 NW 1/4 sec.34, T.29 N., R.7 E., Mar- athon County, Hydrologic Unit 07070002, on road right-of-way of 24th Avenue opposite the Ace Motel, 300 ft east of U.S. Highway 51, at Wausau; drainage area, 1.10 mi ² .	1982-97	09-16-97	7.03	E308	06-12 or 13-90	9.11	740
05397600 Big Sandy Creek near Wausau	Lat 45°01'55", long 89°27'00" in SE 1/4 sec.31, T.30 N., R.9 E., Marathon County, Hydrologic Unit 07070002, at bridge on State Highway 52, 10.0 mi northeast of Wausau; drainage area, 11.5 mi ² .	1959-97	04-05-97	12.23	420	09-27-59	15.18	2,120
05400025 Johnson Creek near Knowlton	Lat 44°44'19", long 89°36'39" in SE 1/4 NE 1/4 sec.13, T.26 N., R.7 E., Mara- thon County, Hydrologic Unit 07070002, at bridge on County Trunk Highway X, 2.7 mi east of Knowlton; drainage area, 25.1 mi ² .	1973-97	04-01-97	14.32	540	06-06-80	21.78	3,700
05401800 Yellow River Tributary near Pitts- ville	Lat 44°28'58", long 90°07'05" on com- mon boundary of secs.11 and 14, T.23 N., R.3 E., Wood County, Hydrologic Unit 07070003, at bridge on County Trunk Highway C, 2.0 mi north of Pittsville; drainage area, 7.23 mi ² .	1959-97	07-02-97	11.79	230	05-02-73	13.82	810
05403700 Dell Creek near Lake Delton	Lat 43°33'05" long 89°51'55" in NW 1/4 sec.2, T.12 N., R.5 E., Sauk County, Hydrologic Unit 07070003, on right bank 50 ft upstream from highway bridge, 6.0 mi southwest of Lake Delton, and 7.0 mi upstream from mouth; drainage area, 44.9 mi ² .	1957-65# 1966-70 1971-80# 1983-97	08-21-97	5.19	139	09-14-92	9.80	1,200

Station Number and Name	Location and Drainage Area	Period of Record	Water Year 1997 Maximum			Period of Record Maximum		
			Date	Gage height (feet)	Dis- charge (ft ³ /s)	Date	Gage height (feet)	Dis- charge (ft ³ /s)
WISCONSIN RIVER BASIN--CONTINUED								
05405600 Rowan Creek at Poynette	Lat 43°23'13", long 89°23'25" in S 1/2 sec.35, T.11 N., R.9 E., Columbia County, Hydrologic Unit 07070005, at bridge on U.S. Highway 51, at Poynette; drainage area, 10.4 mi ² .	1961-97	06-16-97	15.34	990	09-09-65	17.90	2,260
05407200 Crooked Creek near Boscobel	Lat 43°06'27", long 90°42'18" in SE 1/4 sec.2, T.7 N., R.3 W., Grant County, Hydrologic Unit 07070005, at bridge on U.S. Highway 61, 1.6 mi south of Boscobel; drainage area, 12.9 mi ² .	1959-97	07-20-97	11.54	370	07-27-64	18.21	2,460
GRANT RIVER BASIN								
05413400 Pigeon Creek near Lancaster	Lat 42°49'00", long 90°43'20" in SW 1/4 sec.15, T.4 N., R.3 W., Grant County, Hydrologic Unit 07060003, at culvert on country road, 2.0 mi south of Lancaster; drainage area, 6.93 mi ² .	1960-65 1966# 1967-97	02-18-97	G10.90	E400	01-24-67	20.85	2,800
PLATTE RIVER BASIN								
05414213 Little Platte River near Platteville	Lat 42°43'23", long 90°31'41" in NE 1/4 NE 1/4 sec.19, T.3 N., R.1 W., Grant County, Hydrologic Unit 07060003, on left bank 150 ft upstream from Stumptown Road, 2.6 mi southwest of Post Office in Platteville; drainage area, 79.7 mi ² .	1987-90# 1991-97	02-18-97	G12.63	E1,900	06-29-90	15.35	3,800
GALENA RIVER BASIN								
05414900 Pats Creek near Elk Grove	Lat 42°40'03", long 90°22'40" in SW 1/4 sec.4, T.2 N., R.1 E., Lafayette County, Hydrologic Unit 07060005, at bridge on State Highway 81, 7.0 mi southeast of Platteville; drainage area, 8.50 mi ² .	1960-97	02-18-97	G13.54	E460	06-29-69	17.32	7,040
ROCK RIVER BASIN								
05430403 Fisher Creek Tributary at Janesville	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, Hydrologic Unit 07090001, at culvert on Rockport Road, 0.4 mi west of South Crosby Avenue and 0.6 mi upstream from County Trunk Highway D, at Janes- ville; drainage area, 1.42 mi ² .	1982-97	06-16-97	6.75	256	07-18-96	8.17	411
05431400 Little Turtle Creek at Allens Grove	Lat 42°34'46", long 88°45'33" in NE 1/4 sec.6, T.1 N., R.15 E., Walworth County, Hydrologic Unit 07090001, at bridge on country road, 0.2 mi south of Allens Grove; drainage area, 42.4 mi ² .	1962-97	06-16-97	13.42	1,890	04-21-73	18.28	8,400

Station Number and Name	Location and Drainage Area	Period of Record	Water Year 1997 Maximum			Period of Record Maximum		
			Date	Gage height (feet)	Dis-charge (ft ³ /s)	Date	Gage height (feet)	Dis-charge (ft ³ /s)
ROCK RIVER BASIN--CONTINUED								
05432055 Livingston Branch Pecatonica River near Livingston	Lat 42°54'01", long 90°22'23", in SW 1/4 SE 1/4 sec.16, T.5 N., R.1 E., Iowa County, Hydrologic Unit 07090003, on the left bank 75 ft upstream from Enloe Road and 2.7 mi east of Livingston; drainage area, 16.4 mi ² .	1987-91# 1996-97	02-18-97	G8.68	E530	06-29-90	13.49	6,260
05432300 Rock Branch near Mineral Point	Lat 42°50'02", long 90°09'15" in SE 1/4 sec.8, T.4 N., R.3 E., Iowa County, Hydrologic Unit 07090003, at box culvert on State Highway 23, 2.5 mi south of Mineral Point; drainage area, 4.83 mi ² .	1959-97	02-18-97	12.21	275	07-05-93	22.63	3,100
05433500 Yellowstone River near Blanchardville	Lat 42°46'55", long 89°59'50" in NE 1/4 sec.34, T.4 N., R.4 E., Lafayette County, Hydrologic Unit 07090003, 0.6 mi upstream from bridge on County Trunk Highway F, 7.0 mi west-southwest of Blanchardville; drainage area, 28.5 mi ² .	1954-65# 1966-97	02-18-97	G11.00	E940	06-29-90	11.40	8,500
05436200 Gill Creek near Brooklyn	Lat 42°49'38", long 89°26'43" in NW 1/4 sec.16, T.4 N., R.9 E., Green County, Hydrologic Unit 07090004, at culvert on State Highway 92, 4.3 mi west of Brooklyn; drainage area, 3.33 mi ² .	1961-97	02-19-97	14.21	210	03-31-65	15.06	370
ILLINOIS RIVER BASIN								
05545100 Sugar Creek at Elkhorn	Lat 42°41'05", long 88°30'50" in SW 1/4 sec.29, T.3 N., R.17 E., Walworth County, Hydrologic Unit 07120006, at culvert on State Highway 11, 2.0 mi northeast of Elkhorn; drainage area, 6.63 mi ² .	1962-97	02-21-97	12.19	134	04-21-73	17.47	900
05545200 White River Tributary near Burlington	Lat 42°41'03", long 88°22'37" on common boundry of secs.27 and 34, T.3 N., R.18 E., Walworth County, Hydrologic Unit 07120006, at box culvert on State Highway 11, 4.5 mi west of Burlington; drainage area, 2.42 mi ² .	1958-97	02-21-97	11.73	72	04-21-73	14.10	290
05548150 North Branch Nippersink Creek near Genoa City	Lat 42°30'15", long 88°23'01" in SW 1/4 NW 1/4 sec.33, T.1 N., R.18 E., Walworth County, Hydrologic Unit 07120006, at bridge on County Trunk Highway B, 3.0 mi west of Genoa City; drainage area, 13.6 mi ² .	1962-97	02-21-97	12.41	295	09-25-86	13.63	475

Operated as a continuous-record station

B Discharge not determined

C Peak not recorded

D Backwater from debris

E Estimated

F Revised

G Backwater from ice

H Backwater, cause unknown

Discharge at Miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table.

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis-charge (ft ³ /s)
STREAMS TRIBUTARY TO LAKE MICHIGAN						
Duck Creek	Green Bay	Lat 44°24'04", long 88°16'43", in NW 1/4 NE 1/4 sec.11, T.22 N., R.18 E., Outagamie County, Hydrologic Unit 04030103, at Center Valley Road, 1.1 mi north of Freedom.	50.5	1969 1981-82	09/04/97	2.71
Unnamed Duck Creek Tributary	Duck Creek	Lat 44°26'40", long 88°14'07", in SE 1/4 SE 1/4 sec.19, T.23 N., R.19 E., Outagamie County, Hydrologic Unit 04030103, at County Road EE on Lambie Road, near Oneida.	--	--	09/04/97	0.64
Oneida Creek	Duck Creek	Lat 44°27'45", long 88°13'49", in NW 1/4 SW 1/4 sec.17, T.23 N., R.19 E., Outagamie County, Hydrologic Unit 04030103, at Van Bortel Road near Oneida.	--	--	09/04/97	2.04
Duck Creek	Green Bay	Lat 44°27'57", long 88°13'08", in SW 1/4 NE 1/4 sec.17, T.23 N., R.19 E., Outagamie County, Hydrologic Unit 04030103, 2.9 mi southwest of Oneida.	95.5	1969-70 1972-74 1976 1993-95	09/04/97	6.83
Silver Creek	Duck Creek	Lat 44°30'42", long 88°09'04", in SE 1/4 NE 1/4 sec.35, T.24 N., R.19 E., Brown County, Hydrologic Unit 04030103, at Highway 54 near Ashwaubenon.	--	--	09/04/97	0.73
Unnamed Duck Creek Tributary	Duck Creek	Lat 44°31'31", long 88°07'45", in SE 1/4 NE 1/4 sec.25, T.24 N., R.19 E., Brown County, Hydrologic Unit 04030103, at Haven Place near Ashwaubenon.	--	--	09/03/97	0.015
Trout Creek	Duck Creek	Lat 44°33'04", long 88°11'25", in NE 1/4 SE 1/4 sec.16, T.24 N., R.19 E., Outagamie County, Hydrologic Unit 04030103, at Police Firing Range near Prison Farm on County Highway U near Ashwaubenon.	--	--	09/03/97	0.48
Trout Creek	Duck Creek	Lat 44°32'10", long 88°07'48", in NE 1/4 SE 1/4 sec.24, T.24 N., R.19 E., Brown County, Hydrologic Unit 04030103, at culvert on County Highway FF, 2.2 mi southwest of Howard.	15.4	1969 1976	09/03/97	2.34
Duck Creek Site #1	Green Bay	Lat 44°32'41", long 88°06'09", in NE 1/4 NE 1/4 NW 1/4 sec.20, T.23 N., R.20 E., Brown County, Hydrologic Unit 04030103, near old riverbed crossing at upper end of Pamperin Park near the Village of Howard.	--	--	09/05/97	13.9

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis- charge (ft ³ /s)
STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED						
Beaver Dam Creek	Duck Creek	Lat 44°31'03", long 88°05'28", in SE 1/4 SE 1/4 sec.29, T.24 N., R.20 E., Brown County, Hydrologic Unit 04030103, at Hobart Drive just north of West Point, at Ashwaubenon.	--	--	09/05/97	0.08
Unnamed Lancaster Brook Tributary	Lancaster Brook	Lat 44°33'23", long 88°08'17", in SW 1/4 NE 1/4 sec.13, T.24 N., R.19 E., Brown County, Hydrologic Unit 04030103, near Howard.			09/03/97	0.30
Lancaster Brook	Duck Creek	Lat 44°33'49", long 88°07'28", in SE 1/4 SW 1/4 sec.7, T.24 N., R.20 E., Brown County, Hydrologic Unit 04030103, at Shawano Avenue near Howard.	--	--	09/03/97	0.85
Lancaster Brook	Duck Creek	Lat 44°33'29", long 88°06'10", in NE 1/4 NW 1/4 sec.17, T.24 N., R.20 E., Brown County, Hydrologic Unit 04030103, at Shawano Avenue at Howard.	--	--	09/03/97	1.69
North Branch Ashwaubenon Creek	Fox River	Lat 44°23'57", long 88°11'28", in NW 1/4 NW 1/4 sec.10, T.22 N., R.19 E., Brown County, Hydrologic Unit 04030204, near Freedom.	--	--	09/04/97	0.025
Dutchman Creek	Duck Creek	Lat 44°27'59", long 88°08'35", in SE 1/4 NW 1/4 sec.13, T.23 N., R.19 E., Brown County, Hydrologic Unit 04030204, at Cyrus Lane near Ashwaubenon.	--	--	09/04/97	1.55
Dutchman Creek	Duck Creek	Lat 44°28'31", long 88°07'10", in SW 1/4 SE 1/4 sec.7, T.23 N., R.20 E., Brown County, Hydrologic Unit 04030204, at Pioneer Road at Ashwaubenon.	--	--	09/05/97	0.90
Dutchman Creek Tributary	Dutchman Creek	Lat 44°28'53", long 88°07'29", in SW 1/4 NW 1/4 sec.7, T.23 N., R.20 E., Brown County, Hydrologic Unit 04030204, at end of County Highway GH behind Austin Straubel Airport, near DePere.	--	--	09/05/97	0.58

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis-charge (ft ³ /s)
ST. CROIX RIVER BASIN						
Kinnickinnic River	St. Croix River	Lat 44°52'30", long 92°37'16", in NE 1/4 NE 1/4, sec.36, T.28 N., R.19 W., St. Croix County, Hydrologic Unit 07030005, on left bank 200 ft upstream from bridge on State Highway 35, 1.4 mi northeast of intersection of State Highways 29 and 35 in River Falls.	115	1996	10/04/96 03/27/97 03/28/97 04/24/97 05/29/97 07/02/97 08/14/97	50 210 420 76.2 66.2 315 67.6
South Fork Kinnickinnic River	Kinnickinnic River	Lat 44°51'06", long 92°37'36", in SW 1/4 SE 1/4, sec.1, T.27 N., R.19 W., Pierce County, Hydrologic Unit 07030005, on left bank 0.2 mi upstream from State Highway 29 bridge at River Falls and 0.5 mi upstream from mouth.	18.1	1996	10/04/96 03/27/97 04/24/97 05/28/97 07/02/97 08/14/97	9.28 158 10.9 9.51 34.2 12.3
Kinnickinnic River Tributary	Kinnickinnic River	Lat 44°50'36", long 92°38'38", in SE 1/4 NE 1/4, sec.11, T.27 N., R.19 W., Pierce County, Hydrologic Unit 07030005, on left bank, about 600 ft upstream from mouth, 1.4 mi southwest of Maple Street crossing of Kinnickinnic River in River Falls.	10.4	1996	10/04/96 03/27/97 03/27/97 04/25/97 06/02/97 07/02/97 08/14/97	4.14 26.8 68.4 5.55 4.73 11.7 6.22
Kinnickinnic River	St. Croix River	Lat 44°50'43", long 92°38'51", in NW 1/4 NE 1/4, sec.11, T.27 N., R.19 W., Pierce County, Hydrologic Unit 07030005, on left bank, approximately 700 ft downstream from intermittent tributary from south, and 1.1 mi southwest of intersection of State Highways 29 and 35 near River Falls.	147	1996	10/04/96 03/27/97 04/25/97 06/02/97 07/02/97 08/14/97	76.4 336 103 79.1 324 101
CHIPPEWA RIVER BASIN						
Allequash Creek, Site 3	Trout River	Lat 46°01'58", long 89°36'28", in NE 1/4 SW 1/4 sec.15, T.41 N., R.7 E., Vilas County, Hydrologic Unit 07050002, upstream of bridge on unnamed road, near Boulder Junction.	--	1992-96	11/03/96 05/27/97 07/02/97 07/26/97	5.11 4.88 7.27 7.71
Little John Lake Tributary	Allequash Creek	Lat 46°01'29", long 89°39'00", in NE 1/4 NW 1/4 sec.20, T.41 N., R.7 E., Vilas County, Hydrologic Unit 07050002, at confluence with Allequash Creek, near Boulder Junction.	--	1992-96	11/03/96 05/21/97 06/30/97 07/26/97 09/23/97	2.64 1.58 1.28 1.46 1.40

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis-charge (ft ³ /s)
BLACK RIVER BASIN						
Pigeon Creek	Glen Creek	Lat 44°12'53", long 90°36'26", in NE 1/4 NW 1/4, sec.15, T.20 N., R.2 W., Jackson County, Hydrologic Unit 07040007, above Pigeon Creek Flowage and 4 mi northeast of Millston.	--	1996	10/07/96 10/30/96	0.33 1.81
Clear Creek	Robinson Creek	Lat 44°08'07", long 90°39'55", in NE 1/4 NE 1/4, sec.7, T.19 N., R.2 W., Monroe County, Hydrologic Unit 07040006, on the Fort McCoy Military Reservation and above the North Flowage of Cranberry Bog.	2.70	1996	10/08/96 10/30/96	2.15 1.31
Stony Creek	Shamrock Creek	Lat 44°10'67", long 90°46'13", in NW 1/4, SE 1/4, sec.32, T.20 N., R.3 W., Jackson County, Hydrologic Unit 07040007, approximately 2 mi upstream from County Trunk O and on the Mills property.	--	1996	10/08/96 10/30/96	1.49 5.52
ROCK RIVER BASIN						
Deer Creek	Rock River	Lat 43°00'19", long 88°42'28", in SW 1/4 SE 1/4 sec.3, T.6 N., R.15 E., Jefferson County, Hydrologic Unit 07090001, 0.36 mi downstream from town road and 0.6 mi southwest of Helenville.	2.00	--	01/30/97	0.49
Deer Creek Tributary	Deer Creek	Lat 43°00'27", long 88°42'33", in NW 1/4 SE 1/4 sec.3, T.6 N., R.15 E., Jefferson County, Hydrologic Unit 07090001, 0.42 mi upstream from mouth, 0.6 mi southwest of Helenville.	0.66	--	01/30/97	0.29
Deer Creek	Rock River	Lat 43°00'14", long 88°42'51", in SW 1/4 SW 1/4 sec.3, T.6 N., R.15 E., Jefferson County, Hydrologic Unit 07090001, just downstream from tributary, 1.0 mi southwest of Helenville.	2.86	--	01/30/97	0.82
Honey Creek	Pecatonica River	Lat 42°35'54", long 89°40'05", in SW 1/4 SE 1/4, sec.33, T.2 N., R.7 E., Green County, Hydrologic Unit 07090003, just upstream from STP outlet, and 1.7 mi west of Monroe.	4.74	1968-69 1973	11/20/96	3.47
Sugar River	Pecatonica River	Lat 42°58'22", long 89°33'58", in NE 1/4 NE 1/4 sec.29, T.6 N., R.8 E., Dane County, Hydrologic Unit 07090004, at bridge on Valley Road, 2.1 mi southwest of Verona.	--	--	06/19/97	24.3

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Dis-charge (ft ³ /s)
ROCK RIVER BASIN--CONTINUED						
Sugar River	Pecatonia River	Lat 42°59'31", long 88°30'49", in NW 1/4 SE 1/4 sec.14, T.6 N., R.8 E., Dane County, Hydrologic Unit 07090004, at bridge on County Trunk PB, 1 mi east of Verona.	14.9	1972-73 1976	06/19/97	0.56
Badger Mill Creek	Sugar River	Lat 42°57'52", long 89°33'54", in NE 1/4 SE 1/4 Sec.28, T.6 N., R.8 E., Dane County, Hydrologic Unit 07090004, at bridge on State Highway 69 2 mi south-southwest of Verona and 0.7 mi upstream from Sugar River.	--	--	06/19/97	6.99
Sugar River	Pecatonica River	Lat 42°56'58", long 89°32'40", in NE 1/4 SE 1/4 sec.33, T.6 N., R.8 E., Dane County, Hydrologic Unit 07090004, at State Highway 69, 2.9 mi south of Verona.	82.7	1962-67 1969	06/19/97	35.1
ILLINOIS RIVER BASIN						
Muskego Canal	Fox River	Lat 42°54'26", long 88°08'28", in NE 1/4 SW 1/4 sec.9, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, at Little Muskego Lake Outlet at Muskego.	--	--	06/16/97	14.71
Muskego Lake Tributary 1	Muskego Lake	Lat 42°53'33", long 88°08'33", in NE 1/4 SW 1/4 sec.16, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, at County Highway Y south of Muskego.	--	--	06/16/97	11.52
Muskego Lake Tributary 2	Muskego Lake	Lat 42°52'54", long 88°08'40", in SW 1/4 NW 1/4 sec.21, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, on County Highway Y, 2 mi south of Muskego.			06/16/97	11.52
Muskego Lake Tributary 3	Muskego Lake	Lat 42°51'43", long 88°05'25", in NE 1/4 SE 1/4 sec.26, T.5 N., R.20 E., Waukesha County, Hydrologic Unit 07120006, 1 mi southwest of Durham at Crossing of Highway 36, near Muskego.	--	--	06/16/97	9.8

Water-quality data in this section are for samples collected at gaging stations and other sites on streams for reconnaissance or other purposes on a non-continuous basis.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN

04072031 DUCK CREEK NEAR FREEDOM, WI (LAT 44 24 04N LONG 088 16 43W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	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)
SEP 1997 04...	0730	2.6	1080	7.9	14.5	7.4	752	410	96	42	54
DATE	TIME	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	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, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
SEP 1997 04...	16		265	217	150	100	0.42	4.7	701	3.58	0.041
DATE	TIME	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
SEP 1997 04...	0.027	1.2	1.2	0.438	0.366	0.329	28	63	12	98	

04072040 UNNAMED DUCK CREEK TRIBUTARY NEAR ONEIDA, WI (LAT 44 26 40N LONG 088 14 07W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	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)
SEP 1997 04...	0920	0.64	770	7.9	13.5	8.3	752	330	85	29	22
DATE	TIME	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	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, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
SEP 1997 04...	18		266	218	58	56	0.17	8.4	502	1.46	0.013
DATE	TIME	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
SEP 1997 04...	0.026	1.4	1.4	0.414	0.348	0.319	82	32	15	67	

