U. S. DEPARTMENT OF THE INTERIOR
P. LYNN SCARLETT, Acting Secretary

U. S. GEOLOGICAL SURVEY
P. PATRICK LEAHY, Director

Prepared in cooperation with

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Stockbridge/Munsee Indian Tribe
The University of Wisconsin-Extension, Geological and Natural History Survey
U.S. Army Corps of Engineers
U.S. Department of Agriculture - Dairy Forage Research Center
Village of Wittenberg
Walworth County Metropolitan Sewerage District
Wisconsin Department of Natural Resources
Wisconsin Department of Transportation
Wisconsin Historical Society, Wade House Historic Site

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Middleton, Wisconsin 53562

2006

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:

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This report was prepared under the general supervision of Charles A. Peters, Center Director; Herbert S. Garn, Asst. Center Director; Peter E. Hughes, Asst. Center Director; and Charles P. Dunning, Asst. Center Director.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*

2. REPORT DATE
March 2006

3. REPORT TYPE AND DATES COVERED
Annual - Oct. 1, 2004 to Sept. 30, 2005

4. TITLE AND SUBTITLE

Water Resources Data - Wisconsin, Water year 2005

5. FUNDING NUMBERS

6. AUTHOR(S)

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7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
U.S. Geological Survey
Water Resources Division
8505 Research Way
Middleton, WI 53562

8. PERFORMING ORGANIZATION REPORT NUMBER

USGS-WDR-WI-05-1

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Geological Survey
Water Resources Division
8505 Research Way
Middleton, WI 53562

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

USGS-WDR-WI-05-1

11. SUPPLEMENTARY NOTES

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

12a. DISTRIBUTION / AVAILABILITY STATEMENT

No restriction on distribution. This report may be purchased from National Technical Information Service, Springfield, Virginia 22161.

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

Water-resources data for the 2005 water year for Wisconsin include records of streamflow at gaging stations, partial-record stations, and miscellaneous sites, records of precipitation, and records of chemical, biological, and physical characteristics of surface water. In addition, water levels in observation wells are reported. These data were collected by the U.S. Geological Survey in cooperation with State and local agencies and other Federal agencies in Wisconsin.

14. SUBJECT TERMS
*Wisconsin, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Lakes, Chemical analyses, Sediment, Water levels

15. NUMBER OF PAGES
1008

16. PRICE CODE
Unclassified

17. SECURITY CLASSIFICATION OF REPORT

18. SECURITY CLASSIFICATION OF THIS PAGE

19. SECURITY CLASSIFICATION OF ABSTRACT

20. LIMITATION OF ABSTRACT

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GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

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 Water Science Center at the address given on the back side of the title page of this report.

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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	6.27	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
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
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
Wolf River near Shawano, WI	04077400	816	1907–09, 1910–2001
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
Parsons Creek, Upstream Site, near Fond du Lac, WI	04083420	5.3	1997–2001
Parsons Creek, Downstream Site, near Fond du Lac, WI	04083425	5.7	1997–2001
East Branch Fond du Lac River near Fond du Lac, WI	04083500	78.4	1939–54
Brothertown Creek at Brothertown, WI	04084200	5.10	1976–77
East River at Midway Road near De Pere, WI	04085109	47.0	1993–95

Station name	Station number	Drainage area (mi^2)	Period of record
STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED			
Bower Creek, at County MM, near De Pere, WI	04085119	14.8	1991–95, 1996–97
East Twin River at Mishicot, WI	04085281	110	1972-96
Otter Creek, at Willow Road, near Plymouth, WI	040857005	9.5	1991–2002
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
North Branch Milwaukee River near Random Lake, WI	040863075	51.4	1993–95
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
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
ST. CROIX RIVER BASIN			
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
Deer Lake Tributary #1, Upstream Site, near Centuria, WI	05341404	0.04	1998–99, 2000–01
Deer Lake Tributary #1, Downstream Site, near Centuria, WI	05341405	0.38	1998–2001
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
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
North Fork Eau Claire River near Thorp, WI	05365707	51.0	1986-99, 2000-03
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

Station name	Station number	Drainage area (mi^2)	Period of record
CHIPPEWA RIVER BASIN--CONTINUED			
Chippewa River at (near) Eau Claire, WI	05367000	6,620	1903–09, 1944–54
Red Cedar River at Cty Trunk Highway D at Birchwood, WI	05367102	70.8	2000–01
Sucker Creek at Loch Lamond Blvd near Birchwood, WI	05367154	12.3	2000–01
Hemlock Creek at Cty Trunk Highway F near Mikana, WI	05367190	20.4	2000–01
Red Cedar River at Red Cedar Lake Outlet at Mikana, WI	05367202	151	2000–01
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	1914–61, 1990
Eau Galle River near Woodville	05369900	39.4	1978–1983, 2001–03
Eau Galle River at Low-Water 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
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	05379400	552	1960-77, 2001-04
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
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

Station name	Station number	Drainage area (mi^2)	Period of record
WISCONSIN RIVER BASIN--CONTINUED			
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
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
Brewery Creek, Upstream Site, at Cross Plains, WI	05406469	10.1	2000–02
Brewery Creek at Cross Plains, WI	05406470	10.5	1985–86, 1990–2002
Black Earth Creek at Mills Street at Cross Plains, WI	05406476	25.5	1990-95
Garfoot Creek near Cross Plains, WI	05406491	5.39	1985–86, 1990–94, 1994–98
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	054134435	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
PLATTE RIVER BASIN			
Little Platte River near Platteville, WI	05414213	79.7	1987–90
GALENA RIVER BASIN			
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 near Shullsburg, WI	05418731	9.34	1981–82
ROCK RIVER BASIN			
West Branch Rock River near Waupun, WI	05423000	40.7	1949–70, 1978–81

Station name	Station number	Drainage area (mi^2)	Period of record
ROCK RIVER BASIN--CONTINUED			
West Branch Rock River at County Trunk Highway D near Waupun, WI	05423100	43.9	1978–81
West Branch Rock River at State Highway 49 nr Waupun,WI	05423510	113	1998–2001
East Branch Rock River near Mayville, WI	05424000	179	1949–70, 1998–2001
Rubicon River near Slinger, WI	05424095	7.97	1999–2001
Rubicon River at Pike Lake Outlet near Hartford, WI	054240957	12.31	1999–2001
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 1978–80
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
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
PECATONICA RIVER BASIN			
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
SUGAR RIVER BASIN			
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			
Fox River, at Watertown Road, near Waukesha	05543800	77.4	1992-2000
Jewel Creek at Muskego	05544371	8.16	1999-03
Unnamed Lauderdale Lakes Trib No. 2 near Lauderdale, WI	05544793	0.19	1999–2001
Birches Creek at Lackey Lane near Lake Geneva, WI	05545133	2.07	1998–2001
White River near Burlington, WI	05545300	110	1964–66, 1973–82

[1] No winter record in water year 1997
[2] 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 2005 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 tempeature), 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
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
Peshtigo River at Peshtigo, WI	04069500	1,080	T	1989–90
			SED	1988–90
Peshtigo River at mouth near Peshtigo, 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
Parsons Creek, Upstream Site, near Fond du Lac, WI	04083420	5.3	T	1998–2001
			C	1997–99, 2000–01
Parsons Creek, Middle Site, near Fond du Lac, WI	04083423	5.6	C	1997–99, 2000–01
Parsons Creek, Downstream Site, near Fond du Lac, WI	04083425	5.7	T	1997–2001
			C	1997–99, 2000–01
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
Bower Creek at Highway MM near DePete, WI	04085119	14.8	T,C	1991-97[2]
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
Otter Creek #3A at County Hgihway J near Plymouth, WI	0408570045	9.10	C	1994–97[2]
Otter Creek at Laack Farm near Plymouth, WI	0408570047	9.16	C	1994–97[2]
Otter Creek, at Willow Road, near Plymouth, WI	040857005	9.5	T	1991–2002
			C, SED	1991–97,1999–2002
			DO	1991–97
Onion River at Hingham, WI	04085813	37.2	T,SC,SED	1979–80
			C	1980

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record
STREAMS TRIBUTARY TO LAKE MICHIGAN--CONTINUED				
Onion River near Sheboygan Falls, WI	04085845	94.1	T,SC,SED	1979–80
			C	1980
Parnell Creek near Dundee, WI	04086175	9.35	T	1997
Milwaukee River near Cedarburg, WI	04086600	607	SED	1982–84
Lincoln Creek at 47th Street at Milwaukee, WI	040869415	9.56	T	1993-97[2]
			DO	1994-97[2]
Milwaukee River at Milwaukee, WI	04087000	696	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
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
Namekagon River at Leonards, WI	05331833	126	T,SC	1996–2001
St. Croix River at St. Croix Falls, WI	05340500	6,240	SC	1975–81
			SED	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
Deer Lake Tributary #1, Downstream Site, near Centuria, WI	05341405	0.38	T	1998, 1999–2001
CHIPPEWA RIVER BASIN				
Bear River near Manitowish Waters, WI	05357335	81.3	SED,C	1991–94
Duncan Creek Tributary near Tilden, WI	05364850	4.17	T,C,SED	1987–89
			DO	1987–88[1]
Red Cedar River at Cty Trunk Highway D at Birchwood, WI	05367102	70.8	SED,C	2000–01
Sucker Creek at Loch Lamond Blvd near Birchwood, WI	05367154	12.3	SED,C	2000–01
Hemlock Creek near Mikana, WI	05367190	20.4	SED,C	2000–01
Red Cedar River at Mikana, WI	05367202	151	C	2000–01
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	1975–81[2]
			SED	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	1982–83, 1987–93
			SC	1983
Eau Galle River at Spring Valley, WI	05370000	64.1	T,SC	1978–90
WAUMANDEE CREEK BASIN				
Joos Valley Creek near Fountain City, WI	05378183	5.89	DO	1990-92
Eagle Creek at County Highway G near Fountain City,WI	05378185	14.3	DO	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				