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

040720447 ONEIDA CREEK AT VAN BOXTEL ROAD NEAR ONEIDA, WI (LAT 44 27 45N LONG 088 13 49W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	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)	BICAR-BONATE WATER DIS IT FIELD HCO3 (MG/L AS) (00453)
SEP 1997 04...	1025	2.0	590	7.9	14.0	8.5	752	67	22	16	9.4	216
DATE	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	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, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
SEP 1997 04...	177	40	38	0.15	9.8	387	0.397	<0.010	0.015	1.0	1.0	0.190
DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	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)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN WAT FLD GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)
SEP 1997 04...	0.151	0.136	60	30	13	0.30	<0.002	<0.002	<0.002	0.318	<0.002	<0.002
DATE	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DIAZ-INON, D10 SRG WAT FLT 0.7 U GF, REC PERCENT (91063)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)
SEP 1997 04...	<0.003	<0.003	<0.004	<0.004	<0.002	E0.094	<0.002	100	<0.001	<0.017	<0.002	<0.004
DATE	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC PERCENT (91065)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL AZIN-THION, WAT FLT 0.7 U GF, REC (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN WATER FLTRD 0.7 U GF, REC (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (82671)	
SEP 1997 04...	<0.003	<0.003	102	<0.004	<0.002	<0.005	<0.001	<0.006	0.179	<0.100	<0.004	
DATE	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (82684)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (82664)	P,P' DDE DISSOLV (UG/L) (34653)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (82676)	PRO-METON, WATER, DISS, REC (04037)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (82685)	
SEP 1997 04...	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	E0.004	<0.004	<0.013	
DATE	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TER-BACIL WATER FLTRD 0.7 U GF, REC (82665)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (82670)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (82675)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC PERCENT (91064)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (82661)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (82660)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	
SEP 1997 04...	<0.007	0.008	<0.007	<0.010	<0.013	104	<0.002	<0.001	<0.002	<0.003	14	

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

04072050 DUCK CREEK AT SEMINARY ROAD NEAR ONEIDA, WI (LAT 44 27 57N LONG 088 13 08W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	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)
SEP 1997 04...	1115	6.8	740	7.9	15.0	9.0	752	310	77	28	26
DATE		POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CAC03) (39086)	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, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
SEP 1997 04...	13		242	198	65	58	0.19	7.9	477	1.14	<0.010
DATE		NITRO-GEN, AMMONIA + DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
SEP 1997 04...		0.015	1.2	1.1	0.325	0.252	0.235	39	32	8	90

04072100 SILVER CREEK AT HIGHWAY 54 NEAR ASHWAUBENON, WI (LAT 44 30 42N LONG 088 09 04W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	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)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CAC03 (39086)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
SEP 1997 04...	1310	0.73	980	8.0	15.0	12.5	753	110	41	34
DATE										
SEP 1997 04...	6.5	367	309	77	69	0.17	13	634	1.04	0.010
DATE		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
SEP 1997 04...		<0.015	0.62	0.55	0.200	0.162	0.164	23	31	28

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

04072140 UNNAMED DUCK CK TRB @ HAVEN PL NR ASHWAUBENON,WI (LAT 44 31 31N LONG 088 07 45W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	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)	
		SEP 1997 03...	1220	0.01	1150	8.2	16.5	9.3	756	110	44
DATE	TIME	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD CACO3 (39086)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
		SEP 1997 03...	2.6	425	348	120	45	<0.10	17	728	1.50
DATE	TIME	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	
		SEP 1997 03...	0.072	0.48	0.40	0.044	0.016	0.023	16	164	103

04072153 TROUT CREEK AT CT HIGHWAY U NEAR ASHWAUBENON, WI (LAT 44 33 04N LONG 088 11 25W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	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)	
SEP 1997 03...	1045	0.48	850	7.7	15.0	7.2	755	100	32	9.3	
DATE	TIME	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD CACO3 (39086)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
SEP 1997 03...	6.0	345	283	37	110	0.10	11	589	1.44	0.021	
DATE	TIME	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	
SEP 1997 03...	<0.015	1.3	1.3	0.076	0.068	0.064	78	6.4	34		

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

04072185 TROUT CREEK NEAR HOWARD, WI (LAT 44 32 10N LONG 088 07 48W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	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)	BICAR-BONATE WATER DIS IT FIELD HCO3 (00453)	
SEP 1997 03...	1145	2.3	660	8.0	15.5	9.3	759	79	28	14	4.6	278	
DATE	TIME	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS ST02) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL DIS. (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
SEP 1997 03...	228	34	51	<0.10	12	428	0.999	<0.010	<0.015	0.69	0.70	0.095	
DATE	TIME	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	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)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN, WAT FLD GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)
SEP 1997 03...	0.081	0.078	31	17	10	0.30	0.016	<0.002	<0.002	0.122	<0.002	<0.002	
DATE	TIME	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DIAZ-INON D10 SRG WAT FLT 0.7 U GF, REC PERCENT (UG/L) (91063)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	
SEP 1997 03...	<0.003	<0.003	<0.004	<0.004	<0.002	E0.026	<0.002	95.2	<0.001	<0.017	E0.001	<0.004	
DATE	TIME	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC PERCENT (UG/L) (91065)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL AZIN-THION, WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	
SEP 1997 03...	<0.003	<0.003	100	<0.004	<0.002	<0.005	<0.001	<0.006	0.040	<0.080	<0.004		
DATE	TIME	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE SURROGT WAT FLT 0.7 U GF, REC (UG/L) (82664)	P, P' DDE DISSOLV (UG/L) (34653)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	
SEP 1997 03...	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	E0.008	<0.004	<0.013		
DATE	TIME	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC PERCENT (UG/L) (91064)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	
SEP 1997 03...	<0.007	0.006	<0.007	<0.010	<0.013	104	<0.002	<0.001	<0.002	<0.003	7		

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

04072217 DUCK CREEK SITE NO. 1 NEAR PAMPERIN PARK (LAT 44 32 41N LONG 088 06 09W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	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)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)
SEP 1997 05...	0930	14	620	8.0	15.5	8.4	747	69	25	19	9.6	229
DATE	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	CHLO-RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
SEP 1997 05...	188	44	50	0.16	4.2	404	0.464	<0.010	<0.015	0.99	0.83	0.215
DATE	PHOS-PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	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)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC (UG/L) (46342)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN WAT FLD (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)
SEP 1997 05...	0.126	0.105	45	21	11	1.0	0.007	0.005	<0.002	0.236	<0.002	<0.002
DATE	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS- SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS- SOLVED (UG/L) (39572)	DIAZ-INON D10 SRG WAT FLT 0.7 U GF, REC PERCENT (UG/L) (91063)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	
SEP 1997 05...	<0.003	<0.003	<0.004	0.015	<0.002	E0.100	E0.004	100	<0.001	<0.017	<0.002	<0.004
DATE	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC PERCENT (UG/L) (91065)	LINDANE DIS- SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS- SOLVED (UG/L) (39532)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	
SEP 1997 05...	<0.003	<0.003	105	<0.004	<0.002	<0.005	<0.001	<0.006	0.170	<0.004	<0.004	
DATE	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA-THION, DIS- SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	P, P' DDE DISSOLV (UG/L) (34653)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	
SEP 1997 05...	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	<0.018	<0.004	<0.013	
DATE	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC PERCENT (UG/L) (91064)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	
SEP 1997 05...	<0.007	0.013	<0.007	<0.010	<0.013	110	<0.002	<0.001	<0.002	<0.003	48	

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

04072219 BEAVER DAM CREEK AT ASHWAUBENON, WI (LAT 44 31 03N LONG 088 05 28W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	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)	
SEP 1997 05...	0840	0.07	950	7.9	12.5	9.4	751	96	35	51	
DATE		POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CAC03) (39086)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	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, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
SEP 1997 05...	1.5	343	281	96	50	<0.10	17	598	2.37	0.022	
DATE		NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	
SEP 1997 05...	0.026	0.37	<0.20	0.082	0.015	0.025	11	15	75		

04072228 THORNBERRY CREEK NEAR HOWARD, WI (LAT 44 33 23N LONG 088 08 17W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	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)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)
		SEP 1997 03...	0945	0.30	670	8.1	12.0	9.9	756	75	32	14
DATE	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	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, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
		SEP 1997 03...	239	31	31	<0.10	16	415	3.52	0.010	<0.015	0.24
DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	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)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN, WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)
	SEP 1997 03...	0.012	0.018	20	11	3.4	0.60	<0.002	<0.002	<0.002	0.042	<0.002

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

04072228 THORNBERRY CREEK NEAR HOWARD, WI (LAT 44 33 23N LONG 088 08 17W)--CONTINUED

	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DIAZ- INON D10 SRG WAT FLT 0.7 U GF, REC (91063)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)
SEP 1997 03...	<0.003	<0.003	<0.004	<0.004	<0.002	E0.025	<0.002	85.7	<0.001	<0.017	<0.002	<0.004
DATE	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC (UG/L) (91065)	LINDANE DIS- SOLVED (UG/L) (39341)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA- THION, DIS- SOLVED (UG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN WATER DISSOLV (UG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	
SEP 1997 03...	<0.003	<0.003	94.4	<0.004	<0.002	<0.005	<0.001	<0.006	E0.002	<0.004	<0.004	
DATE	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA- THION, DIS- SOLVED (UG/L) (39542)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	P,P' DDE DISSOLV (UG/L) (34653)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	
SEP 1997 03...	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	E0.004	<0.004	<0.013	
DATE	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC (UG/L) (91064)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	
SEP 1997 03...	<0.007	<0.005	<0.007	<0.010	<0.013	87.7	<0.002	<0.001	<0.002	<0.003	73	

04072231 LANCASTER BROOK AT SHAWANO AVENUE NEAR HOWARD, WI (LAT 44 33 49N LONG 088 07 28W)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	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)
SEP 1997 03...	0845	0.85	710	8.2	13.0	9.3	756	79	34	17
DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS (00453)	ALKA- LINITY WAT DIS TOT IT MG/L AS (39086)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRIE DIS- SOLVED (MG/L AS N) (00613)
SEP 1997 03...	2.1	288	248	36	37	<0.10	16	441	2.95	0.014
DATE	NITRO- GEN, AM- MONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	
SEP 1997 03...	0.021	0.33	0.26	0.039	0.045	0.033	21	17	24	

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

04072233 LANCASTER BROOK AT SHAWANO AVENUE AT HOWARD, WI (LAT 44 33 29N LONG 088 06 10W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	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)	
SEP 1997 03...	0800	1.7	780	8.3	14.5	8.6	756	83	33	27	
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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 AS N) (70300)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
SEP 1997 03...	2.4	309	261	55	45	<0.10	14	488	1.65	<0.010	
DATE		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	
SEP 1997 03...	<0.015	0.40	0.40	0.046	0.037	0.039	15	22	20		

04073470 PUCHYAN RIVER AT GREEN LAKE, WI (LAT 43 50 48N LONG 088 57 36W)

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
FEB 1997			
19...	1225	55	0.030
MAR			
03...	1345	85	0.025
11...	1450	168	0.026
APR			
07...	1435	216	0.033
29...	1120	52	0.031
MAY			
21...	1110	74	<0.005
JUN			
11...	1105	64	0.100
30...	1108	95	0.042
JUL			
22...	1344	78	0.025
28...	1450	81	0.024
AUG			
05...	1505	66	0.025
26...	1137	76	0.023

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

04085064 NORTH BRANCH ASHWAUBENON CREEK NEAR FREEDOM, WI (LAT 44 23 57N LONG 088 11 28W)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	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)	
SEP 1997 04...	0830	0.02	810	7.6	13.0	3.2	752	83	32	24	
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
SEP 1997 04...	24	293	240	64	51	0.33	13	520	0.820	0.160	
DATE		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. MG/L AS N) (00623)	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)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	
SEP 1997 04...		0.361	2.1	2.1	1.16	0.996	0.962	130	192	10	

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

04085074 DUTCHMAN CREEK AT CYRUS LANE NR ASHWAUBENON, WI (LAT 44 27 59N LONG 088 08 35W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	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)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)
SEP 1997 04...	1215	1.5	650	7.8	16.5	7.2	752	69	23	17	25	207
DATE	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS IO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
SEP 1997 04...	170	58	46	0.27	13	443	0.826	0.099	0.030	2.0	1.9	1.26
DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	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)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC, DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	BEN-FLUR-ALIN, WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)
SEP 1997 04...	1.10	0.997	95	30	18	0.70	<0.002	<0.002	<0.002	0.392	<0.002	<0.002
DATE	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DIAZ-INON, WAT FLT 0.7 U GF, REC PERCENT (UG/L) (91063)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	
SEP 1997 04...	<0.003	<0.003	<0.004	0.119	<0.002	E0.170	<0.002	87.3	<0.001	<0.017	<0.002	<0.004
DATE	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC PERCENT (UG/L) (91065)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL AZIN- PHOS, WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA-THION, WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZZIN WATER FLTRD 0.7 U GF, REC (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	
SEP 1997 04...	<0.003	<0.003	94.8	<0.004	<0.002	<0.005	<0.001	<0.006	0.421	<0.004	<0.004	
DATE	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	P, P' DDE DISSOLV (UG/L) (34653)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	
SEP 1997 04...	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.006	<0.003	0.019	<0.004	<0.013	
DATE	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC PERCENT (UG/L) (91064)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	
SEP 1997 04...	<0.007	<0.005	<0.007	<0.010	<0.013	97.1	<0.002	<0.001	<0.002	<0.003	23	

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

040850745 DUTCHMAN CREEK AT PIONEER ROAD AT ASHWAUBENON, WI (LAT 44 28 31N LONG 088 07 10W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	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)	
SEP 1997 05...	0730	0.90	630	7.9	14.5	7.6	751	68	22	17	
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
SEP 1997 05...	25	205	168	55	46	0.31	12	442	0.667	0.022	
DATE		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	
SEP 1997 05...	0.030	1.9	1.9	1.17	1.03	0.929	86	37	20		

04085076 DUTCHMAN CREEK TRIBUTARY NEAR DE PERE, WI (LAT 44 28 53N LONG 088 07 29W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	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)	
SEP 1997 05...	0650	0.58	766	7.8	13.5	6.8	751	89	30	29	
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD CACO3 (39086)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	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, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
SEP 1997 05...	2.9	332	272	56	25	0.25	15	488	0.783	0.029	
DATE		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	
SEP 1997 05...	0.030	0.80	0.83	0.105	0.071	0.051	140	35	71		

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED

04085454 MEEME RIVER AT CT HIGHWAY XX NEAR CLEVELAND, WI (LAT 43 55 20N LONG 087 48 45W)

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD (00403)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT 1996									
02...	1034	--	3.1	--	0.8	560	10	0.032	0.108
10...	1434	--	4.0	--	1.1	110	8	<0.013	0.070
16...	1238	--	3.1	--	1.4	110	6	<0.013	0.069
23...	1234	--	6.0	8.3	2.8	64000	13	0.060	0.251
29...	1122	--	4.0	--	1.5	60	<5	0.019	0.086
NOV									
14...	1428	--	2.2	--	1.0	10	7	0.033	0.066
25...	1408	2.0	--	--	0.2	90	6	0.050	0.070
DEC									
11...	1426	--	4.4	--	2.0	50	5	0.040	0.083
JAN 1997									
23...	1208	40	--	--	10	3200	12	0.946	0.518
FEB									
11...	1422	2.5	--	--	0.4	30	<5	0.221	0.117
MAR									
04...	0914	30	--	--	2.8	380	<5	0.532	0.255
24...	1422	--	11	--	2.1	360	13	0.283	0.208
APR									
09...	1516	--	9.0	--	1.1	30	7	0.103	0.100
17...	0948	--	7.8	--	0.9	20	7	0.029	0.096
24...	1148	--	6.5	--	2.3	30	<5	0.024	0.082
MAY									
01...	1614	--	40	--	4.0	3400	38	0.123	0.340
08...	1042	--	12	--	1.7	300	7	0.023	0.106
15...	0734	--	8.0	--	1.9	180	<5	<0.013	0.081
22...	1528	--	5.8	--	2.2	10	6	<0.013	0.072
29...	1352	--	6.8	--	4.5	100	7	<0.013	0.107
JUN									
04...	0948	--	4.8	--	3.3	50	7	0.021	0.138
12...	1104	--	4.8	--	3.1	310	8	0.080	0.196
18...	1308	--	5.6	--	2.1	1500	<5	0.124	0.213
JUL									
02...	1302	--	6.7	--	2.0	830	12	3.87	0.310
09...	1145	--	2.3	8.3	3.0	32000	22	0.047	0.290
17...	0942	--	2.2	8.2	1.6	250	11	<0.013	0.272
24...	1442	--	2.0	8.7	1.2	<130	7	0.013	0.178
30...	1352	--	1.9	8.7	1.6	30	6	0.020	0.173
AUG									
07...	1030	--	1.8	8.3	1.2	350	13	0.023	0.152
14...	1215	--	2.0	8.5	1.7	330	6	<0.010	0.112
21...	1200	--	8.5	8.2	3.3	210000	20	0.175	0.413
29...	0920	--	2.0	8.4	1.2	430	8	0.030	0.182
SEP									
04...	1336	--	2.0	8.5	0.4	220	7	0.026	0.148
12...	1246	--	1.8	8.6	1.3	310	6	<0.013	0.110
18...	0715	--	2.0	8.2	<3.0	3400	22	0.055	0.159
25...	1132	--	1.9	8.5	1.5	480	8	0.025	0.120

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

ST. CROIX RIVER BASIN

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
05331775 ST. CROIX RIVER NEAR WOODLAND CORNER, WI (LAT 46 07 00N LONG 092 07 53W)										
APR 1997 04...	1144	1860	49	6.9	1.5	12.7	734	94	25	20
05333400 NAMEKAGON RIVER NEAR WOODLAND CORNER, WI (LAT 46 05 02N LONG 092 06 47W)										
APR 1997 03...	1345	2040	141	7.3	5.0	13.2	--	--	68	56
053350006 YELLOW RIVER NEAR DANBURY, WI (LAT 45 58 59N LONG 092 23 05W)										
APR 1997 03...	1037	446	184	7.2	3.0	9.5	740	72	90	74
05335500 CLAM RIVER NEAR WEBSTER, WI (LAT 45 52 52N LONG 092 29 16W)										
APR 1997 03...	1345	768	112	7.3	4.5	11.4	740	90	63	51
05338975 WOOD RIVER AT STATE HIGHWAY 70 NR GRANTSBURG, WI (LAT 45 46 22N LONG 092 42 29W)										
APR 1997 03...	1050	588	103	7.1	3.0	10.4	740	79	58	48
05340370 TRADE RIVER NEAR TRADE RIVER, WI (LAT 45 35 58N LONG 092 46 02W)										
APR 1997 01... 02...	1430 1545	387 533	160 165	7.2 7.1	3.0 5.0	11.5 12.6	743 --	89 --	68 20	56 17
053405524 ST. CROIX RIVER TRIBUTARY NEAR OSCEOLA, WI (LAT 45 20 52N LONG 092 40 55W)										
MAR 1997 31...	1620	22	265	7.6	6.5	11.3	742	94	114	94
05341125 APPLE RIVER NEAR RANGE, WI (LAT 45 23 45N LONG 092 21 50W)										
APR 1997 01...	1130	273	162	7.4	3.0	12.1	736	93	85	70
05341500 APPLE RIVER NEAR SOMERSET, WI (LAT 45 09 27N LONG 092 42 59W)										
MAR 1997 28...	1600	861	237	7.8	5.0	11.6	728	95	129	106
05341740 WILLOW RIVER AT BURKHARDT, WI (LAT 45 01 30N LONG 092 39 23W)										
MAR 1997 28...	1212	842	221	7.5	4.5	12.0	725	98	112	92
05342000 KINNICKINNIC RIVER NEAR RIVER FALLS, WI (LAT 44 49 50N LONG 092 44 00W)										
MAR 1997 21...	1047	126	458	8.3	6.5	13.9	736	118	235	193
05344490 ST. CROIX RIVER AT PRESCOTT, WI (LAT 44 44 57N LONG 092 48 16W)										
APR 1997 12...	1418	29600	85	7.2	2.5	9.7	744	73	45	37
05355330 RUSH RIVER NEAR MAIDEN ROCK, WI (LAT 44 34 15N LONG 092 19 44W)										
MAR 1997 24...	1130	369	242	7.8	1.5	12.6	746	93	118	96

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

ST. CROIX RIVER BASIN--CONTINUED

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
05331775 ST. CROIX RIVER NEAR WOODLAND CORNER, WI (LAT 46 07 00N LONG 092 07 53W)										
APR 1997 04...	0.110	<0.010	0.030	0.50	0.30	0.040	0.010	<0.010	43	37
05333400 NAMEKAGON RIVER NEAR WOODLAND CORNER, WI (LAT 46 05 02N LONG 092 06 47W)										
APR 1997 03...	0.220	<0.010	0.040	0.30	<0.20	0.020	<0.010	<0.010	E98	--
05335006 YELLOW RIVER NEAR DANBURY, WI (LAT 45 58 59N LONG 092 23 05W)										
APR 1997 03...	0.460	<0.010	0.050	0.30	<0.20	0.020	<0.010	<0.010	9	85
05335500 CLAM RIVER NEAR WEBSTER, WI (LAT 45 52 52N LONG 092 29 16W)										
APR 1997 03...	0.280	<0.010	0.170	0.60	0.50	0.070	0.020	0.010	78	19
05338975 WOOD RIVER AT STATE HIGHWAY 70 NR GRANTSBURG, WI (LAT 45 46 22N LONG 092 42 29W)										
APR 1997 03...	0.110	<0.010	0.080	0.70	0.50	0.070	0.020	0.020	76	19
05340370 TRADE RIVER NEAR TRADE RIVER, WI (LAT 45 35 58N LONG 092 46 02W)										
APR 1997 01...	0.390	0.010	0.330	1.1	0.80	0.220	0.030	0.020	204	31
02...	0.420	0.010	0.300	1.1	0.70	0.180	<0.010	0.010	136	--
053405524 ST. CROIX RIVER TRIBUTARY NEAR OSCEOLA, WI (LAT 45 20 52N LONG 092 40 55W)										
MAR 1997 31...	0.680	<0.010	0.150	0.70	0.30	0.210	0.050	0.050	81	16
05341125 APPLE RIVER NEAR RANGE, WI (LAT 45 23 45N LONG 092 21 50W)										
APR 1997 01...	0.410	0.010	0.180	0.70	0.50	0.060	0.020	0.020	7	92
05341500 APPLE RIVER NEAR SOMERSET, WI (LAT 45 09 27N LONG 092 42 59W)										
MAR 1997 28...	0.950	<0.010	0.030	0.40	0.30	0.090	0.020	<0.010	8	78
05341740 WILLOW RIVER AT BURKHARDT, WI (LAT 45 01 30N LONG 092 39 23W)										
MAR 1997 28...	2.00	0.030	0.520	1.2	1.0	0.330	0.200	0.170	19	93
05342000 KINNICKINNIC RIVER NEAR RIVER FALLS, WI (LAT 44 49 50N LONG 092 44 00W)										
MAR 1997 21...	5.00	0.020	<0.015	0.30	<0.20	0.080	0.050	0.030	9	71
05344490 ST. CROIX RIVER AT PRESCOTT, WI (LAT 44 44 57N LONG 092 48 16W)										
APR 1997 12...	0.340	<0.010	0.120	0.70	0.50	0.050	0.010	0.010	12	88
05355330 RUSH RIVER NEAR MAIDEN ROCK, WI (LAT 44 34 15N LONG 092 19 44W)										
MAR 1997 24...	1.40	0.020	0.480	2.4	1.2	0.490	0.230	0.210	249	67