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record
Lake Clara near Tomahawk, WI	453100089343002	0.46	T	1982–86
Little Rock Lake near Woodruff, WI	455946089415704	--	T	1984–87
Prairie River near Merrill, WI	05394500	184	T	1998–2003
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	1985–86
			T,DO	1985–86, 1990–95
Brewery Creek, Upstream Site, at Cross Plains	05406469	10.1	T	2000–02
Brewery Creek at Cross Plains, WI	05406470	10.5	T	1985–86, 1990–98, 2000–02
			SED	1985–86, 1990–98
			C	1985–86, 1990–98
			DO	1990–91
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	1985–86, 1992–98
			DO	1984–85, 1990–98
			T,C	1985–86, 1990–98
Black Earth Creek at South Valley Rd near Black Earth, WI	05406497	40.6	T,DO	1990–98
Black Earth Creek at Black Earth, WI	05406500	45.6	T	1954–65, 1985–86
			DO	1986[1]
			SED	1956–65, 1985–86
			C	1985–86
Trout Creek Confluence Arneson Creek near Barneveld, WI	05406573	8.37	T,SC	1976–79
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 Muscoda, WI	05407000	10,400	T,SC	1975–80[1], 1981
			SED	1975–79
Kickapoo River at Hwy 33 at Ontario, WI	05407470	117	T,SED	1973
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, WI	054134435	9.59	T,DO	1992-96
			C	1993-96
Rattlesnake Creek near North Andover, WI	05413449	42.4	T,DO	1987-96
			C	1992-94
PLATTE RIVER BASIN				
Little Platte River near Platteville, WI	05414213	79.7	T	1987–90
GALENA RIVER BASIN				
			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]
GALENA RIVER BASIN--CONTINUED				
Apple River near Shullsburg, WI	05418731	9.34	T,SC,C	1981–82

Station name	Station number	Drainage area (mi²)	Type of record	Period of record
			DO	1981[1]
ROCK RIVER BASIN				
Rock River at Horicon, Wi	05424057	456	C	1998–2003
Dead Creek near Hustisford, WI	05424075	26.1	C	2002–03
Rock River at Hustisford, WI	05424082	511	C	1999–2003
Rubicon River near Slinger, WI	05424095	7.79	C	1998–2000
Rubicon River at Pike Lake Outlet near Hartford, WI	054240957	12.31	C	1998–2000
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
PECATIONICA RIVER BASIN				
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
SUGAR RIVER BASIN				
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
ILLINOIS RIVER BASIN				
Birches Creek at Lackey Lane near Lake Geneva, WI	05545133	2.07	T	1998–2000
			SED,C	1997–1999
Powers Lake Tributary at Powers Lake, WI	05548163	1.83	C	1987

[1] Seasonal record, non-freezing periods
[2] Numerous periods of missing record

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 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; 2005 water year data for lakes are published in OF 2005-1080.

Water-resources data for Wisconsin for the 2005 water year includes records of streamflow at gaging stations, partial-record stations, and miscellaneous sites; stage and contents of lakes and reservoirs; chemical, physical, and biological characteristics of surface and ground water; and water levels in observation wells. Records from several stations in bordering states are also included. This report contains discharge records from 195 gaging stations and peak stage and discharge from 92 crest-stage stations; stage for 12 lakes and contents for 24 reservoirs; water-quality data from 57 streams and from 1 lake; precipitation from 25 sites; and water-level records from 107 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 2216l. Recent versions of these reports can be found online. Visit : http:/wi.water.usgs.gov/pubs and then click on “online publications”.

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-05-1.” 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 Center Director 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:/wi.water.usgs.gov/.** Information on all U.S. Geological Survey reports and products (including maps, images, and computerized data) is available by calling **1-888-ASK-USGS**. Additional earth science information is available by accessing the U.S. Geological Survey Home Page at **http://www.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:

Bad River Band of Lake Superior Chippewa Indians
Bayfield County
Black River Falls Municipal Utilities
City of Barron
City of Beaver Dam
City of Delafield
City of Fond du Lac
City of Hillsboro
City of Madison
City of Middleton
City of Muskego
City of Peshtigo
City of Sparta
City of Waupun
Dane County Department of Planning and Development
Dane County Department of Public Works
Dane County Regional Planning Commission:
  City of Madison
  City of Middleton
  Village of Westport
Department of Agriculture, Trade and Consumer Protection
Federal Energy Regulatory Commission Licensees:
  Appleton Papers
  Dairyland Power Cooperative
  Excel Energy (NSP)
  Stora Enso
  Wisconsin Electric Power Company
  Wisconsin Public Service Corporation
  Wisconsin Valley Improvement Company
Fontana/Walworth Water Pollution Control Commission
Geneva Lake Environmental Agency
Green Bay Metropolitan Sewerage District
Green Lake Sanitary District
Illinois Department of Transportation
Kickapoo Valley Reserve
Lac Courte Oreilles Tribe
Lac du Flambeau Band of Lake Superior Chippewa
Little Muskego Lake District
Little St. Germain Lake District
Madison Metropolitan Sewerage District
Menominee Indian Tribe of Wisconsin
Milwaukee County
Oneida Indian Tribe of Wisconsin
Price County
Rock County Public Works Department
Rock-Koshkonong Lake District
Sokaogon Chippewa Community, Mole Lake Band

Southeastern Wisconsin Regional Planning Commission:
Milwaukee Metropolitan Sewerage District
  Waukesha County
  City of Racine
  Kenosha Water Utility
Stockbridge/Munsee Indian Tribe
The University of Wisconsin-Extension, Geological and Natural History Survey
Town of Delavan
U.S. Army Corps of Engineers
U.S. Department of Agriculture, Dairy Forage Research Center
Village of Wittenberg
Walworth County Metropolitan Sewerage District
Wisconsin Department of Natural Resources
Wisconsin Department of Transportation
Wisconsin Historical Society, Wade House Historic Site

The following organizations aided in collecting streamflow records: Appleton Papers, Excel Energy (NSP) and Wisconsin Valley Improvement Co. Organizations that provided data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow

The statewide average precipitation for the 2005 water year was 28.95 inches, which was 1.64 inches less than the normal annual precipitation of 32.64 inches for water years 1971-2000. Average precipitation values affecting streamflow conditions ranged from 82 percent in southeast Wisconsin to 96 percent in west central Wisconsin with a statewide average of 89 percent. September 2004 preceded the water year as a very dry month for most of the state, with low flows statewide, however, fall 2004 was close to normal in the central and northern parts of the state, but still somewhat dry in the southern part. It was a wet winter in southern Wisconsin and close to normal in the central and northern parts (summary tables provided by Ed Hopkins, State Climatology Office, University of Wisconsin-Madison, written commun., 2006). This led into a dry spring and a dry warm summer statewide, which by July led to much of southern Wisconsin being declared in severe to extreme drought conditions and northern Wisconsin was declared in severe drought conditions by August (Kapela & Getter, 2005). On July 15, 2005, Gov. Jim Doyle declared statewide emergency drought conditions, allowing farmers to get temporary irrigation permits to save their crops (Wisconsin State Journal, 07/16/05). Drought conditions persisted until the middle of September when widespread rainfall relieved much of the drought conditions (National Climate Data Center, 2005).

Runoff for rivers in the state ranged from 50 percent of the average annual runoff (1974-2005) at the Menomonee River station at Menominee Falls in the far southeast part of the state to 109 percent of the average annual runoff (1916-1924 and 1950-2005) at the Sheboygan River station near Sheboygan in the east central part of the state. Annual discharges for the individual water years (1916-2005) compared to long-term average discharge at the Oconto River near Gillett, Jump River at Sheldon, and Sugar River near Brodhead are shown in figure 1. Comparisons between the monthly and annual discharges for the 2005 water year and a 90-year period at the same three gaging stations are shown in figure 2.

Runoff in the 2005 water year based on stations with drainage areas greater than 150 square miles and at least 20 years of record is shown in figure 3. In certain parts of the state there is an insufficient density of gages meeting the drainage area and duration of record criterion to draw the runoff areas with sufficient precision. This can be seen in northwest and east central Wisconsin where there are adjacent runoff areas that are missing an intermediate runoff category between them.

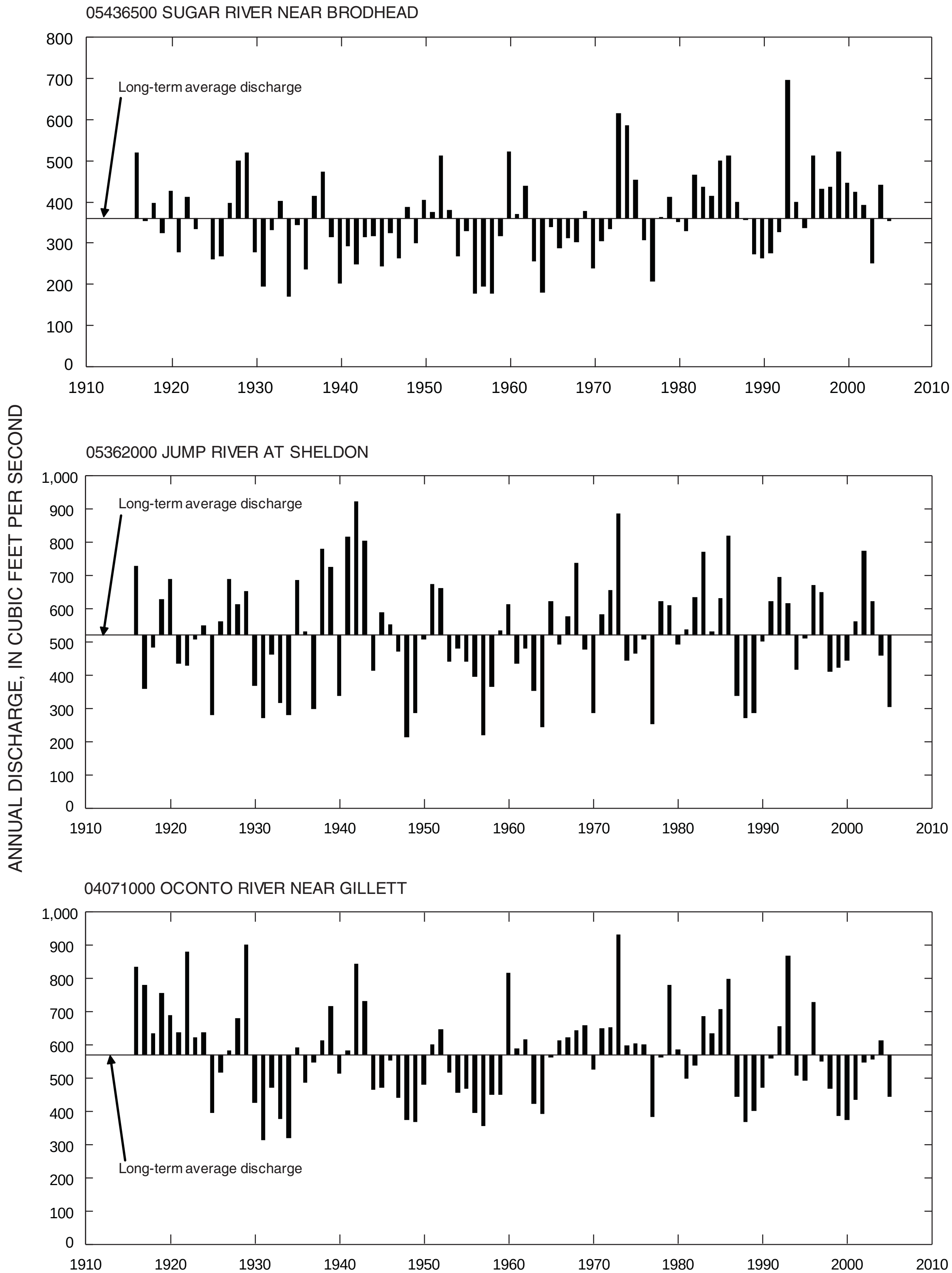

Figure 1. Comparison of annual discharge at representative gaging stations to their long-term average discharge for water years 1916–2005.

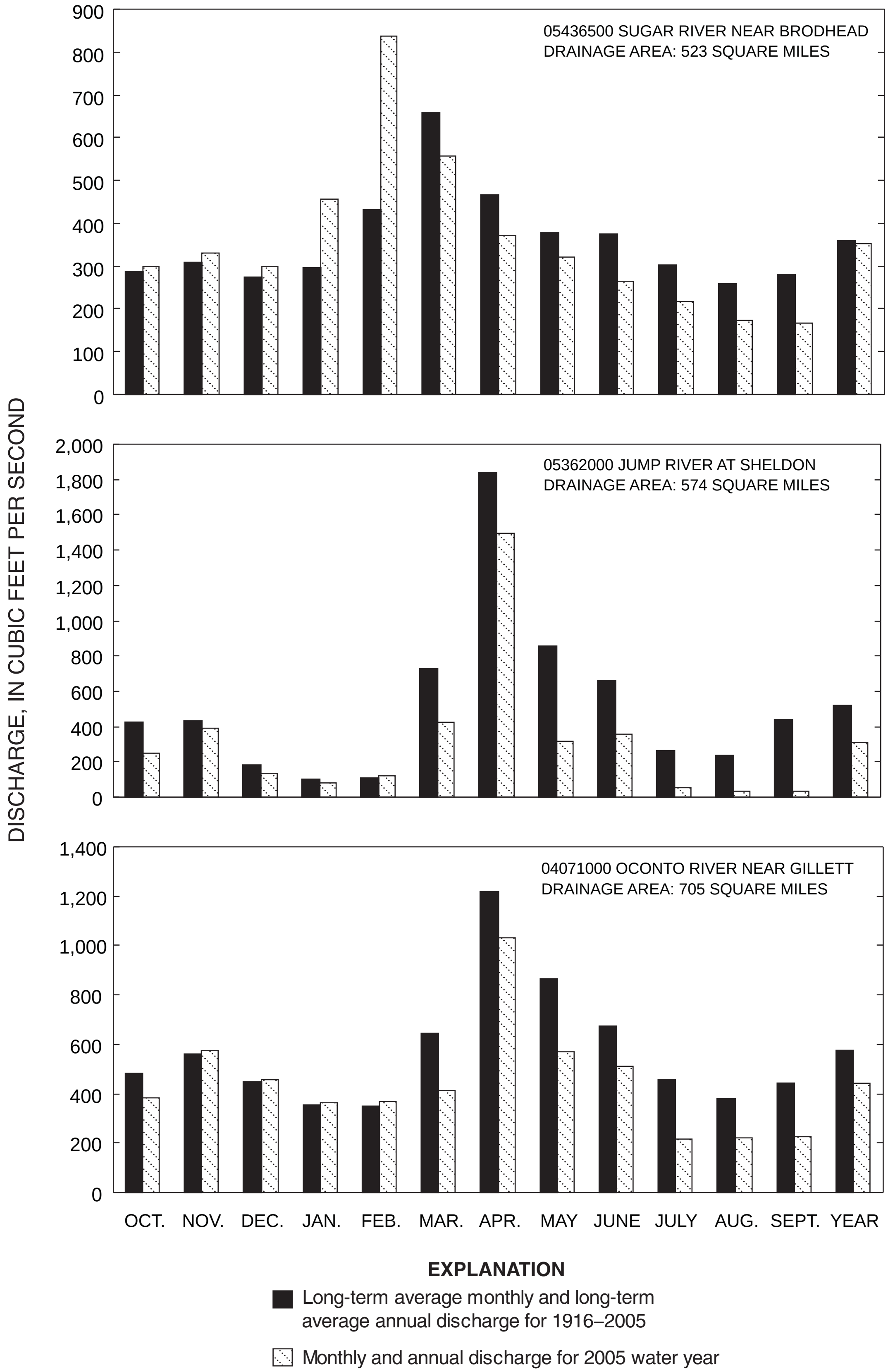

Figure 2. Comparison of discharge at representative gaging stations during the 2005 water year with discharge for 1916–2005

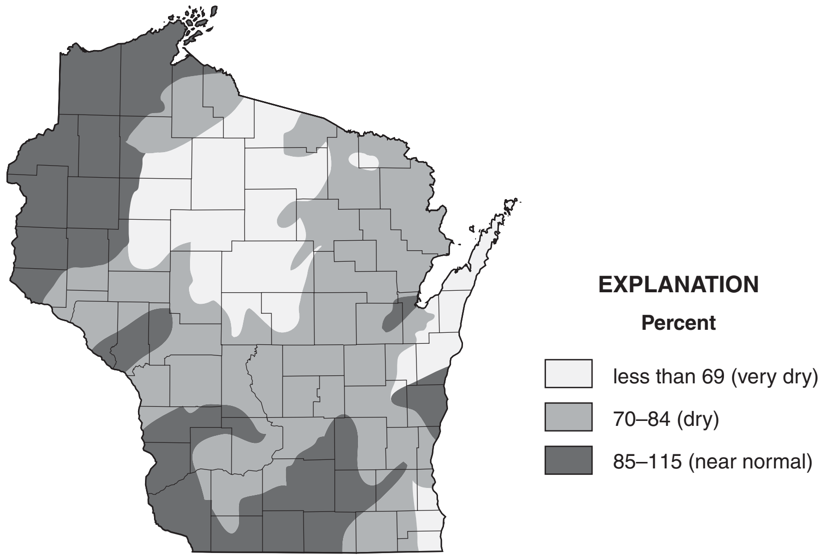

Figure 3. 2005 runoff as percentage of long-term average runoff.