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

TREMPEALEAU RIVER BASIN

05379500 TREMPEALEAU RIVER AT DODGE (LAT 44 07 55N LONG 091 33 14 W)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	ACETO- CHLOR, WATER, UNFLTRD REC (UG/L) (49259)	ALA- CHLOR TOTAL RECOVER (UG/L) (77825)	ALA- CHLOR (ELISA) WAT FLT 0.7 U GF, REC (UG/L) (82695)	ATRA- ZINE WATER UNFLTRD REC (UG/L) (39630)
MAY 1997							
15...	0840	487	0.935	<0.10	<0.150	1.0	<0.150
21...	1050	470	1.58	<0.10	<0.150	<1.0	<0.150
28...	1030	457	1.49	<0.10	<0.150	1.3	<0.150
JUN							
04...	1030	437	1.70	<0.10	<0.150	1.6	<0.150
11...	1005	441	1.72	<0.10	<0.150	<1.0	<0.150
18...	1405	441	1.67	<0.10	<0.150	<1.0	0.440
21...	2030	777	4.19	0.60	<0.150	<1.0	2.27
26...	1025	484	1.79	<0.10	<0.150	<1.0	0.361
JUL							
02...	1055	449	1.70	<0.10	<0.150	<1.0	0.192
09...	0930	479	1.77	<0.10	<0.150	<1.0	0.174
16...	1040	413	1.69	<0.10	<0.150	<1.0	0.174
23...	1125	576	1.70	<0.10	<0.150	1.1	<0.150
24...	1125	684	1.64	<0.10	<0.150	1.3	<0.150
26...	1420	769	1.35	<0.10	<0.150	1.4	<0.150
29...	1040	929	1.28	<0.10	<0.150	<1.0	0.153
AUG							
15...	1245	587	1.61	<0.10	<0.150	<1.0	<0.150
SEP							
02...	1640	1070	1.51	<0.10	<0.150	<1.0	<0.150
17...	1525	899	0.607	<0.10	<0.150	1.2	<0.150

DATE	CYAN- AZINE TOTAL (UG/L) (81757)	DEETHYL ATRA- ZINE, WATER, WHOLE, TOTAL (UG/L) (75981)	DEETHYL DE-ISO PROPYL ATRAZIN WAT, WH TOTAL (UG/L) (75979)	DE-ISO PROPYL ATRAZIN WATER, WHOLE, TOTAL (UG/L) (75980)	METOLA- CHLOR WATER WHOLE TOT.REC (UG/L) (82612)	METRI- BUZIN WATER WHOLE TOT.REC (UG/L) (82611)
MAY 1997						
15...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
21...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
28...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
JUN						
04...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
11...	<0.500	<0.300	1	<0.300	<0.250	<0.050
18...	0.780	<0.300	<1	<0.300	0.373	<0.050
21...	2.14	0.482	<1	<0.300	4.05	<0.050
26...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
JUL						
02...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
09...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
16...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
23...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
24...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
26...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
29...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
AUG						
15...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
SEP						
02...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
17...	<0.500	<0.300	<1	<0.300	<0.250	<0.050

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

BLACK RIVER BASIN

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	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)
053813805 PIGEON CR ABOVE PIGEON CR FLOWAGE NR MILLSTON, WI (LAT 44 13 21N LONG 090 36 03W)											
OCT 1996											
07...	1545	0.33	8	6.1	10.5	13.9	2	<0.010	<0.027	0.30	0.013
30...	1630	2.1	53	4.8	6.0	11.0	<5	0.211	<0.027	0.60	0.022
APR 1997											
14...	1145	1.3	25	5.4	4.5	11.7	<5	0.033	<0.013	0.30	0.008
28...	1230	0.88	20	5.9	10.5	11.7	<5	0.014	<0.013	0.30	0.013
MAY											
12...	1230	1.1	21	5.4	11.5	10.8	<5	0.014	<0.013	0.40	0.010
29...	1100	2.1	22	6.8	10.5	9.0	27	0.016	0.022	0.80	0.043
JUN											
10...	1635	0.55	17	5.9	21.0	9.1	<5	<0.010	<0.013	0.60	0.030
25...	1300	0.96	20	5.7	21.0	8.2	6	0.037	<0.013	0.90	0.047
JUL											
08...	1645	0.73	19	5.9	15.0	9.1	4	0.056	0.018	0.50	0.051
23...	1055	0.41	19	6.1	17.0	8.7	<5	0.085	<0.013	0.41	0.030
05381386 CLEAR CREEK SITE C-1 @ FORT MCCOY NR MILLSTON, WI (LAT 44 08 36N LONG 090 39 22W)											
OCT 1996											
08...	1110	2.2	27	6.1	9.0	13.3	<5	0.713	<0.027	<0.21	0.042
30...	1126	1.3	28	6.2	8.0	11.2	<5	0.691	<0.027	<0.21	0.044
APR 1997											
15...	1050	1.9	28	6.2	9.0	10.5	12	0.664	<0.013	0.60	0.091
29...	1145	1.8	27	6.5	11.5	11.1	<5	0.643	<0.013	<0.21	0.061
MAY											
13...	0850	1.8	28	6.4	7.5	11.2	<5	0.589	<0.013	<0.21	0.053
28...	1330	1.5	27	6.4	9.5	11.0	<5	0.605	0.033	<0.21	0.088
JUN											
10...	1305	1.6	26	6.6	11.5	10.6	<5	0.618	<0.013	<0.21	0.076
24...	1300	1.5	26	6.5	11.5	10.3	<5	0.637	0.015	<0.21	0.068
JUL											
08...	1300	1.6	25	6.2	10.0	10.5	8	0.668	0.013	0.20	0.104
22...	1310	1.3	26	6.3	10.5	10.2	7	0.637	<0.013	0.48	0.127
05381387 SHOWN CREEK AT FORT MC COY, WI (LAT 44 08 07N LONG 090 39 55W)											
OCT 1996											
08...	1017	0.80	23	6.3	7.0	15.5	11	0.060	<0.027	0.50	0.141
30...	1023	1.8	40	5.6	7.0	11.5	8	0.065	<0.027	0.70	0.082
APR 1997											
28...	1750	1.1	23	6.5	12.0	11.3	<5	0.026	<0.013	<0.21	0.114
MAY											
28...	1430	0.95	23	6.8	12.0	11.7	8	<0.010	<0.040	0.30	0.197
JUN											
24...	1350	0.64	22	6.6	18.0	10.5	40	0.031	<0.013	0.60	0.206
JUL											
22...	1230	0.65	22	6.5	13.5	10.7	40	0.055	<0.013	0.34	0.166
05381388 RANCH CREEK AT LEES CROSSING AT FORT MC COY, WI (LAT 44 07 43N LONG 090 41 54W)											
OCT 1996											
08...	0919	1.4	30	6.6	7.5	12.4	<5	0.012	<0.027	0.20	0.036
30...	0910	3.4	44	6.2	6.5	10.8	8	0.084	0.041	0.60	0.035
APR 1997											
28...	1900	1.4	29	6.6	18.5	8.6	<5	0.029	0.020	0.50	0.073
MAY											
28...	1515	1.6	26	6.7	15.0	11.5	<5	<0.010	<0.040	0.30	0.084
JUN											
24...	1430	0.89	30	6.8	25.5	7.4	39	0.056	0.048	0.50	0.137
JUL											
22...	1150	1.1	30	6.5	18.5	8.2	<5	0.108	0.084	0.56	0.073

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

BLACK RIVER BASIN--CONTINUED

05381391 STONY CREEK S-1 @ MILLS PROPERTY NR SHAMROCK, WI (LAT 44 10 00N LONG 090 46 12W)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	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)
OCT 1996											
08...	1342	1.5	102	7.1	9.5	14.8	5	0.937	<0.027	0.40	0.047
30...	1440	5.5	118	6.7	6.5	10.5	<5	0.699	<0.027	0.60	0.066
APR 1997											
15...	0900	2.3	105	6.7	6.0	9.7	<5	1.56	0.023	0.50	0.031
29...	0840	2.0	106	6.9	11.0	8.8	6	0.890	0.052	0.70	0.063
MAY											
12...	1430	2.1	94	7.0	16.0	8.7	14	0.396	0.028	0.80	0.075
29...	0910	2.8	97	6.9	12.0	8.1	27	0.536	<0.040	0.80	0.120
JUN											
11...	0755	1.2	103	7.0	15.0	8.4	21	0.150	0.052	1.2	0.112
25...	0920	4.5	100	6.9	20.5	6.0	44	0.058	0.048	1.4	0.201
JUL											
09...	0900	1.9	96	7.1	14.0	8.8	22	0.146	0.029	0.60	0.107
23...	0845	1.1	99	7.1	18.0	8.0	10	0.053	0.040	0.63	0.090

WISCONSIN RIVER BASIN

05390685 MUSKELLUNGE CREEK NEAR ST. GERMAIN, WI (LAT 45 56 01N LONG 089 25 29W)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
SEP 1996			
26...	1545	8.1	0.037
OCT			
16...	1605	6.9	0.041
NOV			
26...	1110	9.8	0.044
DEC			
17...	1450	10	0.043
JAN 1997			
23...	1445	14	0.039
FEB			
19...	1730	10	0.043
MAR			
18...	1815	9.3	0.040
APR			
11...	1348	13	0.053
17...	1100	16	0.040
MAY			
06...	1535	12	0.067
JUN			
09...	1350	13	0.139
10...	1430	11	0.094
JUL			
09...	1450	11	0.132
AUG			
19...	1350	9.3	0.102
SEP			
04...	1425	8.2	0.105
OCT			
07...	1420	9.3	0.112

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

GRANT RIVER BASIN

05413449 RATTLESNAKE CREEK NEAR NORTH ANDOVER, WI (LAT 42 46 49N LONG 090 56 32W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	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 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)	
DEC 1996 03...	1050	17	--	--	--	--	--	--	--	--	--	--	
FEB 1997 21...	1630	1390	--	--	--	--	--	--	--	--	--	--	
MAY 28...	1100	15	8.1	74	44	7.8	1.4	323	26	24	0.17	12	
JUN 30...	1100	23	--	--	--	--	--	--	--	--	--	--	
AUG 01...	0930	17	8.3	81	43	8.6	3.3	336	26	28	0.21	11	
DATE		SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	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)
DEC 1996 03...	--	8.00	0.020	0.050	0.30	0.20	0.100	0.080	0.080	--	--	--	
FEB 1997 21...	--	1.30	0.100	3.10	9.9	6.0	2.20	1.60	1.40	--	--	--	
MAY 28...	435	5.79	0.092	0.093	0.39	0.39	0.129	0.111	0.114	6.6	40	2.2	
JUN 30...	--	6.00	0.093	0.039	0.40	0.50	0.249	0.201	0.185	--	--	4.3	
AUG 01...	461	5.98	0.050	0.035	0.60	0.29	0.228	0.183	0.193	6.5	49	3.2	

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

ROCK RIVER BASIN

05427270 KOSHKONONG CREEK NEAR SUN PRAIRIE, WI (LAT 43 08 58N LONG 089 14 13W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS. / 100 ML) (31625)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)
OCT 1996	18...	5.4	1330	7.1	13.5	2.8	5.7	737	27	2100	276
DEC 04...	0845	4.7	1510	7.3	7.5	2.9	9.6	747	26	400	325

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	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 STO2) (00955)	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)
OCT 1996											
18...	69	37	150	9.0	30	220	0.70	15	760	0.220	13.0
DEC											
04...	--	--	--	--	40	210	0.50	--	--	0.130	9.40

DATE	NITRO- GEN, AM- MONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS- (MG/L AS N) (00623)	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)	ARSENIC TOTAL (UG/L AS AS) (01002)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
OCT 1996										
18...	0.240	1.1	2.90	2.60	1.10	<1	150	<1	<1	<1
DEC										
04...	0.530	1.2	1.80	1.70	1.10	--	--	--	--	--

[illegible]

ROCK RIVER BASIN--CONTINUED

[illegible]

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

ROCK RIVER BASIN--CONTINUED

05427800 TOKEN CREEK NEAR MADISON, WI (LAT 43 10 52N LONG 089 19 28W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
APR 1997											
23...	0915	23	708	8.0	8.0	2.7	11.1	747	<10	90	--
JUN 04...	1100	20	724	8.0	12.5	6.8	10.7	746	<10	220	--
AUG 06...	0910	19	725	7.8	14.5	4.4	8.9	748	<10	730	480
SEP 03...	1000	19	732	8.0	11.5	3.0	9.8	755	<10	200	--

DATE	TIME	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	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)	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, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR 1997												
23...	298	--	--	--	--	--	25	32	0.11	--	--	0.021
JUN 04...	300	--	--	--	--	--	23	29	<0.10	--	--	0.036
AUG 06...	299	74	74	43	12	1.3	24	30	0.10	14	429	0.035
SEP 03...	300	--	--	--	--	--	24	32	0.17	--	--	0.030

DATE	TIME	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 DIS. (MG/L AS N) (00623)	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)	ARSENIC TOTAL (UG/L AS AS) (01002)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
APR 1997												
23...	7.17	<0.015	<0.015	0.20	0.195	<0.010	0.015	--	--	--	--	--
JUN 04...	7.40	0.049	0.049	<0.20	0.021	<0.010	0.030	--	--	--	--	--
AUG 06...	7.59	0.036	0.036	<0.20	0.035	0.015	0.031	<1	10	<1	1	<1
SEP 03...	7.81	0.020	0.020	<0.20	0.033	<0.010	0.019	--	--	--	--	--

DATE	TIME	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
APR 1997											
23...	--	--	--	--	--	--	--	--	--	--	39
JUN 04...	--	--	--	--	--	--	--	--	--	--	54
AUG 06...	<1	370	370	<3.0	<1	38	28	<0.10	<1	<10	44
SEP 03...	--	--	--	--	--	--	--	--	--	--	24

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)
SEP 1997					
03...	0625	728	7.9	12.5	9.3
03...	0655	731	7.9	12.0	9.5
03...	0725	731	7.9	12.0	9.5
03...	0755	731	8.0	12.0	9.7
03...	0825	732	8.0	11.5	9.8
03...	0855	732	8.0	11.5	10.2
03...	0925	732	8.0	12.0	10.5
03...	0955	732	8.0	12.0	10.8

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

ROCK RIVER BASIN--CONTINUED

05428650 EAST BRANCH STARKWEATHER CREEK AT MADISON, WI (LAT 43 05 57N LONG 089 19 54W)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
APR 1997											
24...	0950	1.0	966	7.9	10.0	1.5	13.5	744	20	70	--
JUN											
05...	1010	1.0	898	7.6	19.0	10	6.2	740	21	430	--
AUG											
06...	1145	2.0	675	7.4	20.5	24	4.7	749	38	1700	330
SEP											
04...	1100	1.0	875	7.5	16.5	19	5.0	757	28	1400	--

DATE	ALKA- LITY LAB (MG/L AS CAO3) (90410)	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)	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, NITRITE DIS- SOLVED (MG/L AS N) (00613)
APR 1997											
24...	300	--	--	--	--	46	110	0.15	--	--	0.034
JUN											
05...	297	--	--	--	--	35	82	0.15	--	--	0.162
AUG											
06...	219	56	29	32	3.6	27	62	0.13	6.9	397	0.151
SEP											
04...	286	--	--	--	--	33	86	0.26	--	--	0.234

DATE	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 DIS. (MG/L AS N) (00623)	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)	ARSENIC TOTAL (UG/L AS AS) (01002)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
APR 1997											
24...	2.94	0.135	0.39	0.058	<0.010	0.016	--	--	--	--	--
JUN											
05...	1.98	0.794	1.2	0.075	0.017	0.040	--	--	--	--	--
AUG											
06...	1.34	0.235	0.62	0.235	0.061	0.055	2	50	<1	2	<1
SEP											
04...	1.61	0.328	0.70	0.249	0.073	0.073	--	--	--	--	--

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	SEDI- MENT, SUS- PENDEd (MG/L) (80154)
APR 1997										
24...	--	--	--	--	--	--	--	--	--	15
JUN										
05...	--	--	--	--	--	--	--	--	--	107
AUG										
06...	5	1700	8.0	12	120	77	<0.10	3	30	26
SEP										
04...	--	--	--	--	--	--	--	--	--	52

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)
AUG 1997					
29...	0610	926	7.5	21.0	3.5
29...	0640	932	7.5	21.0	3.6
29...	0710	935	7.5	20.5	3.6
29...	0740	939	7.5	20.5	3.6
29...	0810	940	7.5	20.5	3.6
29...	0840	941	7.5	20.5	3.6
29...	0910	946	7.5	20.5	3.6
29...	0940	948	7.5	20.0	3.5
29...	1010	949	7.5	20.0	3.7

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

ROCK RIVER BASIN--CONTINUED

05429720 YAHARA RIVER NEAR STOUGHTON, WI (LAT 42 52 52N LONG 089 12 39W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)
APR 1997											
24...	1415	433	520	8.7	10.5	3.0	12.3	744	29	130	--
JUN 04...	0805	171	533	8.7	20.0	3.8	9.5	747	11	K42	--
AUG 05...	1110	257	485	8.7	24.5	4.0	9.0	751	26	370	82
SEP 05...	0930	156	494	8.8	19.5	8.0	9.7	753	31	29	--

DATE	ALKALINITY LAB (MG/L AS CaCO3) (90410)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS Cl) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR 1997											
24...	198	--	--	--	--	21	40	0.12	--	--	0.029
JUN 04...	318	--	--	--	--	97	34	0.13	--	--	0.156
AUG 05...	169	30	31	21	3.2	19	42	0.11	8.9	292	0.019
SEP 05...	175	--	--	--	--	19	45	0.11	--	--	0.022

DATE	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ARSENIC TOTAL (UG/L AS AS) (01002)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	CADMIUM, WATER UNFLTRD TOTAL (UG/L AS Cd) (01027)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS Cr) (01034)	COBALT, TOTAL RECOVERABLE (UG/L AS Co) (01037)
APR 1997											
24...	0.750	0.182	0.76	0.102	0.015	0.012	--	--	--	--	--
JUN 04...	3.48	0.456	1.1	0.137	0.023	0.037	--	--	--	--	--
AUG 05...	0.237	0.019	0.55	0.093	<0.010	<0.010	2	20	<1	<1	<1
SEP 05...	0.334	0.035	0.60	0.108	<0.010	<0.010	--	--	--	--	--

DATE	COPPER, TOTAL RECOVERABLE (UG/L AS Cu) (01042)	IRON, TOTAL RECOVERABLE (UG/L AS Fe) (01045)	IRON, DIS-SOLVED (UG/L AS Fe) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS Pb) (01051)	MANGANESE, TOTAL RECOVERABLE (UG/L AS Mn) (01055)	MANGANESE, DIS-SOLVED (UG/L AS Mn) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS Hg) (71900)	NICKEL, TOTAL RECOVERABLE (UG/L AS Ni) (01067)	ZINC, TOTAL RECOVERABLE (UG/L AS Zn) (01092)	SEDIMENT, SUSPENDED (MG/L) (80154)
APR 1997										
24...	--	--	--	--	--	--	--	--	--	9
JUN 04...	--	--	--	--	--	--	--	--	--	10
AUG 05...	<1	160	3.9	1	46	<1.0	<0.10	<1	<10	15
SEP 05...	--	--	--	--	--	--	--	--	--	13

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)
SEP 1997					
05...	0620	490	8.8	20.0	9.4
05...	0650	491	8.8	20.0	9.5
05...	0720	492	8.8	19.5	9.5
05...	0750	492	8.8	19.5	9.4
05...	0820	494	8.8	19.5	9.6
05...	0850	494	8.8	19.5	9.5
05...	0920	495	8.8	19.5	9.7
05...	0950	496	8.8	19.5	9.9

MISCELLANEOUS WATER-QUALITY DATA, OCTOBER TO DECEMBER 1997

ROCK RIVER BASIN--CONTINUED

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	ALKA- LITY LAB (MG/L AS CACO3) (90410)
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05427800 TOKEN CREEK NEAR MADISON, WI (LAT 43 10 52N LONG 089 19 28W)--CONTINUED

OCT 1997											
08...	0830	19	717	7.8	14.0	2.3	8.2	746	<10	200	301
DEC											
02...	1010	18	701	7.9	5.5	0.68	11.3	748	<10	67	304

05428650 EAST BRANCH STARKWEATHER CREEK AT MADISON, WI (LAT 43 05 57N LONG 089 19 54W)--CONTINUED

OCT 1997											
09...	1140	2.4	748	7.6	19.0	1.0	7.3	747	10	770	295
DEC											
02...	1335	1.5	718	7.5	3.0	4.6	9.6	748	15	100	201

05429720 YAHARA RIVER NEAR STOUGHTON, WI (LAT 42 52 52N LONG 089 12 39W)--CONTINUED

OCT 1997											
08...	1120	124	500	8.7	21.5	4.7	9.1	746	26	700	175
DEC											
01...	1145	257	510	8.5	3.5	1.2	13.0	749	17	1900	193

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)	NITRO- GEN, NITRITE SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
------	--	--	---	--	--	--	---	---	--	--	--

05427800 TOKEN CREEK NEAR MADISON, WI (LAT 43 10 52N LONG 089 19 28W)--CONTINUED

OCT 1997											
08...	24	32	0.16	0.048	7.83	0.032	<0.20	0.029	0.033	0.027	16
DEC											
02...	25	31	<0.10	0.030	6.83	<0.020	0.13	<0.010	<0.010	0.020	17

05428650 EAST BRANCH STARKWEATHER CREEK AT MADISON, WI (LAT 43 05 57N LONG 089 19 54W)--CONTINUED

OCT 1997											
09...	27	54	0.67	0.116	1.16	0.030	0.49	0.090	0.060	<0.010	19
DEC											
02...	28	98	0.13	0.045	2.26	0.331	0.60	0.082	0.060	0.037	12

05429720 YAHARA RIVER NEAR STOUGHTON, WI (LAT 42 52 52N LONG 089 12 39W)--CONTINUED

OCT 1997											
08...	19	48	0.15	0.037	0.333	0.058	0.57	0.079	<0.010	<0.010	16
DEC											
01...	20	45	0.10	0.019	0.664	0.234	0.72	0.031	0.018	0.027	3