Twenty-five stations had annual minimum 7-consecutive day average flows (Q7) that equaled or exceeded their 10-year recurrence intervals. Twelve stations had the lowest on record and seven had recurrence intervals greater than 100 years. Of these seven sites with Q7 recurrence intervals greater than 100 years, four of them were in south-east Wisconsin and 1 each was in the central, east-central and northeast parts of the state. The Q7 values, the date of occurrence and the recurrence intervals for these stations are listed in table 1.

Table 1. Stations where the lowest mean discharge for 7 consecutive days (Q7) had recurrence intervals of 10 or more years during water year 2005

Station number	Station name	Years of Record	Date	Q7 (cfs)	Approximate recurrence interval (years)
04065106	Menominee River at Niagara	12	Sep. 15	755*	>100
04066003	Menominee River near Pembine	57	Sep. 16	952	30
04066500	Pike River at Amberg	62	Sep. 7	71	10
04067500	Menominee River near McAllister	36	Sep. 18	1,030	25
04071000	Oconto River near Gillett	96	Aug. 4	182	20
04073468	Green Lake Inlet near Green Lake	18	Jul. 10	0.3*	>100
04074950	Wolf River at Langlade	36	Jul. 16	164	10
04082400	Fox River at Oshkosh	13	Oct. 17	402*	30
04085200	Kewaunee River near Kewaunee	41	Aug. 4	4.5*	>100
04086600	Milwaukee River near Cedarburg	22	Aug. 31	52	15
04087159	Kinnickinnic River at Milwaukee	22	Dec. 21	2.8*	50
04087220	Root River near Franklin	43	Aug. 30	1.4	40
04087233	Root River Canal near Franklin	43	Sep. 8	0.22*	>100
04087240	Root River at Racine	43	Sep. 15	0.11	40
05333500	St. Croix River near Danbury	89	Aug. 3	544	10
05357225	Stevenson Creek near Boulder Junction	13	Aug. 6	0.75	20
05357245	Trout River at Trout Lake	13	Oct. 5	8.2*	20
05357335	Bear River near Manitowish Waters	13	Sep. 12	1.6*	80
05382325	La Crosse River at Sparta	12	Feb. 6	82*	30
05393500	Spirit River at Spirit Falls	64	Aug. 13	2.5	15

05395000	Wisconsin River at Merrill	104	Aug. 30	788	15
05400760	Wisconsin River at Wisconsin Rapids	85	Sep. 2	1,060	15
05431016	Jackson Creek at Mound Rd. nr Elkhorn	11	Sep. 7	0.06*	>100
05431017	Delavan Lake Inlet at Lake Lawn	20	Sep. 7	0.08*	>100
05438283	Piscasaw Creek near Walworth	12	Sep. 11	0.43*	>100
* indicates the lowest Q7 on record					

Given the dry conditions this year, there were few stations that recorded discharges equal to or above the 5-year recurrence intervals. The five stations that recorded peak discharges that equaled or exceeded the 5-year recurrence interval are listed in table 2.

Table 2. Stations that recorded a peak discharge that equaled or exceeded the 5-year recurrence interval during water year 2005

Station number	Station name	Drainage area (mi^2)	Date	Instantaneous peak discharge (ft^3/s)	Peak of record (y/n)	Approximate recurrence interval (years)
04027500	White River near Ashland	301	Jun. 24	6,720	n	35
04073400	Bird Creek at Wautoma	4.14	Jun. 13	113	n	5
05368000	Hay River at Wheeler	418	Mar. 31	7,030	n	9
05369000	Red Cedar River at Menomonie	1,770	Apr. 1	19,000	n	25
05548150	N. Br. Nippersink Creek near Genoa City	13.6	Feb. 14	302	n	7

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Walker, J.F. and W.R. Krug, 2003, Flood-frequency Characteristics of Wisconsin Streams: U.S. Geological Survey Water Resources Investigations Report 03-4250, 185 p.

Wisconsin State Journal, Drought is taking a toll in state, Governor declares emergency: July 16, 2005.

Water Quality

Suspended-sediment yields at three monitoring sites in southern Wisconsin in water year 2005 ranged from 40 to 53 percent of their long-term yields. Water discharge ranged from 71 to 99 percent of long-term normal for the sites. Yahara River at Windsor in south-central Wisconsin experienced a 53 percent of normal sediement yield, and corresponding annual discharge, which was 99 percent of normal. Sediment yield at Jackson Creek Tributary near Elkhorn in southeastern Wisconsin was 44 percent of normal and discharge was 71 percent of normal. At Green Lake Inlet (Silver Creek) near Green Lake sediment yield was 40 percent of normal, whereas, discharge was 71 percent of normal.

Phosphorus yields in water year 2005 from the watersheds in southern Wisconsin were above normal at one site and below normal at two sites. Yields at these sites ranged from 54 to 153 percent of normal. The phosphorus yield for Yahara River at Windsor was 153 percent of normal. The yield for Jackson Creek Tributary and for Green Lake Inlet was 54 percent of normal. The phophorus yield at Yahara River at Windsor was high relative to sediment yield and out of line with the patter of phosphorus relative to sediment yields at Jackson Creek and Green Lake Inlet. About 60 percent of annual phosphorus load at Yahara River occurred during February, during which there were two significant frozen-ground runoff events.

Sampling Method Codes

Water-quality analyses stored in USGS computer files (WATSTORE) contains codes that identify the sampling method used to collect the sample. Codes in use for Wisconsin data are as follows:

Method	Method Code
Equal Width Increment (EWI)	10
Equal Discharge Increment (EDI)	20
Single Vertical	30
Multiple Vertical	40
Point Sample	50
Weighted Bottle	60
Grab Sample	70
Van Dorn Sampler	100
Submersible Pump	4040
Peristaltic Pump	4080

Ground-Water Levels

Shallow ground-water levels during the first 6 months of the 2005 water year (October 2004 through March 2005) were generally found to be, as represented by selected wells in the Wisconsin Observation Well Network, either near their long-term monthly averages or consistently below those monthly averages. The few exceptions, wells where levels during the first 6 months were consistently above their long-term monthly averages, were found in Marinette, Manitowoc, Adams, and Dane counties. Network wells in two counties, Langlade and Waukesha, experienced a record-low level (for their period of record) during October and November, respectively. These deviations from normal levels are primarily a reflection of the variable precipitation patterns over the first half of the water year. During the second half of the water year (April 2005 through September 2005) the state experienced a dry spring and a warm, dry summer resulting in declaration of severe to extreme drought conditions across much of the state. This is clearly reflected in the declining water levels for the network wells for this period. Network wells in Marquette, Manitowoc, Langlade, Dane, and Waukesha experienced a record- or near-record-low level (for their period of record) during at least one month during the second half of the water year.

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, hydrologic-station records in USGS reports have been listed in order of downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary entering between two main-stream stations is listed between those stations. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is located with respect to the stream to which it is immediately tributary is indicated by an indention in that list of stations in the front of this report. Each indentation represents one rank. This downstream order and system of indentation indicates which stations are on tributaries between any two stations and the rank of the tributary on which each station is located.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These station numbers are in the same downstream order used in this report. In assigning a station number, no 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 composed of both types of stations. Gaps are consecutive. The complete 8-digit (or 10-digit) number for each station such as 09004100, which appears just to the left of the station name, includes a 2-digit part number “09” plus the 6-digit (or 8-digit) downstream order number “004100.” In areas of high station density, an additional two digits may be added to the station identification number to yield a 10-digit number. The stations are numbered in downstream order as described above between stations of consecutive 8-digit numbers.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The USGS well and miscellaneous site-numbering system is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, and the next 7 digits denote degrees, minutes, and seconds of longitude; the last 2 digits are a sequential number for wells within a 1-second grid. In the event that the latitude-longitude coordinates for a well and miscellaneous site are the same, a sequential number such as “01,” “02,” and so forth, would be assigned as one would for wells (see fig. 4). The 8-digit, downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

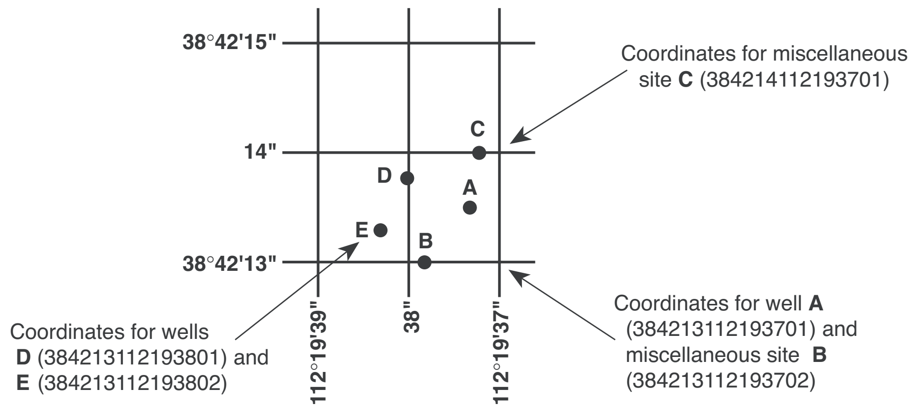


Figure 4. System for numbering wells and miscellaneous sites (latitude and longitude).