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

ROCK RIVER BASIN--CONTINUED

05430175 YAHARA RIVER AT STATE HIGH 59 NEAR FULTON, WI (LAT 42 49 50N LONG 89 10 18W)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	ACETO- CHLOR, WATER, UNFLTRD REC (UG/L) (49259)	ALA- CHLOR TOTAL RECOVER (UG/L) (77825)	ALA- CHLOR (ELISA) WAT FLT GF, REC (UG/L) (82695)	ATRA- ZINE WATER UNFLTRD REC (UG/L) (39630)
MAY 1997							
13...	1040	419	6.48	<0.10	<0.150	4.2	<0.150
20...	1005	351	3.18	<0.10	<0.150	1.2	<0.150
27...	0930	311	3.21	<0.10	<0.150	1.4	<0.150
JUN							
03...	0930	302	3.73	<0.10	<0.150	<1.0	<0.150
10...	0925	200	5.32	<0.10	<0.150	1.7	<0.150
16...	1010	623	--	0.38	<0.150	--	0.687
17...	0900	331	5.60	1.4	0.330	4.3	0.219
21...	1435	508	3.28	0.34	<0.150	2.0	0.182
25...	0900	466	2.32	<0.10	<0.150	2.6	0.219
JUL							
01...	0935	326	3.12	<0.10	<0.150	1.4	<0.150
08...	0945	222	4.99	<0.10	<0.150	1.2	<0.150
15...	0940	258	2.93	<0.10	<0.150	1.4	<0.150
21...	1010	334	2.91	<0.10	<0.150	<1.0	<0.150
22...	0930	302	3.14	<0.10	<0.150	<1.0	<0.150
28...	1105	481	4.81	<0.10	<0.150	5.6	<0.150
AUG							
14...	1040	290	2.97	<0.10	<0.150	<1.0	<0.150
SEP							
15...	1420	241	3.36	<0.10	<0.150	1.9	<0.150

DATE	CYAN- AZINE TOTAL (UG/L) (81757)	DEETHYL ATRA- ZINE, WATER, WHOLE, TOTAL (UG/L) (75981)	DEETHYL DE-ISO PROPYL ATRAZIN WAT, WH TOTAL (UG/L) (75979)	DE-ISO PROPYL ATRAZIN WATER, WHOLE, TOTAL (UG/L) (75980)	METOLA- CHLOR WATER WHOLE TOT.REC (UG/L) (82612)	METRI- BUZIN WATER WHOLE TOT.REC (UG/L) (82611)
MAY 1997						
13...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
20...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
27...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
JUN						
03...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
10...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
16...	1.48	<0.300	<1	<0.300	2.27	0.106
17...	2.12	<0.300	<1	<0.300	1.35	<0.050
21...	<0.500	<0.300	<1	<0.300	0.260	<0.050
25...	2.15	<0.300	<1	<0.300	0.874	<0.050
JUL						
01...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
08...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
15...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
21...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
22...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
28...	<0.500	<0.300	1	<0.300	<0.250	<0.050
AUG						
14...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
SEP						
15...	<0.500	<0.300	<1	<0.300	<0.250	<0.050

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

ROCK RIVER BASIN--CONTINUED

05434500 PECATONICA RIVER AT MARTINTOWN, WI (LAT 42 30 34N LONG 89 47 58W)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	ACETO- CHLOR, WATER, UNFLTRD REC (UG/L) (49259)	ALA- CHLOR TOTAL RECOVER (UG/L) (77825)	ALA- CHLOR (ELISA) WAT FLT 0.7 U GF, REC (UG/L) (82695)	ATRA- ZINE WATER UNFLTRD REC (UG/L) (39630)
MAY 1997							
13...	0900	760	3.69	<0.10	<0.150	<1.0	<0.150
20...	1205	684	3.34	0.10	<0.150	<1.0	0.199
27...	1135	585	3.64	<0.10	<0.150	1.6	<0.150
JUN							
03...	1120	538	3.38	<0.10	<0.150	1.6	<0.150
07...	1040	617	3.98	<0.10	<0.150	<1.0	1.00
10...	1110	546	3.69	<0.10	<0.150	<1.0	0.223
16...	1155	955	4.20	0.91	<0.150	1.8	2.64
17...	1045	1320	5.09	0.93	0.459	2.4	4.92
18...	0955	1420	4.39	0.52	<0.150	1.7	5.87
21...	1615	1380	1.72	0.58	<0.150	<1.0	1.98
22...	1430	1500	4.11	0.81	<0.150	1.5	3.81
25...	1105	1090	4.43	<0.10	<0.150	1.4	1.44
JUL							
01...	1110	737	4.28	<0.10	<0.150	<1.0	0.570
08...	1125	580	4.50	<0.10	<0.150	<1.0	0.226
15...	1115	536	4.06	<0.10	<0.150	<1.0	<0.150
21...	1225	656	3.87	<0.10	<0.150	1.6	<0.150
22...	1110	641	3.69	<0.10	<0.150	<1.0	<0.150
28...	1235	771	3.57	<0.10	<0.150	<1.0	<0.150
AUG							
14...	1245	678	3.74	<0.10	<0.150	<1.0	<0.150
SEP							
15...	1555	464	4.04	<0.10	<0.150	<1.0	<0.150

DATE	CYAN- AZINE TOTAL (UG/L) (81757)	DEETHYL ATRA- ZINE, WATER, WHOLE, TOTAL (UG/L) (75981)	DEETHYL DE-ISO PROPYL ATRAZIN WAT, WH TOTAL (UG/L) (75979)	DE-ISO PROPYL ATRAZIN WATER, WHOLE, TOTAL (UG/L) (75980)	METOLA- CHLOR WATER WHOLE TOT. REC (UG/L) (82612)	METRI- BUZIN WATER WHOLE TOT. REC (UG/L) (82611)
MAY 1997						
13...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
20...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
27...	<0.500	<0.300	1	<0.300	<0.250	0.050
JUN						
03...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
07...	0.770	0.372	<1	<0.300	1.01	<0.050
10...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
16...	2.62	0.697	1	0.530	2.58	0.086
17...	3.76	0.736	<1	0.338	4.54	<0.050
18...	1.10	0.791	<1	0.397	11.6	<0.050
21...	1.91	0.500	<1	0.416	1.20	<0.050
22...	2.59	0.773	<1	<0.300	2.43	<0.050
25...	0.991	0.482	<1	<0.300	1.29	<0.050
JUL						
01...	<0.500	0.325	<1	<0.300	0.428	<0.050
08...	<0.500	0.316	1	<0.300	0.305	<0.050
15...	<0.500	<0.300	1	<0.300	<0.250	<0.050
21...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
22...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
28...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
AUG						
14...	<0.500	<0.300	<1	<0.300	<0.250	<0.050
SEP						
15...	<0.500	<0.300	<1	<0.300	<0.250	<0.050

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

ROCK RIVER BASIN--CONTINUED

05435980 WEST BRANCH SUGAR RIVER NEAR MT. VERNON, WI (LAT 42 54 47N LONG 89 37 19W)

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)
		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)	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, NITRITE DIS- SOLVED (MG/L AS N) (00613)
OCT 1996 17...	0930	20	665	7.4	13.5	4.8	8.5	731	<10	5100	274
DEC 04...	1215	14	658	8.2	2.0	1.1	15.1	747	<10	180	280
OCT 1996 17...	64	37	15	3.4	19	29	0.10	8.2	322	0.080	5.70
DEC 04...	--	--	--	--	19	28	0.10	--	--	0.030	5.80
DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS- (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTH- DIS- SOLVED (MG/L AS P) (00671)	ARSENIC TOTAL (UG/L AS AS) (01002)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	
OCT 1996 17...	0.060	0.30	0.210	0.190	0.200	<1	30	<1	<1	1	
DEC 04...	0.030	0.30	0.150	0.140	0.140	--	--	--	--	--	
DATE	COPPER, TOTAL RECov- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECov- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECov- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECov- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECov- ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECov- ERABLE (UG/L AS NI) (01067)	ZINC, TOTAL RECov- ERABLE (UG/L AS ZN) (01092)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	
OCT 1996 17...	2	570	28	<1	70	56	<0.10	2	<10	29	
DEC 04...	--	--	--	--	--	--	--	--	--	47	

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

ILLINOIS RIVER BASIN

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
05544379 MUSKEGO CANAL AT MUSKEGO, WI (LAT 42 54 26N LONG 088 08 28W)			
JUN 1997			
16...	1100	15	0.017
AUG			
25...	1545	--	0.030
SEP			
24...	1710	2.0	0.022
05544381 MUSKEGO LAKE TRIBUTARY 1 AT CTH Y NR MUSKEGO, WI (LAT 42 53 33N LONG 088 08 33W)			
JUN 1997			
16...	1130	11	0.145
05544383 MUSKEGO LAKE TRIBUTARY 2 AT CTH Y NR MUSKEGO, WI (LAT 42 52 54N LONG 088 08 40W)			
JUN 1997			
16...	1200	11	0.045
05544384 MUSKEGO LAKE TRIB 3 @ STATE HWY 36 NR MUSKEGO, WI (LAT 42 51 43N LONG 088 05 25W)			
JUN 1997			
16...	1300	9.8	0.120

The purpose of this sampling was to determine concentrations of trace elements and synthetic organic compounds in biological tissues. The following biota were collected: common carp (*Cyprinus carpio*), white sucker (*Catostomus commersoni*), and caddisfly larvae (caddisfly larvae at stations 04077100 and 04075050 were *Hydropsyche/Ceratopsyche* spp.; *Cheumatopsyche* sp. were at station 04072050). Concentrations of trace elements are in dry weight (DRY WGT) for composite samples of fish livers and whole caddisfly larvae. Concentrations of synthetic organic compounds are in wet weight (WW) for whole fish (WH ORG); however, concentrations of synthetic organic compounds in common carp are for whole carp minus a small portion of liver used for the trace element composite. (SDEV = Standard deviation; N = number of biota in composite sample). Collection methods reference: Crawford, J.K., and Luoma, S.N., 1993, Guidelines for studies of contaminants in biological tissues for the National Water-Quality Assessment Program: U.S. Geological Survey Open-File Report 92-494, 69 p. Analysis methods references: Hoffman, G.L., 1996, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory - preparation procedure for aquatic biological material determined for trace metals: U.S. Geological Survey Open-File Report 96-362, 42 p.; and Leiker, T.J., Madsen, J.E., Deacon, J.R., and Foreman, W.T., 1995, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory - determination of chlorinated pesticides in aquatic tissue by capillary-column gas chromatography with electron-capture detection: U.S. Geological Survey Open-File Report 94-710, 42 p.

CONCENTRATIONS OF TRACE ELEMENTS AND SYNTHETIC ORGANIC COMPOUNDS IN BIOLOGICAL TISSUE FROM SELECTED SITES IN THE WESTERN LAKE MICHIGAN BASIN (NATIONAL WATER-QUALITY ASSESSMENT PROGRAM)

STATION NUMBERS		STATION NAME		DATE		ORGANISM	
04072050		Duck Creek at Seminary Road near Oneida		08-12-97		White sucker	
04072050		Duck Creek at Seminary Road near Oneida		08-13-97		Caddisfly	
04075050		Wolf River at Highway M near Langlade		09-11-97		White sucker	
04075050		Wolf River at Highway M near Langlade		09-11-97		Caddisfly	
04077100		Wolf River at Keshena		09-10-97		White sucker	
04077100		Wolf River at Keshena		09-11-97		Caddisfly	
04087000		Milwaukee River at Milwaukee		08-19-97		Common carp	

STATION NUMBER	ORGANISM	DATE	TOTAL LENGTH (FISH ONLY)				N	WATER, PRESENT BIO TIS DRY WGT REC (49273)	ALUMI-NUM, BIOTA, TISSUE, DRY WGT REC (49237)	ANTI-MONY, BIOTA, TISSUE, DRY WGT REC (49246)	ARSENIC, BIOTA, TISSUE, DRY WGT REC (49247)	BARIUM, BIOTA, TISSUE, DRY WGT REC (49238)
			MEAN (MM)	SDEV (MM)	MIN (MM)	MAX (MM)						
04072050	White sucker	08-12-97	174	9	149	221	14	--	--	--	--	--
	Caddisfly	08-13-97	--	--	--	--	750	77	1300	<0.2	0.7	17
04075050	White sucker	09-11-97	184	69	129	362	20	83	1.1	<0.5	<0.5	0.2
	Caddisfly	09-11-97	--	--	--	--	642	79	240	<0.2	1.3	17
04077100	White sucker	09-10-97	236	29	198	271	13	82	<0.2	<0.4	<0.4	0.1
	Caddisfly	09-11-97	--	--	--	--	921	86	320	<0.8	1.5	68
04087000	Common carp	08-19-97	531	32	485	559	4	71	<1.0	<0.1	0.4	0.1

STATION NUMBER	DATE	BERYL-LIUM-, BIOTA, TISSUE, DRY WGT REC (49248)	BORON, BIOTA, TISSUE, DRY WGT REC (49239)	CADMIUM, BIOTA, TISSUE, DRY WGT REC (49249)	CHROM-IUM-, BIOTA, TISSUE, DRY WGT REC (49240)	COBALT, BIOTA, TISSUE, DRY WGT REC (49250)	COPPER, BIOTA, TISSUE, DRY WGT REC (49241)	IRON, BIOTA, TISSUE, DRY WGT REC (49242)	LEAD, BIOTA, TISSUE, DRY WGT REC (49251)	MANGAN-ESE, BIOTA, TISSUE, DRY WGT REC (49243)	MERCURY, BIOTA, TISSUE, DRY WGT REC (49258)
04072050	08-12-97	--	--	--	--	--	--	--	--	--	--
	08-13-97	<0.2	2.2	<0.2	3.3	1.1	20	2000	1.2	660	0.1
04075050	09-11-97	<0.5	1.0	<0.5	0.7	<0.5	4.1	720	<0.5	4.5	<0.0
	09-11-97	<0.2	3.2	<0.2	1.9	0.3	10	1000	0.5	1200	0.0
04077100	09-10-97	<0.4	0.5	<0.4	0.7	<0.4	59	720	<0.4	18	0.0
	09-11-97	<0.8	3.9	<0.8	2.5	<0.8	13	1300	0.9	940	<0.0
04087000	08-19-97	<0.1	<0.2	0.8	<0.5	<0.1	47	820	0.3	4.2	0.2

CONCENTRATIONS OF TRACE ELEMENTS AND SYNTHETIC ORGANIC COMPOUNDS IN BIOLOGICAL TISSUE FROM SELECTED SITES
IN THE WESTERN LAKE MICHIGAN BASIN (NATIONAL WATER-QUALITY ASSESSMENT PROGRAM)--CONTINUED

STATION NUMBER	DATE	MOLYB- DENUM, BIOTA, TISSUE, DRY WGT	NICKEL, BIOTA, TISSUE, DRY WGT	SELEN- IUM, BIOTA, TISSUE, DRY WGT	SILVER, BIOTA, TISSUE, DRY WGT	STRON- TIUM, BIOTA, TISSUE, DRY WGT	URANIUM BIOTA, TISSUE, DRY WGT	VANA- DIUM BIO TIS LIVER DRY WGT	ZINC, BIOTA, TISSUE, DRY WGT	PCB, BIOTA, WH ORG WW, REC	LIPIDS, BIOTA, WH ORG WW, REC
		REC (UG/G) (49252)	REC (UG/G) (49253)	REC (UG/G) (49254)	REC (UG/G) (49255)	REC (UG/G) (49244)	REC (UG/G) (49257)	REC (UG/G) (49465)	REC (UG/G) (49245)	(UG/KG) (49354)	PERCENT (49289)
04072050	08-12-97	--	--	--	--	--	--	--	--	<50.0	1.00
	08-13-97	0.8	2.3	1.1	<0.2	31	<0.2	3.8	88	--	--
04075050	09-11-97	<0.5	<0.5	2.5	<0.5	0.2	<0.5	<0.5	58	--	--
	09-11-97	1.6	0.3	0.7	<0.2	1.4	0.3	1.5	110	--	--
04077100	09-10-97	0.9	<0.4	3.7	0.5	0.1	<0.4	<0.4	110	--	--
	09-11-97	1.9	<0.8	<0.8	<0.8	1.4	<0.8	2.0	140	--	--
04087000	08-19-97	0.6	<0.1	4.6	0.3	0.7	<0.1	0.4	860	6800	8.40
STATION NUMBER	DATE	ALDRIN, BIOTA, WH ORG WW, REC	ALPHA- BHC, BIOTA, WH ORG WW, REC	ALPHA- BHC, D6 SURROGT BIOTA, WH ORG WW, REC	BENZENE HEXA- CHLORO- BIOTA, WH ORG WW, REC	BETA- BHC, BIOTA, WH ORG WW, REC	BIPHENYL 35DICHL SURROGT BIOTA, WH ORG WW, REC	CIS- CHLOR- DANE, BIOTA, WH ORG WW, REC	CIS- NONA- CHLOR, BIOTA, WH ORG WW, REC	DCPA, BIOTA, WH ORG WW, REC	DELTA- BHC, BIOTA, WH ORG WW, REC
		(UG/KG) (49353)	(UG/KG) (49366)	PERCENT (49261)	(UG/KG) (49367)	(UG/KG) (49365)	PERCENT (49264)	(UG/KG) (49380)	(UG/KG) (49359)	(UG/KG) (49378)	(UG/KG) (49364)
04072050	08-12-97	<5.00	<5.00	83.0	<5.00	<5.00	44.0	<5.00	<5.00	<5.00	<5.00
	08-13-97	--	--	--	--	--	--	--	--	--	--
04075050	09-11-97	--	--	--	--	--	--	--	--	--	--
	09-11-97	--	--	--	--	--	--	--	--	--	--
04077100	09-10-97	--	--	--	--	--	--	--	--	--	--
	09-11-97	--	--	--	--	--	--	--	--	--	--
04087000	08-19-97	<5.00	<5.00	93.0	<5.00	<5.00	94.0	20.0	E4.70	<5.00	<5.00
STATION NUMBER	DATE	DIEL- DRIN, BIOTA, WH ORG WW, REC	ENDRIN, BIOTA, WH ORG WW, REC	HEPTA- CHLOR, BIOTA, WH ORG WW, REC	HEPTA- CHLOR EPOXIDE BIOTA, WH ORG WW, REC	LINDANE BIOTA, WH ORG WW, REC	METHOXY CHLOR, O, P'-, BIOTA, WH ORG WW, REC	METHOXY CHLOR, P, P'-, BIOTA, WH ORG WW, REC	MIREX, BIOTA, WH ORG WW, REC	O, P'- DDD, BIOTA, WH ORG WW, REC	O, P'- DDE, BIOTA, WH ORG WW, REC
		(UG/KG) (49371)	(UG/KG) (49370)	(UG/KG) (49369)	(UG/KG) (49368)	(UG/KG) (49363)	(UG/KG) (49362)	(UG/KG) (49361)	(UG/KG) (49360)	(UG/KG) (49374)	(UG/KG) (49373)
04072050	08-12-97	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
	08-13-97	--	--	--	--	--	--	--	--	--	--
04075050	09-11-97	--	--	--	--	--	--	--	--	--	--
	09-11-97	--	--	--	--	--	--	--	--	--	--
04077100	09-10-97	--	--	--	--	--	--	--	--	--	--
	09-11-97	--	--	--	--	--	--	--	--	--	--
04087000	08-19-97	8.60	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	13.0	<5.00
STATION NUMBER	DATE	O, P'- DDT, BIOTA, WH ORG WW, REC	OXY- CHLOR DANE, BIOTA, WH ORG WW, REC	PENTA CHLORO ANISOLE BIOTA, WH ORG WW, REC	P, P'- DDD, BIOTA, WH ORG WW, REC	P, P'- DDE, BIOTA, WH ORG WW, REC	P, P'- DDT, BIOTA, WH ORG WW, REC	TOXA- PHENE, BIOTA, WH ORG WW, REC	TRANS- CHLOR- DANE, BIOTA, WH ORG WW, REC	TRANS- NONA- CHLOR, BIOTA, WH ORG WW, REC	
		(UG/KG) (49377)	(UG/KG) (49357)	(UG/KG) (49356)	(UG/KG) (49375)	(UG/KG) (49372)	(UG/KG) (49376)	(UG/KG) (49355)	(UG/KG) (49379)	(UG/KG) (49358)	
04072050	08-12-97	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<200	<5.00	<5.00	
	08-13-97	--	--	--	--	--	--	--	--	--	
04075050	09-11-97	--	--	--	--	--	--	--	--	--	
	09-11-97	--	--	--	--	--	--	--	--	--	
04077100	09-10-97	--	--	--	--	--	--	--	--	--	
	09-11-97	--	--	--	--	--	--	--	--	--	
04087000	08-19-97	<5.00	<5.00	<5.00	114	300	9.40	<200	9.30	15.0	

E Estimated

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

CONCENTRATIONS OF TRACE ELEMENTS AND SYNTHETIC ORGANIC COMPOUNDS IN BOTTOM SEDIMENTS FROM SELECTED SITES IN THE WESTERN LAKE MICHIGAN BASIN (NATIONAL WATER-QUALITY ASSESSMENT PROGRAM)

Concentrations of trace elements and synthetic organic compounds in streambed sediment (BOT MAT) are for samples composited from depositional areas of rivers and collected according to National Water-Quality Assessment Program methods described in Shelton and Capel (1994). Sampling was done with plastic (Teflon, polypropylene, or polyethylene) equipment for trace elements; Teflon, stainless steel, aluminum, or glass equipment was used for synthetic organic compounds. The composited trace element sample was homogenized and a bulk sediment sample (<2 mm) collected for particle-size determination. The rest of the composite was wet-sieved (WS) in the field through 63 micron mesh for trace element analysis. Concentrations of trace elements are in dry weight. The composite for synthetic organic compound analysis was for the fraction <2 mm, wet sieved in the field, and concentrations are in dry weight (DW). Methods used by the U.S. Geological Survey National Water-Quality Laboratory to determine concentrations of trace elements and synthetic organic compounds in streambed sediment are given in separate publications (Faires, 1993; Fishman, 1993; Foreman and others, 1995; Furlong and others, 1996).

04072050 DUCK CREEK AT SEMINARY ROAD NEAR ONEIDA, WI (LAT 44 27 57N LONG 088 13 08W)

DATE	CALCIUM BOT MAT <63U WS FIELD PERCENT (34830)	MAGNE- SIUM BOT MAT <63U WS FIELD PERCENT (34900)	SODIUM BOT MAT <63U WS FIELD PERCENT (34960)	POTAS- SIUM BOT MAT <63U WS FIELD PERCENT (34940)	SULFUR BOT MAT <63U WS FIELD (UG/G) (34970)	PHOS- PHORUS BOT MAT <63U WS FIELD PERCENT (34935)	ALUM- INUM BOT MAT <63U WS FIELD PERCENT (34790)	ANTI- MONY BOT MAT <63U WS FIELD (UG/G) (34795)	ARSENIC BOT MAT <63U WS FIELD (UG/G) (34800)	BARIUM BOT MAT <63U WS FIELD (UG/G) (34805)	BERYL- LIUM BOT MAT <63U WS FIELD (UG/G) (34810)	BISMUTH BOT MAT <180UWS FIELD (UG/G) (34816)
AUG 1997 13...	3.4	1.8	0.76	2.8	0.14	0.16	5.7	0.4	3.0	490	1	<10
DATE	CERIUM BOT MAT <63U WS FIELD (UG/G) (34835)	CHRO- MIUM BOT MAT <63U WS FIELD (UG/G) (34840)	COBALT BOT MAT <63U WS FIELD (UG/G) (34845)	COPPER BOT MAT <63U WS FIELD (UG/G) (34850)	EURO- PIUM BOT MAT <63U WS FIELD (UG/G) (34855)	GALLIUM BOT MAT <63U WS FIELD (UG/G) (34860)	GOLD BOT MAT <63U WS FIELD (UG/G) (34870)	HOLMIUM BOT MAT <63U WS FIELD (UG/G) (34875)	IRON BOT MAT <63U WS FIELD PERCENT (34880)	LANTHA- NUM BOT MAT <63U WS FIELD (UG/G) (34885)	LEAD BOT MAT <63U WS FIELD (UG/G) (34890)	LITHIUM BOT MAT <63U WS FIELD (UG/G) (34895)
AUG 1997 13...	54	57	13	23	<2	11	<8	<4	3.2	30	19	21
DATE	MANGA- NESE BOT MAT <63U WS FIELD (UG/G) (34905)	MOLYB- DENUM BOT MAT <63U WS FIELD (UG/G) (34915)	NEODYM- IUM BOT MAT <63U WS FIELD (UG/G) (34920)	NICKEL BOT MAT <63U WS FIELD (UG/G) (34925)	NIOBIUM BOT MAT <63U WS FIELD (UG/G) (34930)	SCAN- DIUM BOT MAT <63U WS FIELD (UG/G) (34945)	SELE- NIUM BOT MAT <63U WS FIELD (UG/G) (34950)	STRON- TIUM BOT MAT <63U WS FIELD (UG/G) (34965)	TANTA- LUM BOT MAT <63U WS FIELD (UG/G) (34975)	TIN BOT MAT <63U WS FIELD (UG/G) (34985)	TITA- NIUM, SED, BM WS, <63U DRY WGT REC PERCENT (49274)	VANA- DIUM BOT MAT <63U WS FIELD (UG/G) (35005)
AUG 1997 13...	750	<2	27	25	6	10	0.7	190	<40	<5	0.340	73
DATE	YTTRIUM BOT MAT <63U WS FIELD (UG/G) (35010)	YTTER- BIUM BOT MAT <63U WS FIELD (UG/G) (35015)	ZINC BOT MAT <63U WS FIELD (UG/G) (35020)	CARBON, ORGANIC SED, BM WS, <63U DW, REC (PER- CENT) (49266)	CARBON, ORG + INORG, SED, BM WS, <63U DW, REC PERCENT (49267)	CARBON, INORG, SED, BM WS, <63U DW, REC (PER- CENT) (49269)	PCB, SED, BM WS, <2MM DW, REC (UG/KG) (49459)	ACENAPH- THENE SED, BM WS, <2MM DW, REC (UG/KG) (49429)	ACENAPH- THYLENE SED, BM WS, <2MM DW, REC (UG/KG) (49428)	ACRI- DINE SED, BM WS, <2MM DW, REC (UG/KG) (49430)	ALDRIN, SED, BM WS, <2MM DW, REC (UG/KG) (49319)	ALPHA- BHC, SED, BM WS, <2MM DW, REC (UG/KG) (49338)
AUG 1997 13...	27	2	89	3.54	4.64	1.10	<50	<50	<50	<50	<50	<1.0
DATE	ALPHA- BHC, D6 SURROGT SED, BM WS, <2MM DW, REC PERCENT (49275)	ANTHRA- CENE SED, BM WS, <2MM DW, REC (UG/KG) (49434)	AZO- BENZENE SED, BM WS, <2MM DW, REC (UG/KG) (49443)	BENZO (A) PYRENE SED, BM WS, <2MM DW, REC (UG/KG) (49389)	BENZ (A) ANTHRA- CENE SED, BM WS, <2MM DW, REC (UG/KG) (49436)	BENZENE HEXA- CHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49343)	BENZENE M-DI- CHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49441)	BENZENE NITRO- SED, BM WS, <2MM DW, REC (UG/KG) (49444)	BENZENE NITROD5 SURROGT SED, BM WS, <2MM DW, REC PERCENT (49280)	BENZENE O-DI- CHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49439)	BENZENE 124TRI- CHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49438)	BENZENE P-DI- CHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49442)
AUG 1997 13...	84.0	<50	<50	<50	<50	<1.00	<50	<50	57.4	<50	<50	<50

CONCENTRATIONS OF TRACE ELEMENTS AND SYNTHETIC ORGANIC COMPOUNDS IN BOTTOM SEDIMENTS FROM SELECTED SITES IN THE WESTERN LAKE MICHIGAN BASIN (NATIONAL WATER-QUALITY ASSESSMENT PROGRAM)--CONTINUED

04072050 DUCK CREEK AT SEMINARY ROAD NEAR ONEIDA, WI (LAT 44 27 57N LONG 088 13 08W)--CONTINUED

DATE	BENZENE PNTCHLR NITRO- SED, BM WS, <2MM DW, REC (UG/KG) (49446)	BENZOB FLUOR- ANTHENE SED, BM WS, <2MM DW, REC (UG/KG) (49458)	BENZOC NOLINE BED MAT WS <2MM DRY WGT REC (UG/KG) (49468)	BENZO(G HI)PERY LENE SED, BM WS, <2MM DW, REC (UG/KG) (49408)	BENZO K FLUOR- ANTHENE SED, BM WS, <2MM DW, REC (UG/KG) (49397)	BIPHENL 35DICHR SURROGT SED, BM WS, <2MM DW, REC PERCENT (49277)	BIPHENL 2FLUORO SURROGT SED, BM WS, <2MM DW, REC PERCENT (49279)	CARBA- ZOLE SED, BM WS, <2MM DW, REC (UG/KG) (49449)	CHLORO- NEB, SED, BM WS, <2MM DW, REC (UG/KG) (49322)	CHRY- SENE SED, BM WS, <2MM DW, REC (UG/KG) (49450)	CIS- CHLOR- DANE, SED, BM WS, <2MM DW, REC (UG/KG) (49320)
AUG 1997 13...	<50	<50	<50	E19	<50	106	66.3	<50	<5.00	<50	<1.00
DATE	CIS- NONA- CHLOR, SED, BM WS, <2MM DW, REC (UG/KG) (49316)	CIS- PER- METHRIN SED, BM WS, <2MM DW, REC (UG/KG) (49349)	DCPA, SED, BM WS, <2MM DW, REC (UG/KG) (49324)	DIBENZ (AH), AN THRACEN SED, BM WS, <2MM DW, REC (UG/KG) (49461)	DIEL- DRIN, SED, BM WS, <2MM DW, REC (UG/KG) (49331)	DIPHNYL AMINE, N NITROSO SED, BM WS, <2MM DW, REC (UG/KG) (49433)	DIPROPYL AMINE, N NITROSO SED, BM WS, <2MM DW, REC (UG/KG) (49431)	FLUOR- ANTHENE BED MAT WS <2MM DRY WGT REC (UG/KG) (49466)	4-BROMO PHNPHNL ETHER SED, BM WS, <2MM DW, REC (UG/KG) (49454)	4CHLORO PHNPHNL LETHRE SED, BM WS, <2MM DW, REC (UG/KG) (49455)	4HCYPEN PHENAN THRENE SED, BM WS, <2MM DW, REC (UG/KG) (49411)
AUG 1997 13...	<1.00	<5.00	<5.00	<50	<1.00	<50	<50	E13	<50	<50	<50
DATE	HEPTA- CHLOR, SED, BM WS, <2MM DW, REC (UG/KG) (49341)	HEPTA- CHLOR EPOXIDE SED, BM WS, <2MM DW, REC (UG/KG) (49342)	INDENO 123-CD SED, BM WS, <2MM DW, REC (UG/KG) (49390)	ISODRIN SED, BM WS, <2MM DW, REC (UG/KG) (49344)	ISO- QUINO- LINE, SED, BM WS, <2MM DW, REC (UG/KG) (49394)	ISOPHOR ONE SED, BM WS, <2MM DW, REC (UG/KG) (49400)	LINDANE SED, BM WS, <2MM DW, REC (UG/KG) (49345)	M-CRE- SOL, 4- CHLORO- O, P'-, SED, BM WS, <2MM DW, REC (UG/KG) (49422)	METHOXY CHLOR, O, P'-, SED, BM WS, <2MM DW, REC (UG/KG) (49347)	MIREX, SED, BM WS, <2MM DW, REC (UG/KG) (49348)	METHANE 2CHLORO ETHOXY SED, BM WS, <2MM DW, REC (UG/KG) (49401)
AUG 1997 13...	<1.00	<1.00	<50	<1.00	<50	<50	<1.00	<50	<5.00	<1.00	<50
DATE	NAPHTH- ALENE, SED, BM WS, <2MM DW, REC (UG/KG) (49402)	NAPHTHAL ENE, 12 DIMETHYL SED, BM WS, <2MM DW, REC (UG/KG) (49403)	NAPHTHAL ENE, 26 DIMETHYL SED, BM WS, <2MM DW, REC (UG/KG) (49406)	NAPHTHAL ENE, 2- CHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49407)	NAPHTHAL ENE, 236 TRIMETH SED, BM WS, <2MM DW, REC (UG/KG) (49405)	9H-FLU- ORENE SED, BM WS, <2MM DW, REC (UG/KG) (49399)	9H-FLU- ORENE, 1METHYL SED, BM WS, <2MM DW, REC (UG/KG) (49398)	9,10- ANTHRA- QUINONE SED, BM WS, <2MM DW, REC (UG/KG) (49437)	OCTCHLR BIPHENL SURROGT SED, BM WS, <2MM DW, REC PERCENT (49276)	O, P'- DDD, SED, BM WS, <2MM DW, REC (UG/KG) (49325)	O, P'- DDE, SED, BM WS, <2MM DW, REC (UG/KG) (49327)
AUG 1997 13...	<50	<50	E19	<50	<50	<50	<50	<50	77.0	<1.00	<1.00
DATE	O, P'- DDT, SED, BM WS, <2MM DW, REC (UG/KG) (49329)	OXY- CHLOR- DANE, SED, BM WS, <2MM DW, REC (UG/KG) (49318)	P- CRESOL SED, BM WS, <2MM DW, REC (UG/KG) (49451)	PENTA- CHLORO- ANISOLE SED, BM WS, <2MM DW, REC (UG/KG) (49460)	PHENAN THRENE SED, BM WS, <2MM DW, REC (UG/KG) (49409)	PHENAN THRENE 1METHYL SED, BM WS, <2MM DW, REC (UG/KG) (49410)	PHENAN- THRI- DINE SED, BM WS, <2MM DW, REC (UG/KG) (49393)	PHENOL C8- ALKYL- SED, BM WS, <2MM DW, REC (UG/KG) (49413)	PHENOL 2CHLORO BED MAT WS <2MM DRY WGT REC (UG/KG) (49467)	PHTHALA TE, BIS2 ETHHEXL SED, BM WS, <2MM DW, REC (UG/KG) (49426)	
AUG 1997 13...	<2.00	<1.00	<50	<1.0	<50	<50	<50	<50	<50	<50	E22
DATE	PHTHALA TEBUTYL SED, BM WS, <2MM DW, REC (UG/KG) (49427)	PHTHAL- ATE, DI- BUTYL SED, BM WS, <2MM DW, REC (UG/KG) (49381)	P, P'- DDD, SED, BM WS, <2MM DW, REC (UG/KG) (49326)	P, P'- DDE, SED, BM WS, <2MM DW, REC (UG/KG) (49328)	P, P'- DDT, SED, BM WS, <2MM DW, REC (UG/KG) (49330)	PHTHAL- ATE, DI- METHYL SED, BM WS, <2MM DW, REC (UG/KG) (49384)	PHTHAL- ATE, D IETHYL SED, BM WS, <2MM DW, REC (UG/KG) (49383)	PHTHAL ATE, D IOCTYL SED, BM WS, <2MM DW, REC (UG/KG) (49382)	PYRENE, 1- PYRENE, SED, BM WS, <2MM DW, REC (UG/KG) (49387)	PYRENE, 1- METHYL, SED, BM WS, <2MM DW, REC (UG/KG) (49388)	QUINO- LINE, SED, BM WS, <2MM DW, REC (UG/KG) (49392)
AUG 1997 13...	E18	E33	<1.00	<1.00	<2.00	<50	E13	E13	E10	<50	<50
DATE	TERPHEN YL D14- SURROGT SED, BM WS, <2MM DW, REC PERCENT (49278)	THIOPH ENE, DI- BENZO- SED, BM WS, <2MM DW, REC (UG/KG) (49452)	3,5- XYLENOL SED, BM WS, <2MM DW, REC (UG/KG) (49421)	TOLUENE 2,4-DI- NITRO- SED, BM WS, <2MM DW, REC (UG/KG) (49395)	TOLUENE 2,6-DI- NITRO- SED, BM WS, <2MM DW, REC (UG/KG) (49396)	TOXA- PHENE SED, BM WS, <2MM DW, REC (UG/KG) (49351)	TRANS- CHLOR- DANE, SED, BM WS, <2MM DW, REC (UG/KG) (49321)	TRANS- NONA- CHLOR, SED, BM WS, <2MM DW, REC (UG/KG) (49317)	TRANS- PER- METHRIN SED, BM WS, <2MM DW, REC (UG/KG) (49350)	2,2'-BI QUINO- LINE, SED, BM WS, <2MM DW, REC (UG/KG) (49391)	BED MAT. FALL DIAM. % FINER THAN .062 MM (80158)
AUG 1997 13...	73.8	<50	<50	<50	<50	<200	<1.00	<1.00	<5.00	<50	20

E Estimated

WATER-QUALITY ANALYSES AT MISCELLANEOUS SITES

CONCENTRATIONS OF TRACE ELEMENTS AND SYNTHETIC ORGANIC COMPOUNDS IN BOTTOM SEDIMENTS FROM SELECTED SITES IN THE WESTERN LAKE MICHIGAN BASIN (NATIONAL WATER-QUALITY ASSESSMENT PROGRAM)--CONTINUED

						CARBON, ORGANIC SED, BM BOT MAT <63U WS FIELD (UG/G) (34910)	CARBON, ORG + INORG, SED, BM WS, <63U DW, REC (PER- CENT) (49266)	CARBON, INORG, SED, BM WS, <63U DW, REC (PER- CENT) (49267)	CARBON, INORG, SED, BM WS, <63U DW, REC (PER- CENT) (49269)		
04074505 SWAMP CREEK AT KEITH SIDING RD NEAR CRANDON, WI (LAT 45 30 30N LONG 088 52 34W)											

CONCENTRATIONS OF TRACE ELEMENTS AND SYNTHETIC ORGANIC COMPOUNDS IN BOTTOM SEDIMENTS FROM SELECTED SITES IN THE WESTERN LAKE MICHIGAN BASIN (NATIONAL WATER-QUALITY ASSESSMENT PROGRAM)-CONTINUED

04077100 WOLF RIVER AT KESHENA, WI (LAT 44 53 00N LONG 088 38 05W)

DATE	CALCIUM BOT MAT <63U WS FIELD PERCENT (34830)	MAGNE- SIUM BOT MAT <63U WS FIELD PERCENT (34900)	SODIUM BOT MAT <63U WS FIELD PERCENT (34960)	POTAS- SIUM BOT MAT <63U WS FIELD PERCENT (34940)	SULFUR BOT MAT <63U WS FIELD (UG/G) (34970)	PHOS- PHORUS BOT MAT <63U WS FIELD PERCENT (34935)	ALUM- INUM BOT MAT <63U WS FIELD PERCENT (34790)	ANTI- MONY BOT MAT <63U WS FIELD (UG/G) (34795)	ARSENIC BOT MAT <63U WS FIELD (UG/G) (34800)	BARIUM BOT MAT <63U WS FIELD (UG/G) (34805)	BERYL- LIUM BOT MAT <63U WS FIELD (UG/G) (34810)
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SEP 1997 11...	1.8	0.71	0.51	0.98	0.32	0.23	2.7	0.3	11	350	<1
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DATE	BISMUTH BOT MAT <180UWS FIELD (UG/G) (34816)	CERIUM BOT MAT <63U WS FIELD (UG/G) (34835)	CHRO- MIUM BOT MAT <63U WS FIELD (UG/G) (34840)	COBALT BOT MAT <63U WS FIELD (UG/G) (34845)	COPPER BOT MAT <63U WS FIELD (UG/G) (34850)	EURO- PIUM BOT MAT <63U WS FIELD (UG/G) (34855)	GALLIUM BOT MAT <63U WS FIELD (UG/G) (34860)	GOLD BOT MAT <63U WS FIELD (UG/G) (34870)	HOLMIUM BOT MAT <63U WS FIELD (UG/G) (34875)	IRON BOT MAT <63U WS FIELD PERCENT (34880)	LANTHA- NIUM BOT MAT <63U WS FIELD (UG/G) (34885)
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SEP 1997 11...	<10	58	59	7	18	<2	<4	<8	<4	2.9	31
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DATE	LEAD BOT MAT <63U WS FIELD (UG/G) (34890)	LITHIUM BOT MAT <63U WS FIELD (UG/G) (34895)	MANGA- NESE BOT MAT <63U WS FIELD (UG/G) (34905)	MOLYB- DENUM BOT MAT <63U WS FIELD (UG/G) (34915)	NEODYM- IUM BOT MAT <63U WS FIELD (UG/G) (34920)	NICKEL BOT MAT <63U WS FIELD (UG/G) (34925)	NIOBIUM BOT MAT <63U WS FIELD (UG/G) (34930)	SCAN- DIUM BOT MAT <63U WS FIELD (UG/G) (34945)	SELE- NIUM BOT MAT <63U WS FIELD (UG/G) (34950)	STRON- TIUM BOT MAT <63U WS FIELD (UG/G) (34965)	TANTA- LUM BOT MAT <63U WS FIELD (UG/G) (34975)
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SEP 1997 11...	23	13	3400	<2	27	11	<4	6	1.8	79	<40
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DATE	TIN BOT MAT <63U WS FIELD (UG/G) (34985)	TITA- NIUM, SED, BM WS, <63U DRY WGT REC PERCENT (49274)	VANA- DIUM BOT MAT <63U WS FIELD (UG/G) (35005)	YTTRIUM BOT MAT <63U WS FIELD (UG/G) (35010)	YTTER- BIUM BOT MAT <63U WS FIELD (UG/G) (35015)	ZINC BOT MAT <63U WS FIELD (UG/G) (35020)	CARBON, ORGANIC SED, BM WS, <63U DW, REC (PER- CENT) (49266)	CARBON, ORG + INORG, SED, BM WS, <63U DW, REC (PER- CENT) (49267)	CARBON, INORG, SED, BM WS, <63U DW, REC (PER- CENT) (49269)	BED MAT. FALL DIAM. % FINER THAN .062 MM (80158)
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SEP 1997 11...	<5	0.190	57	22	2	89	13.2	13.5	0.28	29
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04087000 MILWAUKEE RIVER AT MILWAUKEE, WI (LAT 43 06 00N LONG 087 54 32W)

DATE	CALCIUM BOT MAT <63U WS FIELD PERCENT (34830)	MAGNE- SIUM BOT MAT <63U WS FIELD PERCENT (34900)	SODIUM BOT MAT <63U WS FIELD PERCENT (34960)	POTAS- SIUM BOT MAT <63U WS FIELD PERCENT (34940)	SULFUR BOT MAT <63U WS FIELD (UG/G) (34970)	PHOS- PHORUS BOT MAT <63U WS FIELD PERCENT (34935)	ALUM- INUM BOT MAT <63U WS FIELD PERCENT (34790)	ANTI- MONY BOT MAT <63U WS FIELD (UG/G) (34795)	ARSENIC BOT MAT <63U WS FIELD (UG/G) (34800)	BARIUM BOT MAT <63U WS FIELD (UG/G) (34805)	BERYL- LIUM BOT MAT <63U WS FIELD (UG/G) (34810)	BISMUTH BOT MAT <180UWS FIELD (UG/G) (34816)
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AUG 1997 12...	11	4.3	0.48	1.8	0.22	0.15	4.5	1.0	5.1	370	<1	<10
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DATE	CERIUM BOT MAT <63U WS FIELD (UG/G) (34835)	CHRO- MIUM BOT MAT <63U WS FIELD (UG/G) (34840)	COBALT BOT MAT <63U WS FIELD (UG/G) (34845)	COPPER BOT MAT <63U WS FIELD (UG/G) (34850)	EURO- PIUM BOT MAT <63U WS FIELD (UG/G) (34855)	GALLIUM BOT MAT <63U WS FIELD (UG/G) (34860)	GOLD BOT MAT <63U WS FIELD (UG/G) (34870)	HOLMIUM BOT MAT <63U WS FIELD (UG/G) (34875)	IRON BOT MAT <63U WS FIELD PERCENT (34880)	LANTHA- NIUM BOT MAT <63U WS FIELD (UG/G) (34885)	LEAD BOT MAT <63U WS FIELD (UG/G) (34890)	LITHIUM BOT MAT <63U WS FIELD (UG/G) (34895)
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AUG 1997 12...	42	110	12	76	<2	21	<8	<4	2.7	27	150	31
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CONCENTRATIONS OF TRACE ELEMENTS AND SYNTHETIC ORGANIC COMPOUNDS IN BOTTOM SEDIMENTS FROM SELECTED SITES IN THE WESTERN LAKE MICHIGAN BASIN (NATIONAL WATER-QUALITY ASSESSMENT PROGRAM)--CONTINUED

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI (LAT 43 06 00N LONG 087 54 32W)--CONTINUED