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 61 sites in small drainage basins in 39 States that was established in 1963 to provide consistent streamflow data representative of undeveloped watersheds nationwide, and from which data could be analyzed on a continuing basis for use in comparison and contrast with conditions observed in basins more obviously affected by human activities. At selected sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the effects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program may be accessed from http://ny.cf.er.usgs.gov/hbn/.

National Stream-Quality Accounting Network (NASQAN) is a network of sites used to monitor the water quality of large rivers within the Nation’s largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande River basins. For the period 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia Rivers so that a network of five stations could be implemented on the Yukon River. 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 (NAWQA) Program; (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. Additional information about the NASQAN Program may be accessed from *http://water.usgs.gov/nasqan/*.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) is a network of monitoring sites that provides continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from this network of 250 precipitation-chemistry monitoring sites. The USGS supports 74 of these 250 sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as data from the individual sites, may be accessed from *http://bqs.usgs.gov/acidrain/*.

The USGS National Water-Quality Assessment (NAWQA) Program 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; to provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and to provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 42 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 is 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 water-resources managers to use in making decisions 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 representatives 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 for collaboration among the agencies. Additional information about the NAWQA Program may be accessed from *http://water.usgs.gov/nawqa/*.

The USGS National Streamflow Information Program (NSIP) is a long-term program with goals to provide framework streamflow data across the Nation. Included in the program are creation of a permanent Federally funded streamflow network, research on the nature of streamflow, regional assessments of streamflow data and databases, and upgrades in the streamflow information delivery systems. Additional information about NSIP may be accessed from *http://water.usgs.gov/nsip/*.

EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS

Data Collection and Computation

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and volume of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that is either downloaded electronically in the field to a laptop computer or similar device or is transmitted using telemetry such as GOES satellite, land-line or cellular-phone modems, or by radio transmission. Measurements of discharge are made with a current meter or acoustic Doppler current profiler, using the general methods adopted by the USGS. These methods are described in standard textbooks, USGS Water-Supply Paper 2175, and the Techniques of Water-Resources Investigations of the United States Geological Survey (TWRIs), Book

3, Chapters A1 through A19 and Book 8, Chapters A2 and B2, which may be accessed from http://water.usgs.gov/pubs/twri/. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standardization (ISO).

For stream-gaging stations, discharge-rating tables for any stage are prepared from stage-discharge curves. If extensions to the rating curves are necessary to express discharge greater than measured, the extensions are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or computation of flow over dams and weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily values. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features of the stream channel, the daily mean discharge is computed by the shifting-control method in which correction factors that are based on individual discharge measurements and notes by engineers and observers are used when applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the controlling section, the daily mean discharge is computed by the shifting-control method.

The stage-discharge relation at some stream-gaging stations is affected by backwater from reservoirs, tributary streams, or other sources. Such an occurrence necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage at some distance from the base gage.

An index velocity is measured using ultrasonic or acoustic instruments at some stream-gaging stations, and this index velocity is used to calculate an average velocity for the flow in the stream. This average velocity along with a stage-area relation is then used to calculate average discharge.

At some stations, the stage-discharge relation is affected by changing stage. At these stations, the rate of change in stage is used as a factor in computing discharge.

At some stream-gaging stations in the northern United States, the stage-discharge relation is affected by ice in the winter; therefore, computation of the discharge in the usual manner is impossible. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter-discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge from other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the volume or contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly changes are computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some stream-gaging stations, periods of time occur when no gage-height record is obtained or the recorded gage height is faulty and cannot be used to compute daily discharge or contents. Such a situation can happen when the recorder stops or otherwise fails to operate properly, the intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records from other stations in the same or nearby basins. Likewise, lake or reservoir volumes may be estimated on the basis of operator’s log, prior and subsequent records, inflow-outflow studies, and other information.

Data Presentation

The records published for each continuous-record surface-water discharge station (stream-gaging station) consist of five parts: (1) the station manuscript or description; (2) the data table of daily mean values of discharge for the current water year with summary data; (3) a tabular statistical summary of monthly mean flow data for a designated period, by water year; (4) 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; and (5) a hydrograph of discharge.

Station Manuscript

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 follow that clarify information presented under the various headings of the station description.

LOCATION.—Location information is obtained from the most accurate maps available. The location of the gaging station 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, given for only a few stations, were determined by methods given in “River Mileage Measurement,” Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.—Drainage areas are measured using the most accurate maps available. Because the type of maps 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 term indicates the time period for which records have been published for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that its flow reasonably can be considered equivalent to flow at the present station.

REVISED RECORDS.—If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

GAGE.—The type of gage in current use, the datum of the current gage referred to a standard datum, 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 either will be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See section titled Identifying Estimated Daily Discharge.) Information is presented relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, the outlet works and spillway, and the purpose and use of the reservoir.

COOPERATION.—Records provided by a cooperating organization or obtained for the USGS by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.—Information here documents major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the USGS.

REVISIONS.—Records are revised if errors in published records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based national data system, NWISWeb (*http://water.usgs.gov/nwis/nwis*). Users are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent data updates. Updates to NWISWeb are made on an annual basis.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because no current or, possibly, future station manuscript would be published for these stations 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 USGS Water Science Center (address given on the back of the title page of this report) to determine if the published records were revised after the station was discontinued. If, however, the data for a discontinued station were obtained by computer retrieval, the data would be current. Any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the REMARKS and in the inclusion of a stage-capacity table when daily volumes are given.

Peak Discharge Greater than Base Discharge

Tables of peak discharge above base discharge are included for some stations where secondary instantaneous peak discharge data are used in flood-frequency studies of highway and bridge design, flood-control structures, and other flood-related projects. The base discharge value is selected so an average of three peaks a year will be reported. This base discharge value has a recurrence interval of approximately 1.1 years or a 91-percent chance of exceedence in any 1 year.

Data Table of Daily Mean Values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed TOTAL gives the sum of the daily figures for each month; the line headed MEAN gives the arithmetic average flow in cubic feet per second for the month; and the lines headed MAX and MIN give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month is 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). Values for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if extensive regulation or diversion is in effect or if the drainage area includes large noncontributing areas. At some stations, monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir volumes are given. These values are identified by a symbol and a corresponding footnote.

Statistics of Monthly Mean Data

A tabular summary of the mean (line headed MEAN), maximum (MAX), and minimum (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 values. 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. The designated period will consist of all of the station record within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are 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 records within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are 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 the dates of occurrence do not fall within the selected water years listed in the heading, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration-curve statistics and runoff data also are given. Runoff data may be omitted if extensive regulation or diversion of flow is in effect in the drainage basin.

The following summary statistics data are provided with each continuous record of discharge. Comments that 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.

ANNUAL MEAN.—The arithmetic mean for the individual daily mean discharges for the year noted or for the designated period.

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.

MAXIMUM PEAK FLOW.—The maximum instantaneous peak discharge occurring for the water year or designated period. Occasionally the maximum flow for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak flow is given in the table and the maximum flow may be reported in a footnote or in the REMARKS paragraph in the manuscript.

MAXIMUM PEAK STAGE.—The maximum instantaneous peak stage occurring for the water year or designated period. Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, 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 equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.
>
> Cubic feet per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.
>
> Inches (INCHES) indicate 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 has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.—The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.—The discharge that has been exceeded 90 percent of the time for the designated period.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first table lists annual maximum stage and discharge at crest-stage stations, and the second table lists discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are often made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for a special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified. This identification is shown either by flagging individual daily values with the letter “e” and noting in a table footnote, “e–Estimated,” or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of Field Data and Computed Results

The accuracy of streamflow data 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 observations of stage, measurements of discharge, and interpretations of records.

The degree of accuracy of the records is stated in the REMARKS in the station description. “Excellent” indicates 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. “Poor” indicates that daily discharges have less than “fair” accuracy. Different accuracies may be attributed to different parts of a given record.

Values of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft^3/s; to the nearest tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to three significant figures above 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharge values listed for partial-record stations.

Discharge at many stations, as 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, values of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of 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, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Data Records Available

Information of a more detailed nature than that published for most of the stream-gaging stations such as discharge measurements, gage-height records, and rating tables is available from the USGS Water Science Center. Also, most stream-gaging station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the USGS Water Science Center (see address that is shown on the back of the title page of this report).

EXPLANATION OF PRECIPITATION RECORDS

Data Collection and Computation

Rainfall data generally are collected using electronic data loggers that measure the rainfall in 0.01-inch increments every 15 minutes using either a tipping-bucket rain gage or a collection well gage. Twenty-four hour rainfall totals are tabulated and presented. A 24-hour period extends from just past midnight of the previous day to midnight of the current day. Snowfall-affected data can result during cold weather when snow fills the rain-gage funnel and then melts as temperatures rise. Snowfall-affected data are subject to errors. Missing values are indicated by this symbol “---” in the table.

Data Presentation

Precipitation records collected at surface-water gaging stations are identified with the same station number and name as the stream-gaging station. Where a surface-water daily-record station is not available, the precipitation record is published with its own name and latitude-longitude identification number.

Information pertinent to the history of a precipitation station is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, period of record, and general remarks.

The following information is provided with each precipitation station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.—See Data Presentation in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

PERIOD OF RECORD.—See Data Presentation in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

INSTRUMENTATION.—Information on the type of rainfall collection system is given.

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

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

Surface-water samples for analysis usually are collected at or near stream-gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, water temperature, sediment discharge, and so forth); extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, sampling date, or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water Analysis

Most of the methods used for collecting and analyzing water samples are described in the TWRIs, which may be accessed from *http://water.usgs.gov/pubs/twri/*.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary considerably 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 at several verticals to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available 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. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values (and sometimes mean or median values) for each constituent measured and are based on 15-minute or 1-hour intervals of recorded data beginning at 0000 hours and ending at 2400 hours for the day of record.

SURFACE-WATER-QUALITY RECORDS

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because discharge data are useful in the interpretation of surface-water quality. Records of surface-water quality in this report involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A *continuous-record station* is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A *partial-record station* is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A *miscellaneous sampling site* is a location other than a continuous- or partial-record station, where samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between *continuous records* as used in this report and *continuous recordings* that refer to a continuous graph or a series of discrete values recorded at short intervals. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in on basin maps for each major surface-water drainage basin (see Table of Contents).

Accuracy of the Records

One of four accuracy classifications is applied for measured physical properties at continuous-record stations on a scale ranging from poor to excellent. The accuracy rating is based on data values recorded before any shifts or corrections are made. Additional consideration also is given to the amount of publishable record and to the amount of data that have been corrected or shifted.

Rating the accuracy of continuous water-quality records

[≤, less than or equal to; ±, plus or minus value shown; °C, degree Celsius; >, greater than; %, percent; mg/L, milligram per liter; pH unit, standard pH unit]

Measured field parameter	Ratings of accuracy (Based on combined fouling and calibration drift corrections applied to the record)			
	Excellent	**Good**	**Fair**	**Poor**
Water temperature	≤ ± 0.2 °C	> ± 0.2 – 0.5 °C	> ± 0.5 – 0.8 °C	> ± 0.8 °C
Specific conductance	≤ ± 3%	> ± 3 – 10%	> ± 10 – 15%	> ± 15%
Dissolved oxygen	≤ ± 0.3 mg/L or ≤ ± 5%, whichever is greater	> ± 0.3 – 0.5 mg/L or > ± 5 – 10%, whichever is greater	> ± 0.5 – 0.8 mg/L or > ± 10 – 15%, whichever is greater	> ± 0.8 mg/L or > ± 15%, whichever is greater
pH	≤ ± 0.2 units	> ± 0.2 – 0.5 units	> ± 0.5 – 0.8 units	> ± 0.8 units
Turbidity	≤ ± 0.5 turbidity units or ≤ ± 5%, whichever is greater	> ± 0.5 – 1.0 turbidity units or > ± 5 – 10%, whichever is greater	> ± 1.0 – 1.5 turbidity units or > ± 10 – 15%, whichever is greater	> ± 1.5 turbidity units or > ± 15%, whichever is greater

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

Onsite Measurements and Sample Collection

In obtaining water-quality data, a major concern is assuring that the data obtained represent the naturally occurring quality of the water. To ensure this, certain measurements, such as water temperature, pH, and dissolved oxygen, must be made onsite when the samples are collected. To assure that measurements made in the laboratory also represent the naturally occurring water, carefully prescribed procedures must be 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 onsite measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1-A9. Most of the methods used for collecting and analyzing water samples are described in the TWRIs, which may be accessed from http://water.usgs.gov/pubs/twri/. Also, detailed information on collecting, treating, and shipping samples can be obtained from the USGS Water Science Center (see address that is shown on the back of title page in this report).

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the USGS Water Science Center.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross section.

During periods of rapidly changing flow or rapidly changing concentration, samples may be collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration are computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples are collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observation, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

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

Laboratory Measurements

Samples for biochemical oxygen demand (BOD) and indicator bacteria are analyzed locally. All other samples are analyzed in the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chapter C1. Methods used by the USGS laboratories are given in the TWRIs, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. The TWRI publications may be accessed from http://water.usgs.gov/pubs/twri/. These methods are consistent with ASTM standards and generally follow ISO standards.

Data Presentation

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

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 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 information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

DRAINAGE AREA.—See Data Presentation information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

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

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

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

COOPERATION.—Records provided by a cooperating organization or obtained for the USGS by a cooperating organization are identified here.

EXTREMES.—Maximums and minimums are given only for parameters measured daily or more frequently. For parameters measured weekly or less frequently, true maximums or minimums may not have been obtained. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.—Records are revised if errors in published water-quality records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based national data system, NWISWeb (*http://waterdata.usgs.gov/nwis*). Users of USGS water-quality data are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent updates. Updates to the NWISWeb are made on an annual basis.

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

Remark Codes

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

Printed Output	Remark
E	Value is estimated.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
M	Presence of material verified, but not quantified.
N	Presumptive evidence of presence of material.
U	Material specifically analyzed for, but not detected.
A	Value is an average.
V	Analyte was detected in both the environmental sample and the associated blanks.
S	Most probable value.

Water-Quality Control Data

The USGS National Water Quality Laboratory collects quality-control data on a continuing basis to evaluate selected analytical methods to determine long-term method detection levels (LT-MDLs) and laboratory reporting levels (LRLs). These values are re-evaluated each year on the basis of the most recent quality-control data and, consequently, may change from year to year.

This reporting procedure limits the occurrence of false positive error. Falsely reporting a concentration greater than the LT-MDL for a sample in which the analyte is not present is 1 percent or less. Application of the LRL limits the occurrence of false negative error. The chance of falsely reporting a nondetection for a sample in which the analyte is present at a concentration equal to or greater than the LRL is 1 percent or less.

Accordingly, concentrations are reported as less than LRL for samples in which the analyte either was not detected or did not pass identification. Analytes detected at concentrations between the LT-MDL and the LRL and that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of “E.” These data should be used with the understanding that their uncertainty is greater than that of data reported without the E remark code.

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC samples collected by a USGS Water Science Center are described in the following section. Procedures have been established for the storage of water-quality-control data within the USGS. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples. These data are not presented in this report but are available from the USGS Water Science Center.

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated in the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. Many types of blank samples are possible; each is designed to segregate a different part of the overall data-collection process. The types of blank samples collected by this USGS Water Science Center are:

Field blank—A blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank—A blank solution that is put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank—A blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

Sampler blank—A blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank—A blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank—A blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank—A blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory. The reference material composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. Many types of replicate samples are possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this district are:

Concurrent samples—A type of replicate sample in which the samples are collected simultaneously with two or more samplers or by using one sampler and alternating the collection of samples into two or more compositing containers.

Sequential samples—A type of replicate sample in which the samples are collected one after the other, typically over a short time.

Split sample—A type of replicate sample in which a sample is split into subsamples, each subsample contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.

EXPLANATION OF GROUND-WATER-LEVEL RECORDS

Generally, only ground-water-level data from selected wells with continuous recorders from a basic network of observation wells are published in this report. This basic network contains observation wells located so that the most significant data are obtained from the fewest wells in the most important aquifers.

Site Identification Numbers

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is produced for local needs. (See NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES in this report for a detailed explanation).

Data Collection and Computation

Measurements are made in many types of wells, under varying conditions of access and at different temperatures; hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Most methods for collecting and analyzing water samples are described in the TWRIs referred to in the Onsite Measurements and Sample Collection and the Laboratory Measurements sections in this report. In addition, TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1 through A9. The TWRI publications may be accessed from *http://water.usgs.gov/pubs/twri/*. The values in this report represent water-quality conditions at the time of sampling, as much as possible, and that are consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. Trained personnel collected all samples. The wells sampled were pumped long enough to ensure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

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. If known, the elevation of the land-surface datum above sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (EOM).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth of water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Data Presentation

Water-level data are presented in alphabetical order by county. The primary identification number for a given well is the 15-digit site identification number that appears in the upper left corner of the table. The secondary identification number is the local or county well number. Well locations are shown and each well is identified by its local well or county well number on a map in this report (fig. 6).