	MANGANESE BOT MAT <63U WS FIELD (UG/G) (34905)	MOLYBDENUM BOT MAT <63U WS FIELD (UG/G) (34915)	NEODYMIUM BOT MAT <63U WS FIELD (UG/G) (34920)	NICKEL BOT MAT <63U WS FIELD (UG/G) (34925)	NIOBIUM BOT MAT <63U WS FIELD (UG/G) (34930)	SCANDIUM BOT MAT <63U WS FIELD (UG/G) (34945)	SELENIUM BOT MAT <63U WS FIELD (UG/G) (34950)	STRONTIUM BOT MAT <63U WS FIELD (UG/G) (34965)	TANTALUM BOT MAT <63U WS FIELD (UG/G) (34975)	TIN BOT MAT <63U WS FIELD (UG/G) (34985)	TITANIUM SED, BM WS, <63U DRY WGT REC PERCENT (49274)	VANADIUM BOT MAT <63U WS FIELD (UG/G) (35005)
AUG 1997 12...	690	<2	22	32	<4	8	0.8	180	<40	<5	0.260	63
DATE	YTTRIUM BOT MAT <63U WS FIELD (UG/G) (35010)	YTTERBIUM BOT MAT <63U WS FIELD (UG/G) (35015)	ZINC BOT MAT <63U WS FIELD (UG/G) (35020)	CARBON, ORGANIC SED, BM WS, <63U DW, REC (PER- CENT) (49266)	CARBON, ORG + INORG, SED, BM WS, <63U DW, REC (PER- CENT) (49267)	CARBON, INORG, SED, BM WS, <63U DW, REC (PER- CENT) (49269)	PCB, SED, BM WS, <2MM DW, REC (UG/KG) (49459)	ACENAPHTHENE SED, BM WS, <2MM DW, REC (UG/KG) (49429)	ACENAPHTHYLENE SED, BM WS, <2MM DW, REC (UG/KG) (49428)	ACRIDINE SED, BM WS, <2MM DW, REC (UG/KG) (49430)	ALDRIN, SED, BM WS, <2MM DW, REC (UG/KG) (49319)	ALPHA-BHC, SED, BM WS, <2MM DW, REC (UG/KG) (49338)
AUG 1997 12...	12	21	2	290	4.01	8.35	1600	350	120	120	<1.00	<1.00
DATE	ALPHA-BHC, D6 SURROGT SED, BM WS, <2MM DW, REC PERCENT (49275)	ANTHRACENE SED, BM WS, <2MM DW, REC (UG/KG) (49434)	AZO-BENZENE SED, BM WS, <2MM DW, REC (UG/KG) (49443)	BENZO (A) PYRENE SED, BM WS, <2MM DW, REC (UG/KG) (49389)	BENZ (A) ANTHRA- CENE SED, BM WS, <2MM DW, REC (UG/KG) (49436)	BENZENE HEXACHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49343)	BENZENE M-DI- CHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49441)	BENZENE NITRO- SED, BM WS, <2MM DW, REC (UG/KG) (49444)	BENZENE NITROD5 SURROGT SED, BM WS, <2MM DW, REC PERCENT (49280)	BENZENE O-DI- CHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49439)	BENZENE 124TRI- CHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49438)	BENZENE P-DI- CHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49442)
AUG 1997 12...	71.0	1000	290	3400	3400	<1.00	<50	<50	57.2	<50	<50	E15
DATE	BENZENE PNTCHLR SED, BM WS, <2MM DW, REC (UG/KG) (49446)	BENZOB FLUOR- ANTHENE SED, BM WS, <2MM DW, REC (UG/KG) (49458)	BENZOCINOLINE BED MAT WS, <2MM DRY WGT REC (UG/KG) (49468)	BENZO (G) PERY LENE SED, BM WS, <2MM DW, REC (UG/KG) (49408)	BENZO K FLUOR- ANTHENE SED, BM WS, <2MM DW, REC (UG/KG) (49397)	BIPHENYL 35DICHR SURROGT SED, BM WS, <2MM DW, REC PERCENT (49277)	BIPHENYL 2FLUORO SURROGT SED, BM WS, <2MM DW, REC PERCENT (49279)	CARBA- ZOLE SED, BM WS, <2MM DW, REC (UG/KG) (49449)	CHLORO- NEB, SED, BM WS, <2MM DW, REC (UG/KG) (49322)	CHRY- SENE SED, BM WS, <2MM DW, REC (UG/KG) (49450)	CIS- CHLOR- DANE, SED, BM WS, <2MM DW, REC (UG/KG) (49320)	
AUG 1997 12...	<50	3300	<50	1800	3100	90.0	66.7	460	<5.00	4200	<3.10	
DATE	CIS-NONA- CHLOR, SED, BM WS, <2MM DW, REC (UG/KG) (49316)	CIS-PER- METHRIN SED, BM WS, <2MM DW, REC (UG/KG) (49349)	DCPA, SED, BM WS, <2MM DW, REC (UG/KG) (49324)	DIBENZ (AH), AN THRACEN SED, BM WS, <2MM DW, REC (UG/KG) (49461)	DIEL- DRIN, SED, BM WS, <2MM DW, REC (UG/KG) (49331)	DIPHNYL AMINE,N NITROSO SED, BM WS, <2MM DW, REC (UG/KG) (49433)	DPROPYL AMINE,N NITROSO SED, BM WS, <2MM DW, REC (UG/KG) (49431)	FLUOR- ANTHENE BED MAT WS, <2MM DRY WGT REC (UG/KG) (49466)	4-BROMO PHNPHNL ETHER SED, BM WS, <2MM DW, REC (UG/KG) (49454)	4CHLORO PHNPHNL LETHER SED, BM WS, <2MM DW, REC (UG/KG) (49455)	4HCYPEN PHENAN THRENE SED, BM WS, <2MM DW, REC (UG/KG) (49411)	
AUG 1997 12...	<1.00	<33.0	<5.00	500	<1.00	E6.8	<50	7900	<50	<50	640	
DATE	HEPTA- CHLOR, SED, BM WS, <2MM DW, REC (UG/KG) (49341)	HEPTA- CHLOR EPOXIDE SED, BM WS, <2MM DW, REC (UG/KG) (49342)	INDENO 123-CD PYRENE SED, BM WS, <2MM DW, REC (UG/KG) (49390)	ISODRIN SED, BM WS, <2MM DW, REC (UG/KG) (49344)	ISO- QUINO- LINE, SED, BM WS, <2MM DW, REC (UG/KG) (49394)	ISOPHOR ONE SED, BM WS, <2MM DW, REC (UG/KG) (49400)	LINDANE SED, BM WS, <2MM DW, REC (UG/KG) (49345)	M-CRE- SOL, 4- CHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49422)	METHOXY CHLOR, O, P'-, SED, BM WS, <2MM DW, REC (UG/KG) (49347)	MIREX, SED, BM WS, <2MM DW, REC (UG/KG) (49348)	METHANE 2CHLORO ETHOXY SED, BM WS, <2MM DW, REC (UG/KG) (49401)	
AUG 1997 12...	<1.00	<1.00	2300	<1.00	E18	<50	<1.00	<50	<5.00	<1.00	<50	
DATE	NAPHTH- ALENE, SED, BM WS, <2MM DW, REC (UG/KG) (49402)	NAPHTH- ENE, 12 DIMETHL SED, BM WS, <2MM DW, REC (UG/KG) (49403)	NAPHTH- ENE, 26 DIMETHL SED, BM WS, <2MM DW, REC (UG/KG) (49406)	NAPHTH- ENE, 2- CHLORO- SED, BM WS, <2MM DW, REC (UG/KG) (49407)	NAPHTH- ENE, 236 TRIMETH SED, BM WS, <2MM DW, REC (UG/KG) (49405)	9H-FLU- ORENE SED, BM WS, <2MM DW, REC (UG/KG) (49399)	9H-FLU- ORENE SED, BM WS, <2MM DW, REC (UG/KG) (49398)	9,10- ANTHRA- QUINONE SED, BM WS, <2MM DW, REC (UG/KG) (49437)	OCTCHLR BIPHENYL SURROGT SED, BM WS, <2MM DW, REC PERCENT (49276)	O, P'- DDD, SED, BM WS, <2MM DW, REC (UG/KG) (49325)	O, P'- DDE, SED, BM WS, <2MM DW, REC (UG/KG) (49327)	
AUG 1997 12...	110	E26	93	<50	E36	410	100	730	66.0	<2.60	<1.00	

CONCENTRATIONS OF TRACE ELEMENTS AND SYNTHETIC ORGANIC COMPOUNDS IN BOTTOM SEDIMENTS FROM SELECTED SITES IN THE WESTERN LAKE MICHIGAN BASIN (NATIONAL WATER-QUALITY ASSESSMENT PROGRAM)--CONTINUED

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI (LAT 43 06 00N LONG 087 54 32W)--CONTINUED											
DATE	O, P'- DDT, SED, BM WS, <2MM DW, REC (UG/KG) (49329)	OXY- CHLOR- DANE, SED, BM WS, <2MM DW, REC (UG/KG) (49318)	P- CRESOL SED, BM WS, <2MM DW, REC (UG/KG) (49451)	PENTA- CHLORO- ANISOLE SED, BM WS, <2MM DW, REC (UG/KG) (49460)	PHENAN- THRENE SED, BM WS, <2MM DW, REC (UG/KG) (49409)	PHENAN- THRENE 1-METHYL SED, BM WS, <2MM DW, REC (UG/KG) (49410)	PHENAN- THRI- DINE SED, BM WS, <2MM DW, REC (UG/KG) (49393)	PHENOL C8- ALKYL- SED, BM WS, <2MM DW, REC (UG/KG) (49413)	PHENOL 2-CHLORO BED MAT WS <2MM DRY WGT REC (UG/KG) (49424)	PHENOL 2-CHLORO BED MAT WS <2MM DRY WGT REC (UG/KG) (49467)	PHTHALA TE, BIS2 ETHHEXL SED, BM WS, <2MM DW, REC (UG/KG) (49426)
AUG 1997 12...	<2.00	<1.00	90	<1.0	4600	340	110	E40	<50	<50	750
DATE	PHTHALA TEBUTYL BENZYL- SED, BM WS, <2MM DW, REC (UG/KG) (49427)	PHTHAL- ATE, DIBUTYL SED, BM WS, <2MM DW, REC (UG/KG) (49381)	P, P'- DDD, SED, BM WS, <2MM DW, REC (UG/KG) (49326)	P, P'- DDE, SED, BM WS, <2MM DW, REC (UG/KG) (49328)	P, P'- DDT, SED, BM WS, <2MM DW, REC (UG/KG) (49330)	PHTHAL- ATE, DI- METHYL SED, BM WS, <2MM DW, REC (UG/KG) (49384)	PHTHAL- ATE, D IETHYL SED, BM WS, <2MM DW, REC (UG/KG) (49383)	PHTHAL ATE, D IOCTYL SED, BM WS, <2MM DW, REC (UG/KG) (49382)	PYRENE, 1- PYRENE, SED, BM WS, <2MM DW, REC (UG/KG) (49387)	PYRENE, 1- METHYL, SED, BM WS, <2MM DW, REC (UG/KG) (49388)	QUINO- LINE, SED, BM WS, <2MM DW, REC (UG/KG) (49392)
AUG 1997 12...	64	E38	<32.0	<10.0	<6.00	<50	<50	72	6700	350	E15
DATE	TERPHEN YL D14- SURROGT SED, BM WS, <2MM DW, REC PERCENT (49278)	THIOPH ENE, DI- BENZO- SED, BM WS, <2MM DW, REC (UG/KG) (49452)	3,5- XYLENOL SED, BM WS, <2MM DW, REC (UG/KG) (49421)	TOLUENE 2,4-DI- NITRO- SED, BM WS, <2MM DW, REC (UG/KG) (49395)	TOLUENE 2,6-DI- NITRO- SED, BM WS, <2MM DW, REC (UG/KG) (49396)	TOXA- PHENE SED, BM WS, <2MM DW, REC (UG/KG) (49351)	TRANS- CHLOR- DANE, SED, BM WS, <2MM DW, REC (UG/KG) (49321)	TRANS- NONA- CHLOR, SED, BM WS, <2MM DW, REC (UG/KG) (49317)	TRANS- PER- METHRIN SED, BM WS, <2MM DW, REC (UG/KG) (49350)	2,2'-BI QUINO- LINE, SED, BM WS, <2MM DW, REC (UG/KG) (49391)	BED MAT. FALL DIAM. % FINER THAN .062 MM (80158)
AUG 1997 12...	58.9	210	<50	<50	300	<200	<1.00	<1.00	<18.0	<50	22

References cited:

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- Foreman, W.T., Connor, B.F., Furlong, E.T., Vaught, D.G., and Merten, L.M., 1995, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory - Determination of organochlorine pesticides and polychlorinated biphenyls in bottom sediment by dual capillary-column gas chromatography with electron-capture detection: U.S. Geological Survey Open-File Report 95-140, 78 p.
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GROUND-WATER RECORDS

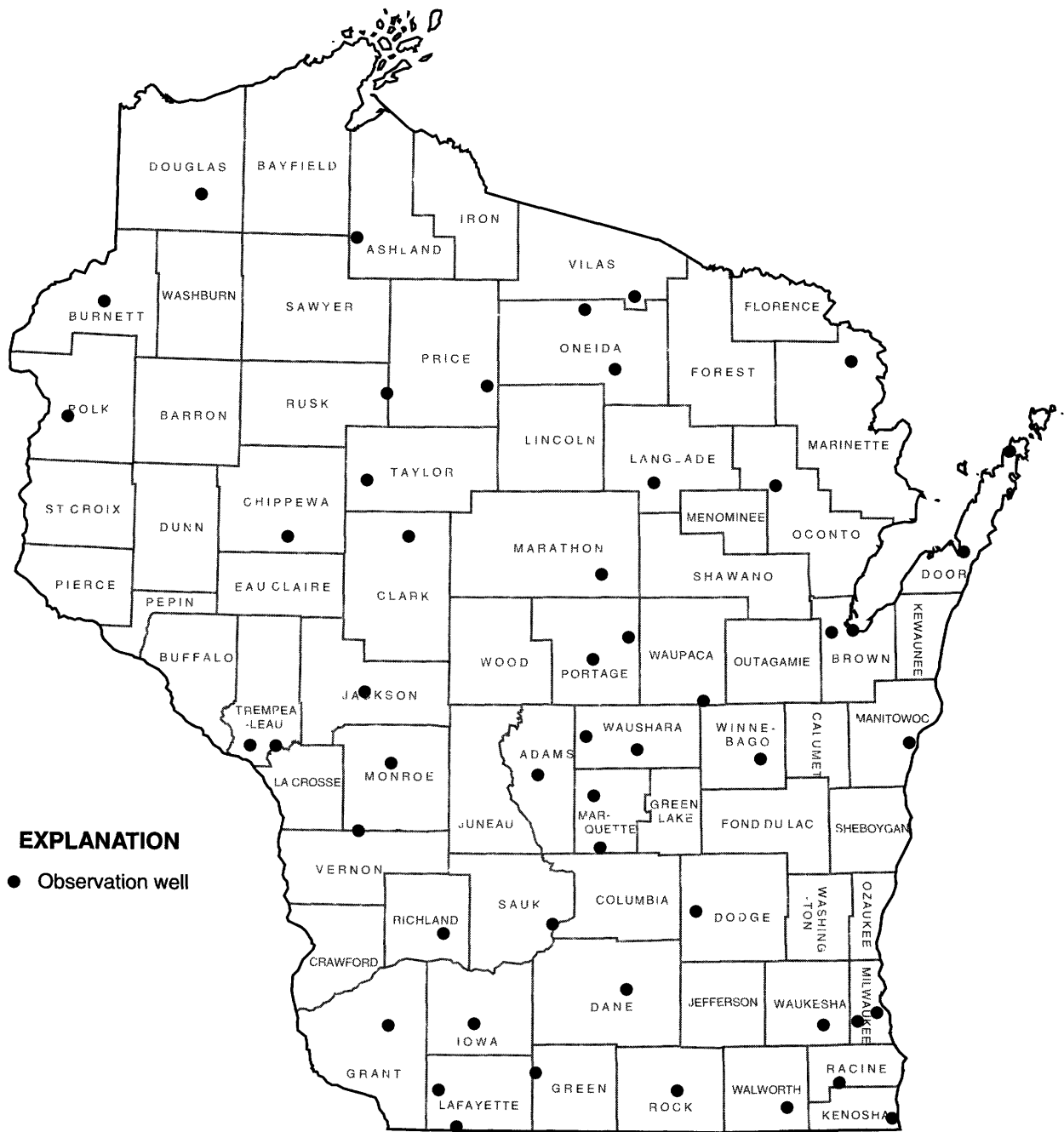


Figure 6. Location of observation wells in Wisconsin.

GROUND-WATER LEVELS
ADAMS COUNTY

457

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.

INSTRUMENTATION.--Water level measured weekly by observer.

DATUM.--Elevation of land-surface datum is 955 ft above sea level. 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, 9.69 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	15.15	DEC 16	15.95	FEB 17	16.64	APR 22	14.57	JUN 9	14.24	AUG 4	14.48
14	15.32	23	16.05	24	16.65	28	14.55	16	14.44	11	14.85
21	15.37	30	16.10	MAR 3	16.66	MAY 5	14.20	23	14.50	18	14.30
28	15.40	JAN 6	16.23	10	16.48	12	14.10	30	15.00	25	14.17
NOV 4	15.32	13	16.30	17	16.30	19	14.14	JUL 7	15.10	SEP 8	14.24
11	15.52	20	16.37	24	16.00	26	14.14	14	15.08	15	14.40
18	15.61	27	16.41	31	15.23	27	14.14	21	14.99	22	14.43
DEC 2	15.81	FEB 3	16.60	APR 7	14.68	JUN 2	14.30	28	14.06	29	14.49
9	15.93	10	16.60	16	14.60						

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.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 1,470 ft above sea level. 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, 24.40 ft below land-surface datum, Mar. 25, 1985; lowest water level measured, 32.35 ft below land-surface datum, Apr. 1, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	26.00	JAN 24	26.80	MAR 21	26.90	APR 23	27.00	AUG 19	26.90	SEP 24	27.10
NOV 18	26.02	FEB 21	26.70								

**GROUND-WATER LEVELS
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.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 590 ft above sea level. 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	132.00	FEB 25	124.90	APR 30	124.40	JUN 6	125.50	JUL 21	128.10	SEP 30	131.50
DEC 16	127.50	MAR 26	124.30								

443201088074601. Local number, BN-24/20E/19-0335.

LOCATION.--Lat 44°32'01", long 88°07'46", Hydrologic Unit 04030103. Owner: U.S. Geological Survey

AQUIFER.--Dolomite.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 15.7 ft.

INSTRUMENTATION.--Continuous water-level recorder.

DATUM.--Elevation of land-surface datum is 664 ft above sea level. Measuring point: top of 2-in. PVC pipe, 1 ft above ground level.

PERIOD OF RECORD.--April 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured. 4.83 ft below land-surface datum, Apr. 2, 1996; lowest water level measured, 15.06 ft below land-surface datum, Mar. 28, 1997.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5		9.66	10.04	11.35	11.06	13.15	13.53	12.63	10.94	10.83	9.57	11.10
10		9.78	10.08	11.37	10.99	12.77	12.55	12.31	12.16	11.39	9.62	11.62
15		9.80	10.11	11.00	10.95	13.26	12.11	11.61	10.99	10.65	9.68	11.03
20		9.82	10.57	10.98	11.35		11.48	11.37		10.06	11.25	11.88
25	9.26	9.87	10.52	11.27	12.41	14.80	11.17	11.15	12.20	9.86	11.29	11.39
EOM	9.53	9.85	10.58	11.57	12.28	15.06	10.98	11.05	10.90	9.85	11.66	10.83
WY 1997		MAX	15.06	MAR 28	MIN	9.26	OCT 25					

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[illegible]

**GROUND-WATER LEVELS
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.

INSTRUMENTATION.--Water level measured weekly by observer.

DATUM.--Elevation of land-surface datum is 965 ft above sea level. Measuring point: 1/4-in. hole in top of casing, 2.20 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.97 ft below land-surface datum, Oct. 28, 1986; 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	29.21	DEC 16	29.35	FEB 14	29.41	APR 14	29.12	JUN 12	28.68	AUG 13	28.89
NOV 10	29.00	JAN 15	29.03	MAR 12	30.04	MAY 13	28.91	JUL 14	29.73	SEP 15	28.85

CLARK COUNTY

445619090335201. Local number, CK-28/02W/01-0509.

LOCATION.--Lat 44°56'19", long 90°33'52", Hydrologic Unit 07050006. Owner: Richard Laube.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 5 in., depth 40 ft.

INSTRUMENTATION.--Water level measured by observer.

DATUM.--Elevation of land-surface datum is 1,265 ft above sea level. Measuring point: casing cap, 5 ft below land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.33 ft below land-surface datum, Oct. 27, 1986; lowest water level measured, 24.98 ft below land-surface datum, Feb. 28, 1990.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 29	23.33	DEC 30	23.30	MAY 28	22.54	JUN 30	22.59	JUL 18	22.65

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[illegible]

GROUND-WATER LEVELS
DOOR COUNTY

451518087042601. Local number, DR-32/28E/15-0317.

LOCATION.--Lat 44°15'18", long 87°04'26", Hydrologic Unit 04030102. Owner: Town of Liberty.

AQUIFER.--Silurian dolomite.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 4 in., depth 155 f, cased to 153 ft.

INSTRUMENTATION.--Water level measured by observer.

DATUM.--Elevation of land-surface datum is 580 ft above sea level. Measuring point: top of casing, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.70 ft below land-surface datum, Mar. 27, 1986; lowest water level measured, 43.93 ft below land-surface datum, Jan. 2, 1990.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	40.36	DEC 2	41.21	FEB 4	37.75	APR 1	31.96	JUN 2	35.34	AUG 5	39.32
NOV 4	40.89	JAN 2	39.85	MAR 4	36.87	MAY 1	35.00	JUL 1	37.12		

445055087213801. Local number, DR-27/26E/05-0265

LOCATION.--Lat 44°50'55", long 87°21'38", Hydrologic Unit 04030102. Owner: U.S. Geol. Survey.

AQUIFER.--Silurian dolomite.

WELL CHARACTERISTICS.--Drilled observation, diameter 6 in., depth 442 ft, cased to 170 ft, open end.

INSTRUMENTATION.--Continuous water-level recorder.

DATUM.--Elevation of land-surface datum is 616 ft above sea level. Measuring point: top of casing, 1.57 ft above land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, -3.49 ft above land-surface datum, Apr. 20, 1972; lowest water level, 35.33 ft below land-surface datum, Feb. 1, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	20.30	19.03	19.68	0.00	19.76	15.04				15.02	19.74	
10	20.30	19.03	19.94	17.45	20.64	15.13				16.34	19.74	
15	19.86	19.09	20.30	18.68	21.44	15.51				16.90	19.74	24.14
20	19.88	19.39	16.89	20.06	20.41	15.78				21.35	23.64	23.61
25	19.00	19.94		18.21	18.97	12.78			13.85	22.09	23.64	
EOM	19.03	19.68		19.00	19.29	11.11			16.90	23.70		
WTR YEAR 1997		MAX	24.78	JUL 30	MIN	11.11	MAR 28					

GROUND-WATER LEVELS
DOUGLAS COUNTY

463

461921091484201. Local number, DS-44/12W/01-0327.

LOCATION.--Lat 46°19'21", long 91°48'42", Hydrologic Unit 04010301. Owner: Wis. Dept. of Natural Resources.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 148 ft, cased to 145 ft.

INSTRUMENTATION.--Water level measured by observer.

DATUM.--Elevation of land-surface datum is 1,090 ft above sea level. Measuring point: hole in pump base, 4.33 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 72.16 ft above land-surface datum, Dec. 28, 1972; lowest water level measured, 81.05 ft below land-surface datum, July 7, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	77.47	JAN 2	77.79	FEB 28	78.00	APR 30	77.92	JUL 1	77.78	SEP 30	77.74
DEC 3	77.69	FEB 3	77.81	APR 1	78.01	MAY 31	78.06	SEP 2	77.46		

FLORENCE COUNTY

454622088324802. Local number, FC-38/15E/18-0093.

LOCATION.--Lat 45°46'22", long 88°32'48", Hydrologic Unit 04030108. Owner: U.S. Forest Service.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Augered water-table observation well, diameter 3 in.

DATUM.--Datum of gage is approximately 1,400 ft above sea level.