Each well record consists of three parts: the well description, the data table of water levels observed during the water year, and, for most wells, a hydrograph following the data table. Well descriptions are presented in the headings preceding the tabular data.

The following comments clarify information presented in these various headings.

LOCATION.—This paragraph follows the well-identification number and reports the hydrologic-unit number and a geographic point of reference. Latitudes and longitudes used in this report are reported as North American Datum of 1927 unless otherwise specified.

AQUIFER.—This entry designates by name and geologic age the aquifer that the well taps.

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

INSTRUMENTATION.—This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on continuous, monthly, or some other frequency of measurement.

DATUM.—This entry describes both the measuring point and the land-surface elevation at the well. The altitude of the land-surface datum is described in feet above the altitude datum; it is reported with a precision depending on the method of determination. The measuring point is described physically (such as top of casing, top of instrument shelf, and so forth), 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 National Geodetic Vertical Datum of 1929 (NGVD 29); it is reported with a precision depending on the method of determination.

REMARKS.—This entry describes factors that may affect the water level in a well or the measurement of the water level, when various methods of measurement were begun, and the network (climatic, terrane, local, or areal effects) or the special project to which the well belongs.

PERIOD OF RECORD.—This entry indicates the time period for which records are published for the well, the month and year at the start of publication of water-level records by the USGS, and the words “to current year” if the records are to be continued into the following year. Time periods for which water-level records are available, but are not published by the USGS, may be noted.

EXTREMES FOR PERIOD OF RECORD.—This entry contains the highest and lowest instantaneously recorded or measured water levels of the period of published record, with respect to land-surface datum or sea level, and the dates of occurrence.

Water-Level Tables

A table of water levels follows the well description for each well. Water-level measurements in this report are given in feet with reference to either sea level or land-surface datum (lsd). Missing records are indicated by dashes in place of the water-level value.

For wells not equipped with recorders, water-level measurements were obtained periodically by steel or electric tape. Tables of periodic water-level measurements in these wells show the date of measurement and the measured water-level value.

Hydrographs

Hydrographs are a graphic display of water-level fluctuations over a period of time. In this report, current water year and, when appropriate, period-of-record hydrographs are shown. Hydrographs that display periodic water-level measurements show points that may be connected with a dashed line from one measurement to the next. Hydrographs that display recorder data show a solid line representing the mean water level recorded for each day. Missing data are indicated by a blank space or break in a hydrograph. Missing data may occur as a result of recorder malfunctions, battery failures, or mechanical problems related to the response of the recorder's float mechanism to water-level fluctuations in a well.

GROUND-WATER-QUALITY DATA

Data Collection and Computation

The ground-water-quality data in this report were obtained as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some wells within a county but not for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality statewide.

Most methods for collecting and analyzing water samples are described in the TWRIs, which may be accessed from *http://water.usgs.gov/pubs/twri/*. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in TWRI, Book 1, Chapter D2; Book 5, Chapters A1, A3, and A4; and Book 9, Chapters A1-A6. Also, detailed information on collecting, treating, and shipping samples may be obtained from the USGS Water Science Center (see address shown on back of title page in this report).

Laboratory Measurements

Analysis for sulfide and measurement of alkalinity, pH, water temperature, specific conductance, and dissolved oxygen are performed onsite. All other sample analyses are performed at the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used by the USGS laboratory are given in TWRI, Book 1, Chapter D2 and Book 5, Chapters A1, A3, and A4, which may be accessed from *http://water.usgs.gov/pubs/twri/*.

ACCESS TO USGS WATER DATA

The USGS 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 from *http://water.usgs.gov*.

Water-quality data and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on various media. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each USGS Water Science Center. (See address that is shown on the back of the title page of this report.)

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Terms such as algae, water level, and precipitation are used in their common everyday meanings, definitions of which are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting English units to International System (SI) Units. Other glossaries that also define water-related terms are accessible from http://water.usgs.gov/glossaries.html.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an “unfiltered” sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also “Annual runoff”)

Adenosine triphosphate (ATP) is an organic, phosphate-rich compound important in the transfer of energy in organisms. Its central role in living cells makes ATP an excellent indicator of the presence of living material in water. A measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter.

Adjusted discharge is discharge data that have been mathematically adjusted (for example, to remove the effects of a daily tide cycle or reservoir storage).

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample. (See also “Biomass” and “Dry weight”)

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a “filtered” sample.

Annual runoff is the total quantity of water that is discharged (“runs off”) from a drainage basin in a year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 through September 30). Most low-flow frequency analyses use a climatic year (April 1-March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. 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.)

Aroclor is the registered trademark for a group of poly-chlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type, and the last two digits represent the percentage weight of the hydrogen-substituted chlorine.

Artificial substrate is a device that purposely is placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is collected. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection. (See also “Substrate”)

Ash mass is the mass or amount of residue present after the residue from a dry-mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2). (See also “Biomass” and “Dry mass”)

Aspect is the direction toward which a slope faces with respect to the compass.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, whereas others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Bankfull stage, as used in this report, is the stage at which a stream first overflows its natural banks formed by floods with 1- to 3-year recurrence intervals.

Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each station is selected so that an average of about three peak flows per year will be published. (See also “Peak flow”)

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bed material is the sediment mixture of which a stream-bed, lake, pond, reservoir, or estuary bottom is composed. (See also “Bedload” and “Sediment”)

Bedload is material in transport that primarily is supported by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to the top of the bedload sampler nozzle (an elevation ranging from 0.25 to 0.5 foot). These particles are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler also may contain a component of the suspended load.

Bedload discharge (tons per day) is the rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time. NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also “Bedload,” “Dry weight,” “Sediment,” and “Suspended-sediment discharge”)

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as mass per unit area or volume of habitat.

Biomass pigment ratio is an indicator of the total proportion of periphyton that are autotrophic (plants). This also is called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) are a group of phytoplankton and periphyton organisms with a blue pigment in addition to a green pigment called chlorophyll. Blue-green algae can cause nuisance water-quality conditions in lakes and slow-flowing rivers; however, they are found commonly in streams throughout the year. The abundance of blue-green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (μm^3/mL). The abundance of blue-green algae in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also “Phytoplankton”and “Periphyton”)

Bottom material (See “Bed material”)

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of the material including the dissolved-solids content of the pore water, and the lithology and porosity of the rock.

Canadian Geodetic Vertical Datum 1928 is a geodetic datum derived from a general adjustment of Canada's first order level network in 1928.

Cell volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are used frequently in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements or cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

$$\text{sphere } 4/3\ \pi r^3 \quad \text{cone } 1/3\ \pi r^2 h \quad \text{cylinder } \pi r^2 h.$$

pi (π) is the ratio of the circumference to the diameter of a circle; pi = 3.14159….

From cell volume, total algal biomass expressed as biovolume ($\mu m^3/mL$) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes for all species.

Cells/volume refers to the number of cells of any organism that is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample volume, and generally are reported as cells or units per milliliter (mL) or liter (L).

Cfs-day (See "Cubic foot per second-day")

Channel bars, as used in this report, are the lowest prominent geomorphic features higher than the channel bed.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also "Biochemical oxygen demand (BOD)"]

Clostridium perfringens *(C. perfringens)* is a spore-forming bacterium that is common in the feces of human and other warmblooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and the presence of microorganisms that are resistant to disinfection and environmental stresses. (See also "Bacteria")

Coliphages are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of water and of the survival and transport of viruses in the environment.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Continuous-record station is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.

Control designates a feature in the channel that physically affects the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure, as used in this report, is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of saltwater.

Cubic foot per second (CFS, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term "second-foot" sometimes is used synonymously with "cubic foot per second" but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, [$(ft^3/s)/d$]) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily mean discharges reported in the daily value data tables numerically are equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, $(ft^3/s)/mi^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area. (See also "Annual runoff")

Daily mean suspended-sediment concentration is the time-weighted mean concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also "Sediment" and "Suspended-sediment concentration")

Daily record station is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to data collection on a daily or near-daily basis.

Data collection platform (DCP) is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.

Data logger is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data usually are downloaded from onsite data loggers for entry into office data systems.

Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or Universal Transverse Mercator (UTM) coordinates. (See also "Gage datum," "Land-surface datum," "National Geodetic Vertical Datum of 1929," and "North American Vertical Datum of 1988")

Diatoms *(Bacillariophyta)* are unicellular or colonial algae with a siliceous cell wall. The abundance of diatoms in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter ($\mu m^3/mL$). The abundance of diatoms in periphyton samples is given in cells per square centimeter ($cells/cm^2$) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton" and "Periphyton")

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or **flow**, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediment or other constituents suspended or dissolved in the water) that passes a cross section in a stream channel, canal, pipeline, and so forth, within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents, such as suspended sediment, bedload, and dissolved or suspended chemicals, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal and State agencies that collect water-quality data. Determinations of “dissolved” constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the “residue-on-evaporation” method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4917 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L $CaCO_3$) can be converted to carbonate concentration by multiplying by 0.60.