PERIOD OF RECORD.--October 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed water level, 65.57 ft, June 20, 1993; minimum observed water level, 62.04 ft, Mar. 10-11, 1990.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	64.51	64.48	64.34	64.29	64.20	64.11	64.67	64.66	64.78	64.59	64.23	64.13
10	64.48	64.47	64.33	64.29	64.19		64.65	64.65	64.74	64.55	64.15	64.14
15	64.46	64.40	64.31	64.26	64.17		64.60	64.73	64.75	64.49	64.11	64.06
20	64.48	64.44	64.29	64.23	64.16		64.62	64.79	64.78	64.44	64.15	64.08
25	64.52	64.39	64.28	64.23	64.14	64.06	64.67	64.78	64.69	64.39	64.10	64.03
EOM	64.60	64.37	64.26	64.24	64.12	64.19	64.63	64.76	64.61	64.31	64.26	63.99
WTR YEAR 1997		MAX	64.88	APR 6		MIN	63.99	SEPT 30				

GROUND-WATER LEVELS
GRANT COUNTY

425551090391301. Local number, GR-05/02W/06-0005.

LOCATION.--Lat 42°55'51", long 90°39'13", Hydrologic Unit 07060003. Owner: Homer Yelinek.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in., depth 35 ft, cased to 5 ft, open end.

INSTRUMENTATION.--Water level measured monthly by observer.

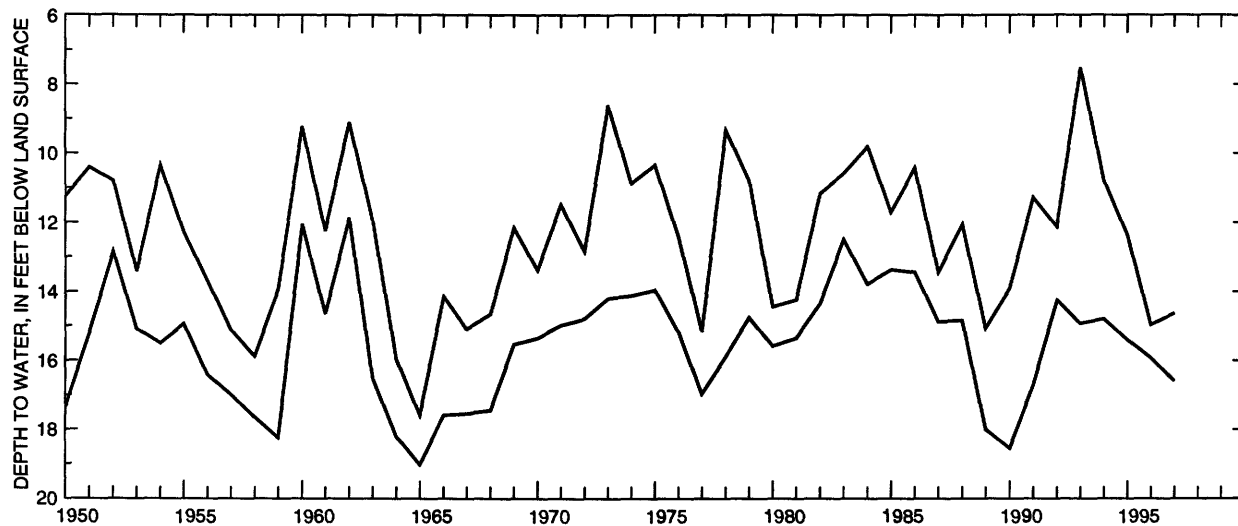
DATUM.--Elevation of land-surface datum is 980 ft above sea level. Measuring point: edge of pump base, 0.50 ft above land-surface datum.

PERIOD OF RECORD.--July 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.52 ft below land-surface datum, July 22, 1993; 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	16.24	JAN 14	16.60	MAR 21	14.90	MAY 20	14.95	JUL 14	15.22	SEP 26	15.50
NOV 14	16.55	FEB 26	15.55	APR 18	15.05	JUN 12	14.92	AUG 8	14.64		



GR-05/02W/06-0005

WATER YEAR MAX-MIN LEVEL

GROUND-WATER LEVELS
GREEN COUNTY

465

424427089494701. Local number, GN-03/06E/18-0002.

LOCATION.--Lat 42°44'27", long 89°49'47", Hydrologic Unit 07090003. Owner: Earl Waddington.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic water-table well, diameter 6 in., depth 150 ft.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 1,020 ft above sea level. Measuring point: hole in 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, 120.17 ft below land-surface datum, Aug. 13, 1997; lowest water level measured, 143.94 ft below land-surface datum, Feb. 18, 1960.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	125.83	NOV 8	125.91	DEC 12	126.96	FEB 5	126.86	APR 16	126.42	AUG 13	120.17

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.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 1,200 ft above sea level. Measuring point: 1/4-in. hole in top of casing, at land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 36.02 ft below land-surface datum, July 22, 1993; 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	56.78	DEC 11	58.11	FEB 5	58.98	APR 15	58.06	JUN 18	56.95	AUG 13	56.56

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.64 ft below land-surface datum, Sept. 10, 1993; lowest water level measured, 56.43 ft below land-surface datum, Dec. 12, 1997.

[illegible]

GROUND-WATER LEVELS
KENOSHA COUNTY

467

423214087503301. Local number, KE-01/22E/13-0046.

LOCATION.--Lat 42°32'14", long 87°50'38", Hydrologic Unit 04040002. Owner: St. Joseph Home.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled well, diameter 6 in., depth 135 ft, cased to 82 ft, open end.

INSTRUMENTATION.--Water level measured by observer.

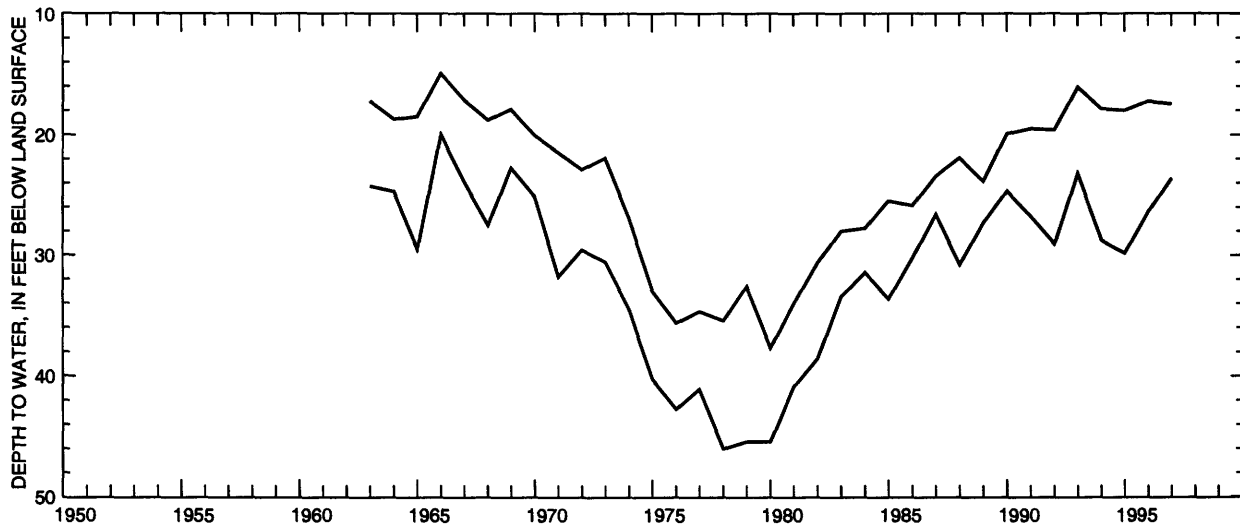
DATUM.--Elevation of land-surface datum is 645 ft above sea level. Measuring point: top of casing, 1.60 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.00 ft below land-surface datum, Mar. 16, 1961; lowest water level measured, 46.02 ft below land-surface datum, June 6, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	20.24	DEC 9	20.39	FEB 10	19.08	APR 14	18.26	JUN 16	20.06	AUG 11	22.10
14	21.21	16	20.44	17	19.22	21	17.68	23	20.05	18	20.47
21	19.73	23	20.16	24	18.45	28	18.66	30	21.17	25	18.80
28	20.51	30	18.62	MAR 1	18.06	MAY 5	18.27	JUL 7	19.91	SEP 1	18.82
NOV 4	19.84	JAN 6	18.65	3	18.30	12	17.45	14	19.95	8	19.08
11	19.30	13	19.65	17	18.05	19	17.73	21	20.50	15	19.44
18	19.67	20	19.38	24	17.73	26	17.90	28	23.60	22	19.99
25	19.98	27	19.16	31	18.06	JUN 2	18.45	AUG 4	23.29	29	18.42
DEC 2	20.34	FEB 3	20.09	APR 7	18.16	9	20.08				



KE-01/22E/13-0046

WATER YEAR MAX-MIN LEVEL

GROUND-WATER LEVELS 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.

INSTRUMENTATION.--Continuous water-level recorder.

DATUM.--Elevation of land-surface datum is 1,000 ft above sea level. 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, 12.00 ft below land-surface datum, June 26, 1996; lowest water level, 130.99 ft below land-surface datum, Oct. 27, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	31.91	32.85	33.68	34.54	35.65			36.14	34.87	34.10	34.30	34.87
10	32.09	33.24	33.69	34.50	35.67			35.95	35.24	33.90	34.28	34.81
15	32.02	33.61	34.22	34.94	35.86			35.14	35.04	33.65	33.89	35.05
20	32.09	33.32	34.49	35.12			35.97	35.14	34.90	33.74	34.33	35.43
25	32.30	33.71	34.81	35.48			36.50	34.83	34.98	33.83	34.53	35.09
EOM	32.70	33.32	34.93	35.04			35.96	34.93	34.42	34.30	34.71	35.33
WTR YEAR 1997	MAX	36.58	APR 26	MIN	31.53	OCT 1						

424004090220601. Local number, LF-02/01E/04-0011.

LOCATION.--Lat 42°40'04", long 90°22'06", Hydrologic Unit 07060005. Owner: Ed Wiegel.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 64 ft.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 1,010 ft above sea level. Measuring point: top of casing, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.58 ft below land-surface datum, July 22, 1993; lowest water level measured, 38.81 ft below land-surface datum, Aug. 1, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

[illegible]

469

	WATER			WATER			WATER			WATER			WATER	
DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	DATE	LEVEL	
OCT 9	12.98	DEC 10	15.12	FEB 5	14.47	MAR 31	14.31	MAY 28	12.78	AUG 4	13.27			
	14 13.20		15 15.00		10 14.55		5 12.90		12 12.84		11 13.40			
	21 13.91		20 10.60		15 14.63		12 11.50		20 12.93		25 13.46			
	30 14.06		25 14.63		20 14.36		19 11.30		27 13.00		SEP 1 13.57			
NOV 4	15.32	JAN 5	14.46	MAR 4	14.76	MAY 6	11.32	JUL 4	13.06	SEP 8	13.65			
	11 15.44		10 14.57		10 14.72		6 12.37		11 13.10		15 13.73			
	18 15.78		15 14.63		17 14.64		13 12.50		18 13.08		22 13.62			
	26 15.51		20 14.59		24 14.66		19 12.58		25 13.20		SEP 29 13.75			
DEC 5	15.26	21	10.74											

GROUND-WATER LEVELS
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.

INSTRUMENTATION.--Water level measured weekly by observer.

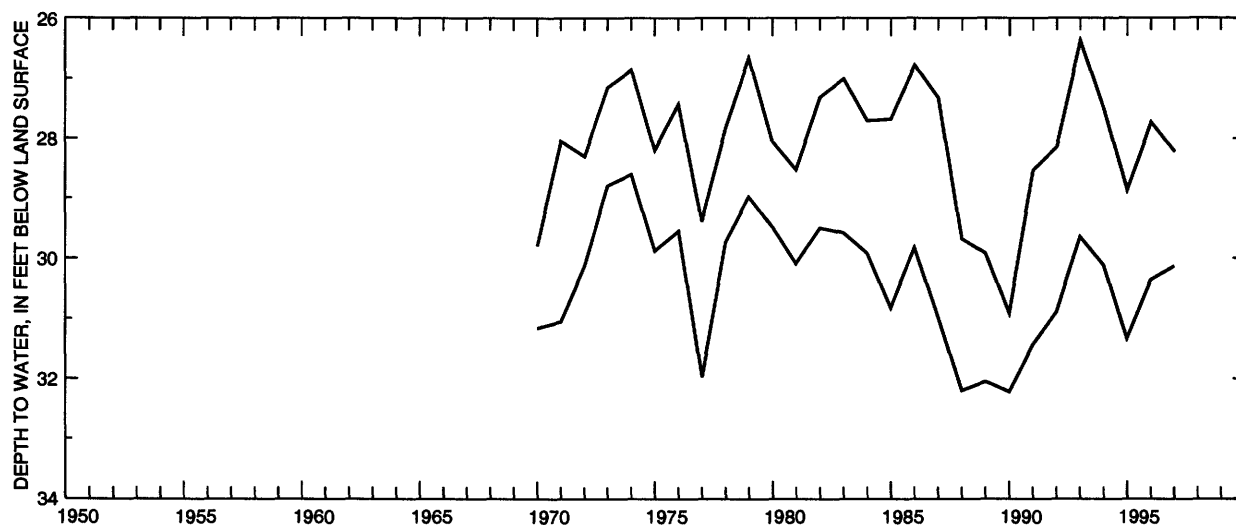
DATUM.--Elevation of land-surface datum is 670 ft above sea level. Measuring point: 1/4-in. hole in pump base, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.37 ft below land-surface datum, May 4, 1993; lowest water level measured, 32.22 ft below land-surface datum, Dec. 28, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	29.63	DEC 3	29.63	JAN 28	29.46	MAR 25	28.50	MAY 20	28.74	JUL 22	29.59
8	29.81	10	29.57	FEB 4	29.37	APR 2	28.58	27	28.80	29	29.55
14	29.89	16	29.60	11	29.42	8	28.30	JUN 3	29.21	AUG 11	30.14
21	29.64	DEC 23	29.56	18	29.46	15	28.22	9	28.87	19	29.70
29	29.48	JAN 2	29.48	25	29.16	22	28.33	17	29.10	26	29.74
NOV 6	29.56	7	29.53	MAR 4	29.05	29	28.59	24	28.95	SEP 9	29.75
12	29.71	14	29.39	11	28.98	MAY 6	28.36	JUL 1	28.91	16	29.97
19	29.63	21	29.38	18	28.84	13	28.66	15	29.29	24	29.82
26	29.66										



MN-19/23E/35-0028

WATER YEAR MAX-MIN LEVEL

471

		WATER			WATER			WATER			WATER					
DATE		LEVEL	DATE		LEVEL	DATE		LEVEL	DATE		LEVEL					
OCT	6	16.22	DEC	22	16.80	FEB	23	17.47	APR	20	16.56					
	13	16.33		29	16.87		MAR	9		17.65	27	17.56				
	20	16.30	JAN	12	16.98		9	17.65	MAY	4	16.60					
	27	16.36		19	17.07		16	17.73		11	16.59					
NOV	3	16.41	FEB	26	17.16		23	17.74	18	16.63	JUL	6	17.08			
	10	16.42		2	17.23		30	16.97		25		16.72	13	16.89		
	17	16.46		9	17.41		APR	6		16.57		JUN	1	16.62	27	16.98
	24	16.58		16	17.42			13		16.59			8	16.82	AUG	3
DEC	8	16.58														

GROUND-WATER LEVELS
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.

INSTRUMENTATION.--Water level measured weekly by observer.

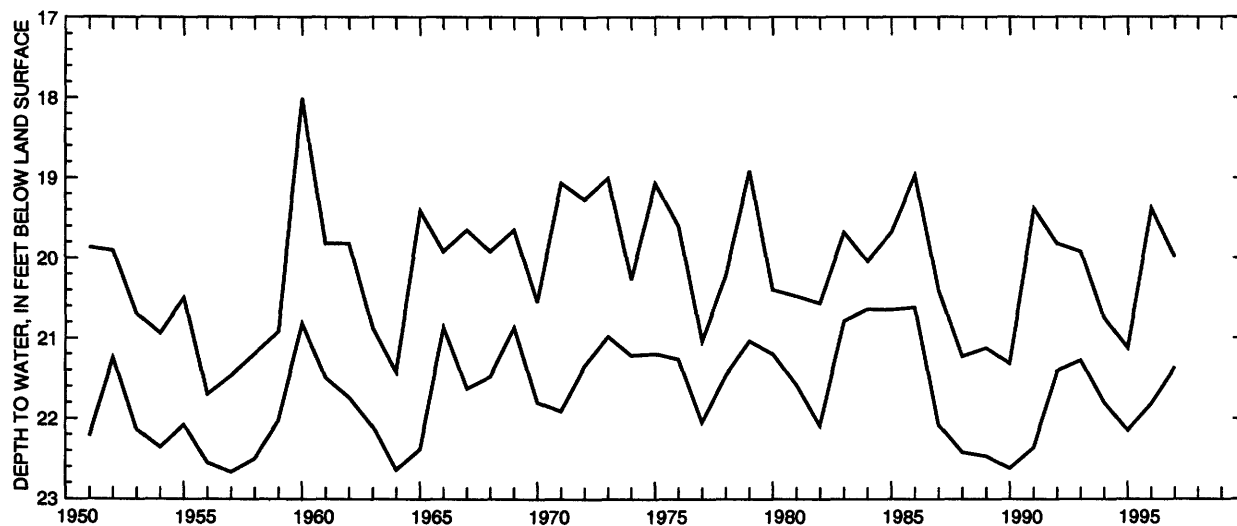
DATUM.--Elevation of land-surface datum is 980 ft above sea level. Measuring point: pointer on float gage, 4.00 ft above land-surface datum.

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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	20.45	DEC 10	20.81	FEB 11	21.14	APR 15	20.18	JUN 17	20.18	AUG 12	20.85
8	20.50	17	20.88	18	21.18	22	20.05	24	20.06	19	20.94
15	20.56	30	20.96	25	21.23	29	20.00	JUL 1	20.24	26	20.98
29	20.56	JAN 7	20.97	MAR 4	21.26	MAY 6	19.99	8	20.36	SEP 2	21.02
NOV 6	20.50	12	21.05	11	21.32	13	20.06	15	20.45	9	21.09
12	20.58	16	21.00	15	21.37	20	20.10	22	20.59	17	21.14
19	20.63	21	21.05	18	21.34	27	20.19	29	20.67	23	21.15
26	20.70	28	21.08	APR 1	21.18	JUN 3	20.24	AUG 6	20.75	30	21.20
DEC 3	20.76	FEB 4	21.11	8	20.62	10	20.31				



MT-37/20E/34-0007

WATER YEAR MAX-MIN LEVEL

GROUND-WATER LEVELS
MARQUETTE COUNTY

473

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.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 880 ft above sea level. 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, 12.15 ft below land-surface datum, July 13, 1993; 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 11	15.49	MAR 19	15.98	MAY 19	15.98	MAY 27	15.05	JUL 9	15.82	SEP 16	17.02
FEB 12	15.82										

433956089275601. Local number, MQ-14/09E/30-0026.

LOCATION.--Lat 43°39'56", long 89°27'56", Hydrologic Unit 04030201. Owner: Leslie Mountford.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled domestic water-table well, diameter 6 in., depth 170 ft, cased to 145 ft, open end.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 800 ft above sea level. Measuring point: 1/4-in. hole in cap of casing, 0.75 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 12	17.94	FEB 12	18.23	MAR 19	18.36	MAY 27	16.23	JUL 9	16.70	SEP 16	17.69

GROUND-WATER LEVELS
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.

INSTRUMENTATION.--Water level measured by observer.

DATUM.--Elevation of land-surface datum is 705 ft above sea level. 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, Jan. 10, 1938; lowest water level, 345.07 ft below land-surface datum, Dec. 3, 1995.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	342.39	JAN 27	325.50	MAR 3	323.25	JUN 9	322.30	SEP 9	328.90

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.

INSTRUMENTATION.--Water level measured monthly by observer.

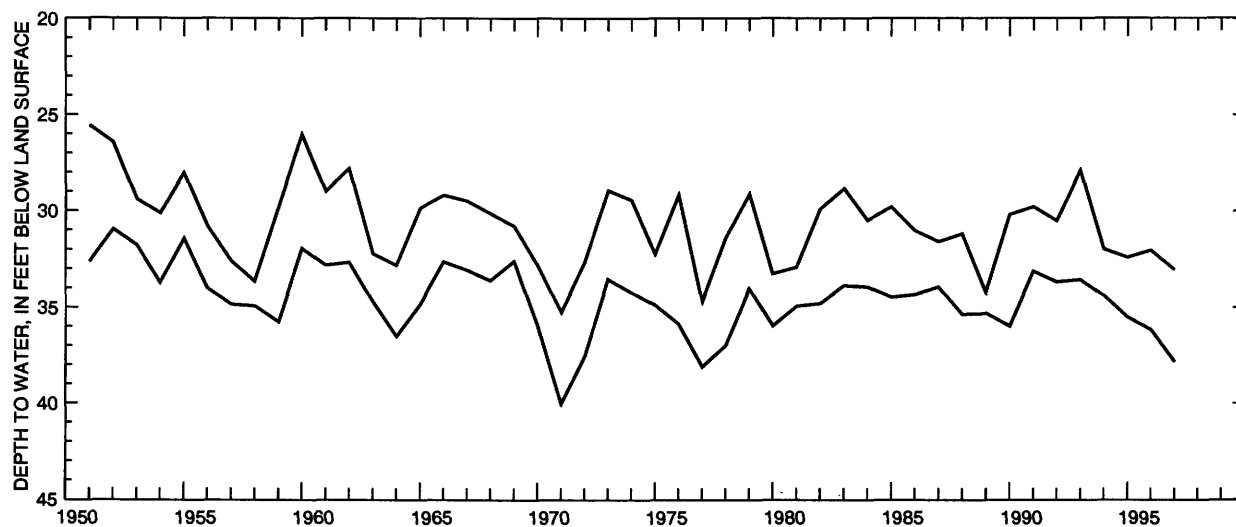
DATUM.--Elevation of land-surface datum is 774 ft above sea level. Measuring point: top of 1/4-in. pipe, at land-surface datum.

PERIOD OF RECORD.--September 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.56 ft below land-surface datum, May 4, 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25	36.32	JAN 31	37.72	MAR 14	37.83	MAY 9	33.14	JUN 30	33.13	JUL 22	33.03



ML-06/21E/32-0148

WATER YEAR MAX-MIN LEVEL

GROUND-WATER LEVELS
MONROE COUNTY

475

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.

INSTRUMENTTION.--Continuous water-level recorder.

DATUM.--Elevation of land-surface datum is 1,100 ft above sea level. Measuring point: top of casing, 0.50 ft above land-surface datum.

REMARKS.--No measurements made in 1981-82 water year.

PERIOD OF RECORD.--July 1934 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.70 ft below land-surface datum, Apr. 10, 1976; lowest water level measured, 18.68 ft below land-surface datum, Feb. 23, 1935.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.25	7.27	7.27	7.48	7.48	7.45	6.77	6.88	7.21	7.35	7.23	7.48
10	7.24	7.30	7.30	7.30	7.46	7.39	7.02	7.03	7.19	7.36	7.33	7.48
15	7.23	7.33	7.31	7.43	7.48	7.13	7.09	7.12	7.19	7.38	7.34	7.49
20	7.23	7.14	7.35	7.48	7.50	7.27	7.13	7.18	7.21	7.27	7.39	7.33
25	7.22	7.25	7.37	7.44	7.49	6.74	7.20	7.19	7.27	7.22	7.41	7.39
EOM	7.21	7.21	7.43	7.44	7.46	6.55	7.21	7.20	7.29	7.07	7.45	7.48
WTR YEAR 1997	MAX	7.58	JAN 4	MIN	6.03	MAR 28						

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.

INSTRUMENTATION.--Continuous water-level recorder.

DATUM.--Elevation of land-surface datum is 909 ft above sea level. 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, 0.48 ft below land-surface datum, Sept. 29, 1965; lowest water level, 8.62 ft below land-surface datum, Oct. 7, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.42					5.56	6.11	6.37	6.20			6.18
10	4.72				5.42	5.59	6.46	6.21	6.21			6.23
15	4.77				5.41	5.49	6.49	6.25	6.06		6.32	6.26
20	4.62				5.37	5.99	6.57	6.28	6.11		6.15	6.43
25					5.63	6.18	6.65	6.30	6.23		6.34	6.73
EOM					5.78	5.90	6.70	6.21	6.25		6.26	6.56
WTR YEAR 1997	MAX	6.81	SEPT 23	MIN	4.42	OCT 4						

GROUND-WATER LEVELS
OCONTO COUNTY

450819088263901. Local number, OC-31/16E/25-0179.

LOCATION.--Lat 45°08'19", long 88°26'392", Hydrologic Unit 04030104. Owner: U.S. Forest Service.

AQUIFER.--Prairie du Chien.

WELL CHARACTERISTICS.--Drilled public water-table well, diameter 6 in., depth 46 ft, cased to 38 ft, open end.

INSTRUMENTATION.--Water level measured by observer.

DATUM.--Elevation of land-surface datum is 920 ft above sea level. Measuring point: hole in pump base, 2.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.54 ft below land-surface datum, June 30, 1993; lowest water level measured, 20.43 ft below land-surface datum, Mar. 22, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	18.25	DEC 4	18.62	FEB 5	19.02	APR 2	18.72	MAY 28	18.52	AUG 13	19.14
9	18.42	11	18.67	12	19.01	9	18.41	JUN 18	18.66	20	19.14
16	18.42	JAN 1	18.79	19	19.08	16	18.45	25	18.68	27	19.21
23	18.42	7	18.82	26	19.11	23	18.41	JUL 2	18.69	SEP 10	19.23
NOV 6	18.48	15	18.88	MAR 12	19.16	MAY 14	18.46	9	18.71	17	19.10
13	18.48	22	18.91	19	19.19	17	18.33	30	18.97	24	19.10
20	18.52	27	18.96	26	19.09	21	18.49	AUG 6	19.11		

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.

INSTRUMENTATION.--Continuous water-level recorder.

DATUM.--Elevation of land-surface datum is 1,607 ft above sea level. 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, 12.31 ft below land-surface datum, May 26, 1973; lowest water level, 19.29 ft below land-surface datum, Mar. 27, 1949.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	14.94	15.11	14.78	14.62	15.18	15.60	15.90	13.72				
10	15.05	15.10	14.76	14.72	15.26	15.65	15.53	13.62	13.18			
15	15.08	15.13	14.75	14.77	15.32	15.72	15.18	13.46	13.12			14.72
20	15.14	15.04	14.75	14.83	15.38	15.78	14.66		13.05			14.77
25	15.16	14.93	14.78	14.86	15.43	15.85	14.28	13.26	13.12			14.75
EOM	15.13	14.83	14.63	15.16	15.41	15.95	13.87		13.15			14.85
WTR YEAR 1997		MAX	15.95	MAR 31	MIN	7.16	MAY 31					

GROUND-WATER LEVELS
ONEIDA COUNTY

477

453720089215401. Local number, ON-36/09E/09-0024.

LOCATION.--Lat 45°37'20", long 89°21'54", 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 33 ft, cased to 37 ft, well point 31-33 ft.

INSTRUMENTATION.--Water level measured weekly by observer.

DATUM.--Elevation of land-surface datum is 1,560 ft above sea level. Measuring point: top of casing, 0.80 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.67 ft below land-surface datum, Aug. 3, 1968; lowest water level measured, 23.16 ft below land-surface datum, Mar. 12, 1990.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	20.43	DEC 9	20.55	FEB 10	20.90	APR 14	20.58	JUN 16	20.18	AUG 11	19.78
13	20.53	16	20.60	17	20.96	21	20.33	23	20.00	18	19.72
21	20.56	23	20.66	24	21.00	28	20.22	30	19.90	25	19.81
28	20.62	30	20.68	MAR 2	21.10	MAY 5	20.14	JUL 7	19.82	SEP 2	19.85
NOV 4	20.60	JAN 6	20.70	10	21.13	12	20.11	14	19.70	8	19.93
11	20.60	13	20.77	17	21.15	19	20.10	21	19.65	15	19.96
18	20.65	20	20.78	24	21.17	27	20.15	28	19.63	22	19.99
25	20.54	27	20.80	31	21.20	JUN 2	20.12	AUG 3	19.66	29	19.90
DEC 2	20.50	FEB 3	20.88	APR 7	21.15	9	20.18				

GROUND-WATER LEVELS
POLK COUNTY

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.

INSTRUMENTATION.--Water level measured weekly by observer.

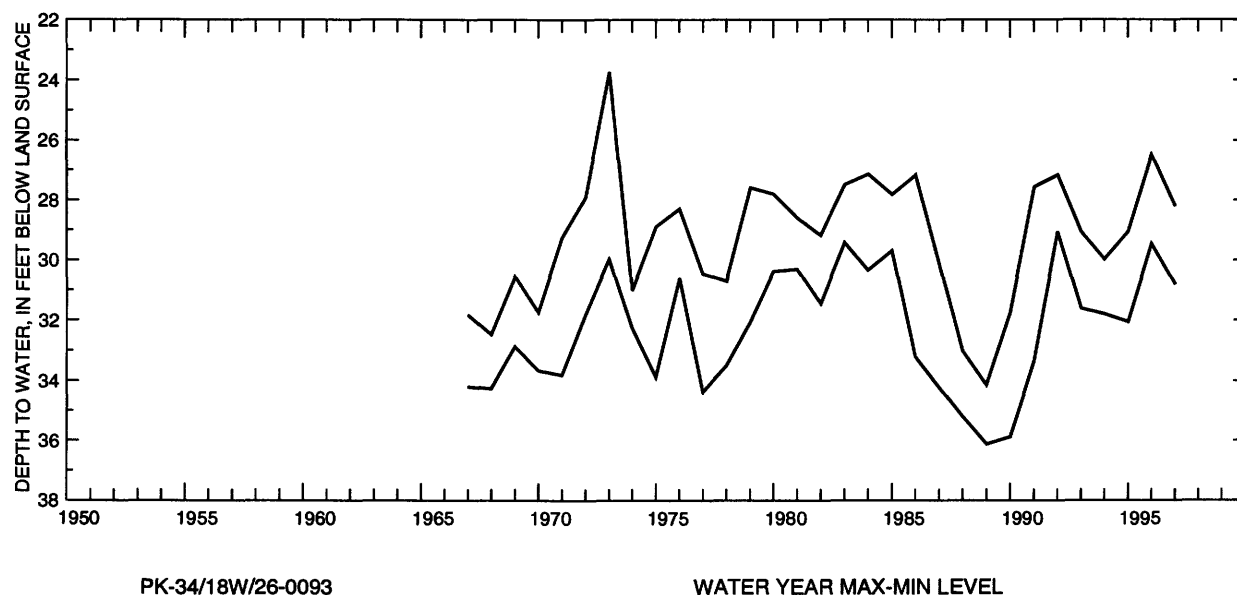
DATUM.--Elevation of land-surface datum is 1,140 ft above sea level. Measuring point: hole in pump base, 2.00 ft above land-surface datum.

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, 36.13 ft below land-surface datum, Mar. 22, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 4	28.58	NOV 29	28.90	FEB 4	30.40	APR 1	29.70	MAY 27	28.36	JUL 29	28.88
10	28.90	DEC 3	28.64	11	30.60	8	29.10	JUN 3	28.60	AUG 5	28.95
15	29.00	10	28.62	17	30.60	15	28.60	10	28.70	12	28.95
23	28.82	17	28.70	25	30.68	24	28.58	17	28.80	19	29.00
30	28.80	24	28.80	MAR 4	30.80	30	28.50	24	28.90	26	28.95
NOV 6	28.80	JAN 8	29.00	11	30.00	MAY 6	28.40	JUL 1	29.00	SEP 9	28.90
13	29.08	14	30.08	18	30.08	13	28.20	8	28.95	16	28.90
19	28.70	21	30.18	25	30.10	20	28.40	22	28.90	23	28.90
26	28.70	28	30.25								



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[illegible]

GROUND-WATER LEVELS
PRICE COUNTY

453311090065301. Local number, PR-35/03E/04-0065.

LOCATION.--Lat 45°33'11", long 90°06'53", Hydrologic Unit 07070001. Owner: Town of Knox.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled domestic water-table well, diameter 6 in., depth 118 ft, cased to 118 ft, open end.

INSTRUMENTATION.--Water level measured monthly by observer.

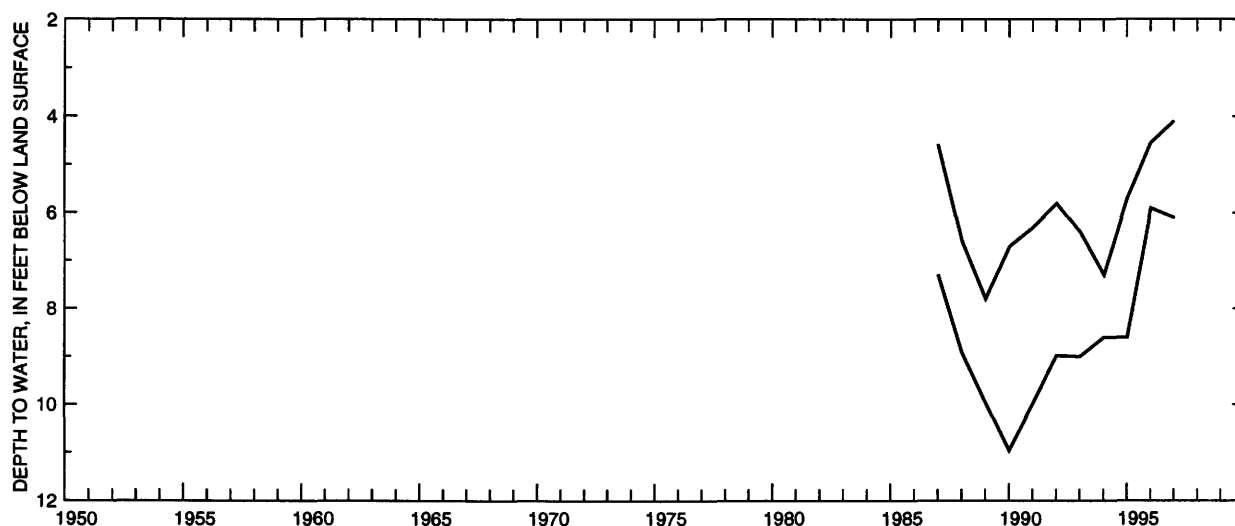
DATUM.--Elevation of land-surface datum is 1,695 ft above sea level. Measuring point: top of casing, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.10 ft above land-surface datum, July 14, 1997; lowest water level measured, 10.96 ft below land-surface datum, Feb. 15, 1990.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	6.10	DEC 9	5.70	FEB 10	5.80	APR 7	4.90	JUN 9	5.10	AUG 11	5.50
NOV 19	5.30	JAN 13	6.00	MAR 10	6.00	MAY 12	4.80	JUL 14	4.10	SEP 8	4.80



PR-35/03E/04-0065

WATER YEAR MAX-MIN LEVEL

GROUND-WATER LEVELS
RACINE COUNTY

481

424119088081801. Local number, RA-03/20E/28-0062.

LOCATION.--Lat 42°41'19", long 88°08'18", Hydrologic Unit 07120006. Owner: Wis. Dept .of Transportation.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in., depth 104 ft, cased to 104 ft, open hole.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 800 ft above sea level. Measuring point: hole in pump base, 1.50 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.21 ft below land-surface datum, Apr. 28, 1988; lowest water level measured, 31.15 ft below land-surface datum, Nov. 11, 1993.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	27.59	DEC 16	27.42	FEB 12	27.72	APR 16	26.70	JUN 12	27.49	SEP 10	28.68
NOV 13	27.40	JAN 14	27.15	MAR 17	26.82	MAY 14	26.28	JUL 22	27.86		

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, ope end.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 725 ft above sea level. 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, 16.45 ft below land-surface datum, Mar. 14, 1991.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	12.52	DEC 12	12.89	FEB 5	13.29	APR 15	12.66	JUN 18	13.08	AUG 12	13.22

**GROUND-WATER LEVELS
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.

INSTRUMENTATION.--Water level measured weekly by observer.

DATUM.--Elevation of land-surface datum is 824 ft above sea level. 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, 67.52 ft below land-surface datum, Nov. 10, 1994.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	61.10	JAN 30	64.95	APR 10	60.96	MAY 22	61.73	JUL 11	63.04	SEP 19	64.07
NOV 21	64.17	FEB 13	61.84	24	62.20	JUN 5	63.36	24	63.03	26	62.48
JAN 23	62.87	MAR 20	61.87	MAY 15	60.77	JUL 3	63.09	SEP 5	62.61		

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.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 1,380 ft above sea level. 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, 7.25 ft below land-surface datum, June 12, 1991; 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11	11.42	JAN 27	13.05	MAR 6	14.00	MAY 13	10.90	JUL 2	11.93	SEP 5	12.94
NOV 12	12.47	FEB 11	13.07	APR 8	8.78						

GROUND-WATER LEVELS
SAUK COUNTY

483

432100089440001. Local number, SK-10/06E/02-0003.

LOCATION.--Lat 43°21'00", long 89°44'00", Hydrologic Unit 07070005. Owner: Badger Army Ammunition Plant.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth 451 ft, cased to 160 ft, open end.

INSTRUMENTATION.--Continuous water-level recorder.

DATUM.--Elevation of land-surface datum is 884 ft above sea level. Measuring point: hole in platform, at land-surface datum.

REMARKS.--Water level affected by pumping of nearby wells.

PERIOD OF RECORD.--May 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 67.23 ft below land-surface datum, Aug. 10, 1993; lowest water level, 83.92 ft below land-surface datum, Aug. 2, 1946.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	73.24	73.83	74.37	74.99	75.57	75.87	75.16	74.22			74.46	74.74
10	73.36	74.04	74.47	74.98	75.54	75.85	75.10	74.11			74.49	74.78
15	73.36	74.11	74.62	75.13	75.62	76.03	74.76	73.78			74.32	74.91
20	73.44	74.01	74.78	75.32	75.69	75.82	74.49	73.70		74.26	74.52	75.16
25	73.61	74.24	74.98	75.49	75.81	75.88	74.54			74.27	74.68	75.02
EOM	73.71	74.08	74.98	75.23	75.72	75.92	74.14			74.48	74.75	75.24

WTR YEAR 1997 MAX 76.05 MAR 12 MIN 73.13 OCT 1

TAYLOR COUNTY

450947090483902. Local number, TA-31/04W/13-0001.

LOCATION.--Lat 45°09'47", long 90°48'39", Hydrologic Unit 07050005. Owner: Village of Gilman.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 18 in., depth 26 ft, cased to 16 ft, screened 16-26 ft.

INSTRUMENTATION.--Continuous water-level recorder.

DATUM.--Elevation of land-surface datum is 1,200 ft above sea level. 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, 3.69 ft below land-surface datum, June 21, 1993; lowest water level, 13.11 ft below land-surface datum, Oct. 15, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.97	8.74	9.38	9.39	9.38	9.31	4.61	9.17	9.10	8.98	9.78	9.14
10	10.03	8.98	9.38	9.39	9.39	9.27	6.40	9.10	9.19	8.75	9.97	8.98
15	10.03	0.00	9.39	9.39	8.58	8.79	7.87	9.27	9.50	9.12	10.07	9.27
20	9.60	0.00	9.38	9.39	8.52	9.18	8.80	9.30	9.29	9.41	10.07	9.05
25	8.94	0.00	9.38	9.41	8.56	8.78	9.00	9.25	9.34	9.57	9.73	9.33
EOM	8.52	0.00	9.39	9.39	8.91	6.67	9.16	8.94	9.58	9.64	9.40	9.54

WTR YEAR 1997 MAX 10.11 AUG 16 MIN 4.42 APR 6

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.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 820 ft above sea level. 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, 131.38 ft below land-surface datum, Sept. 7, 1993; lowest water level measured, 146.56 ft below land-surface datum, Sept. 1, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	139.76	DEC 2	139.01	FEB 10	138.74	APR 1	136.50	JUN 2	138.00	AUG 1	138.97
NOV 4	139.29	JAN 14	139.41	MAR 11	138.71	MAY 5	137.01	JUL 3	138.80	SEP 1	138.82

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.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 740 ft above sea level. 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, 42.80 ft below land-surface datum, Oct. 12, 1993, and Apr. 12, 1994; 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	48.50	DEC 16	47.90	FEB 20	48.50	APR 5	47.80	JUN 9	48.00	JUL 7	49.60
NOV 6	47.60	JAN 14	48.20	MAR 9	47.60	MAY 12	47.80				

GROUND-WATER LEVELS
WAUKESHA COUNTY

425535088131701. Local number, WK-05/19E/02-0031.

LOCATION.--Lat 42°55'35", long 88°13'17", Hydrologic Unit 07120006. Owner: William Bahl.

AQUIFER.--Silurian dolomite.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 508 ft, cased to 434 ft, open end.

INSTRUMENTATION.--Continuous water-level recorder.

DATUM.--Elevation of land-surface datum is 962 ft above sea level. 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, 126.06 ft below land-surface datum, May 10, 1973; lowest water level, 138.14 ft below land-surface datum, Feb. 1, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5			134.94			134.71	134.13	135.01	134.44	134.87	135.79	136.10
10					137.26	134.85	134.32	135.43	134.85	135.14	135.81	136.05
15			134.75		135.69		134.43		135.04	135.02	135.98	135.74
20					135.12	134.81	134.54	135.73	135.22	135.23	136.04	135.67
25	133.39				135.14	134.29	134.60	135.27	135.32	135.44	136.11	135.87
EOM			135.67	133.90	135.00	134.15	134.49	134.26	134.92	135.78	135.99	136.25
WTR YEAR 1997		MAX	137.58	FEB 9		MIN	133.39	OCT 25				

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.

INSTRUMENTATION.--Water level measured weekly by observer.

DATUM.--Elevation of land-surface datum is 764 ft above sea level. 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, 17.45 ft below land-surface datum, May 12, 1997.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	14.15	DEC 7	14.24	JAN 31	14.54	APR 4	13.61	MAY 27	12.64	AUG 1	13.29
12	14.19	14	14.33	FEB 8	14.56	11	11.77	31	12.67	4	13.49
19	14.20	21	14.36	15	14.47	19	12.35	JUN 7	12.69	15	13.63
26	14.12	27	14.38	22	14.48	25	12.39	21	13.17	23	13.69
NOV 9	14.05	JAN 4	14.40	MAR 8	14.31	MAY 3	12.47	27	13.00	SEP 5	13.79
16	14.03	11	14.41	14	14.29	10	12.49	JUL 12	12.89	19	13.83
23	14.02	17	14.45	21	13.95	12	17.45	19	12.88	26	13.85
30	14.19	25	14.48	28	13.78	17	12.59	26	12.91		

GROUND-WATER LEVELS
WAUSHARA COUNTY

487

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.--Drilled unused water-table well, diameter 4 in., depth 18 ft, cased to 18 ft.

INSTRUMENTATION.--Continuous water-level recorder.

DATUM.--Elevation of land-surface datum is 1,080 ft above sea level. 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, 15.34 ft below land-surface datum, Apr. 25, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.77	10.10	10.45	10.80	11.11	11.33	10.52	10.43	10.33	10.38	9.53	9.87
10	9.82	10.17	10.53	10.85	11.16	11.35	10.49	10.42	10.33	10.47	9.61	9.90
15	9.87	10.24	10.58	10.89	11.22	11.25	10.48	10.41	10.33	10.55	9.68	9.94
20	9.92	10.27	10.67	10.96	11.26	11.27	10.46	10.41	10.33	9.69	9.74	9.95
25	9.97	10.34	10.72	10.99	11.28	11.25	10.45	10.40	10.32	9.58	9.79	9.98
EOM	10.03	10.40	10.77	11.06	11.30	10.64	10.43	10.33	10.33	9.52	9.83	10.04
WTR YEAR 1997	MAX	11.35	MAR 8	MIN	9.52	JUL 31						

440345089151701. Local number, WS-18/10E/01-0105.

LOCATION.--Lat 44°03'45", long 89°15'17", Hydrologic Unit 04030201. Owner: Ronald Campbell.

AQUIFER.--Sand and gravel.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 4 in., depth 14 ft, cased to 14 ft, open hole.

INSTRUMENTATION.--Continuous water-level recorder.

DATUM.--Elevation of land-surface datum is 873 ft above sea level. Measuring point: top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--April 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.08 ft below land-surface datum, June 18, 1993; lowest water level measured, 7.87 ft below land-surface datum, Mar. 19, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
LOWEST VALUE

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	3.24	2.54	2.68	2.40	3.13	2.51	1.52	1.74	1.89	0.00	2.73	2.76
10	3.24	2.53	2.73	2.77	3.12	1.91	2.03	2.01	1.89	0.00	2.93	2.88
15	3.23	2.89	2.67	2.99	3.22	2.45	2.13	2.34	1.89	0.00	2.78	3.02
20	3.11	2.82	2.79	3.16	2.32	2.36	2.18	2.44	2.70	1.63	2.44	2.91
25	2.57	2.86	2.91	2.98	2.68	1.61	2.37	2.13	0.00	2.24	2.38	3.03
EOM	2.37	2.76	3.00	3.04	2.78	1.23	2.39	1.89	0.00	2.62	2.58	3.09
WTR YEAR 1997	MAX	3.26	OCT 2	MIN	0.79	JUL 17						

**GROUND-WATER LEVELS
WINNEBAGO COUNTY**

440122088324601. Local number, WI-18/16E/23-0006.

LOCATION.--Lat 44°01'22", long 88°2'46", Hydrologic Unit 04030201. Owner: City of Oshkosh.

AQUIFER.--Sandstone.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 200 ft.

INSTRUMENTATION.--Water level measured monthly by observer.

DATUM.--Elevation of land-surface datum is 765 ft above sea level. 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, 16.65 ft below land-surface datum, Apr. 28, 1993; lowest water level measured, 45.13 ft below land-surface datum, Jan. 1, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	21.14	DEC 27	21.56	FEB 28	21.77	APR 28	19.81	JUL 31	20.09	SEP 30	21.05
NOV 27	21.51	JAN 30	21.63	MAR 31	19.98	JUL 1	19.87	AUG 28	20.98		

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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