Diversity index (H) (Shannon index) is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = -\sum_{i \approx 1}^{s} \frac{n_i}{n} \log_2 \frac{n_i}{n},$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth’s surface that contains a drainage system with a common outlet for its surface runoff. (See “Drainage area”)

Dry mass refers to the mass of residue present after drying in an oven at 105 °C, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass. (See also “Ash mass,” “Biomass,” and “Wet mass”)

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also “Wet weight”)

Embeddedness is the degree to which gravel-sized and larger particles are surrounded or enclosed by finer-sized particles. (See also “Substrate embeddedness class”)

Enterococcus bacteria commonly are found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus feacalis, Streptococcus feacium, Streptococcus avium,* and their variants. (See also “Bacteria”)

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that generally are considered pollution sensitive; the index usually decreases with pollution.

Escherichia coli *(E. coli)* are bacteria present in the intestine and feces of warmblooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also “Bacteria”)

Estimated (E) value of a concentration is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an E code will be reported with the value. If the analyte is identified qualitatively as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an E code even though the measured value is greater than the MDL. A value reported with an E code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<). For bacteriological data, concentrations are reported as estimated when results are based on non-ideal colony counts.

Euglenoids (*Euglenophyta*) are a group of algae that usually are free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also “Phytoplankton”)

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semivolatile and extractable by ethyl acetate from air-dried streambed sediment. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediment.

Fecal coliform bacteria are present in the intestines or feces of warmblooded animals. They often are used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5 °C plus or minus 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also “Bacteria”)

Fecal streptococcal bacteria are present in the intestines of warmblooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C plus or minus 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also “Bacteria”)

Filtered pertains to constituents in a water sample passed through a filter of specified pore diameter, most commonly 0.45 micrometer or less for inorganic analytes and 0.7 micrometer for organic analytes.

Filtered, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that has passed through a filter has been extracted. Complete recovery is not achieved by the extraction procedure and thus the analytical determination represents something less than 95 percent of the total constituent concentration in the sample. To achieve comparability of analytical data, equivalent extraction procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results.

Fire algae (*Pyrrhophyta*) are free-swimming unicells characterized by a red pigment spot. (See also “Phytoplankton”)

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is exceeded. For example, the 90th percentile of river flow is the streamflow exceeded 90 percent of the time in the period of interest.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly greater than the maximum depth of water. Because the gage datum is not an actual physical object, the datum is usually defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any national geodetic datum. However, if the elevation of the gage datum relative to the national datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the national datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height often is used interchangeably with the more general term “stage,” although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted, and/or computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

Gaging station is a site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained.

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Geomorphic channel units, as used in this report, are fluvial geomorphic descriptors of channel shape and stream velocity. Pools, riffles, and runs are types of geomorphic channel units considered for National Water-Quality Assessment (NAWQA) Program habitat sampling.

Green algae *(Chlorophyta)* are unicellular or colonial algae with chlorophyll pigments similar to those in terrestrial green plants. Some forms of green algae produce mats or floating “moss” in lakes. The abundance of green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (μm^3/mL). The abundance of green algae in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also “Phytoplankton” and “Periphyton”)

Habitat, as used in this report, includes all nonliving (physical) aspects of the aquatic ecosystem, although living components like aquatic macrophytes and riparian vegetation also are usually included. Measurements of habitat typically are made over a wider geographic scale than are measurements of species distribution.

Habitat quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

Hardness of water is a physical-chemical characteristic that commonly is recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate ($CaCO_3$).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. See NOAA Web site: *http://www.csc.noaa.gov/text/glossary.html* (see “High water”)

Hilsenhoff’s Biotic Index (HBI) is an indicator of organic pollution that uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = sum\frac{(n)(a)}{N},$$

where n is the number of individuals of each taxon, a is the tolerance value of each taxon, and N is the total number of organisms in the sample.

Horizontal datum (See “Datum”)

Hydrologic index stations referred to in this report are continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as defined by the former Office of Water Data Coordination and delineated on the State Hydrologic Unit Maps by the USGS. Each hydrologic unit is identified by an 8-digit number.

Inch (IN., in.), in reference to streamflow, as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were distributed uniformly on it. (See also “Annual runoff”)

Instantaneous discharge is the discharge at a particular instant of time. (See also “Discharge”)

International Boundary Commission Survey Datum refers to a geodetic datum established at numerous monuments along the United States-Canada boundary by the International Boundary Commission.

Island, as used in this report, is a mid-channel bar that has permanent woody vegetation, is flooded once a year, on average, and remains stable except during large flood events.

Laboratory reporting level (LRL) generally is equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a “less than” (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most current quality-control data and, therefore, may change. The LRL replaces the term ‘non-detection value’ (NDV).

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Latent heat flux (often used interchangeably with latent heat-flux density) is the amount of heat energy that converts water from liquid to vapor (evaporation) or from vapor to liquid (condensation) across a specified cross-sectional area per unit time. Usually expressed in watts per square meter.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation:

$$I = I_o e^{-\lambda L},$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L}\log_e \frac{I}{I_o}.$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Long-term method detection level (LT-MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike-sample measurements over an extended period of time. LT-MDL data are collected on a continuous basis to assess year-to-year variations in the LT-MDL. The LT-MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT-MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. See NOAA Website: *http://www.csc.noaa.gov/text/glossary.html* (see "Low water")

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that usually are arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a stream cross section during a given time period. (See also "Daily mean suspended-sediment concentration" and "Suspended-sediment concentration")

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period. (See also "Discharge")

Mean high or **low tide** is the average of all high or low tides, respectively, over a specific period.

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also "Datum")

Measuring point (MP) is an arbitrary permanent reference point from which the distance to water surface in a well is measured to obtain water level.

Megahertz is a unit of frequency. One megahertz equals one million cycles per second.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Method code is a one-character code that identifies the analytical or field method used to determine a value stored in the National Water Information System (NWIS).

Method detection limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted to be less than or equal to 1 percent.

Method of Cubatures is a method of computing discharge in tidal estuaries based on the conservation of mass equation.

Methylene blue active substances (MBAS) indicate the presence of detergents (anionic surfactants). The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (UG/G, μg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per kilogram (UG/KG, μg/kg) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, μg/L) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

Microsiemens per centimeter (US/CM, μS/cm) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of dry sediment per liter of water-sediment mixture.

Minimum reporting level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method.

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD 29) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It formerly was called "Sea Level Datum of 1929" or "mean sea level." Although the datum was derived from the mean sea level at 26 tide stations, it does not necessarily represent local mean sea level at any particular place. *See NOAA Web site: http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88* (See "North American Vertical Datum of 1988")

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives. (See also "Substrate")

Nekton are the consumers in the aquatic environment and consist of large, free-swimming organisms that are capable of sustained, directed mobility.

Nonfilterable refers to the portion of the total residue retained by a filter.

North American Datum of 1927 (NAD 27) is the horizontal control datum for the United States that was defined by a location and azimuth on the Clarke spheroid of 1866.

North American Datum of 1983 (NAD 83) is the horizontal control datum for the United States, Canada, Mexico, and Central America that is based on the adjustment of 250,000 points including 600 satellite Doppler stations that constrain the system to a geocentric origin. NAD 83 has been officially adopted as the legal horizontal datum for the United States by the Federal government.

North American Vertical Datum of 1988 (NAVD 88) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian, Mexican, and United States first-order terrestrial leveling networks.

Open or **screened interval** is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediment. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or **volatile mass** of a living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass. (See also "Ash mass," "Biomass," and "Dry mass")

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method uses the principle of Stokes Law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, sedigraph) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification, as used in this report, agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	>0.00024 - 0.004	Sedimentation
Silt	>0.004 - 0.062	Sedimentation
Sand	>0.062 - 2.0	Sedimentation/sieve
Gravel	>2.0 - 64.0	Sieve
Cobble	>64 - 256	Manual measurement
Boulder	>256	Manual measurement

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. For the sedimentation method, most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

Percent composition or **percent of total** is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, weight, mass, or volume.

Percent shading is a measure of the amount of sunlight potentially reaching the stream. A clinometer is used to measure left and right bank canopy angles. These values are added together, divided by 180, and multiplied by 100 to compute percentage of shade.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measurements are made one or more times during a year but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. Although primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7.0 standard units are termed "acidic," and solutions with a pH greater than 7.0 are termed "basic." Solutions with a pH of 7.0 are neutral. The presence and concentration of many dissolved chemical constituents found in water are affected, in part, by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms also are affected, in part, by the hydrogen-ion activity of water.

Phytoplankton is the plant part of the plankton. They usually are microscopic, and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and commonly are known as algae. (See also "Plankton")

Picocurie (PC, pCi) is one-trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

Pool, as used in this report, is a small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photo-synthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [mg C/(m^2/time)] for periphyton and macrophytes or per volume [mg C/(m^3/time)] for phytoplankton. The carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light- and dark-bottle method and is preferred for use with unenriched water samples. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [mg O/(m^2/time)] for periphyton and macrophytes or per volume [mg O/(m^3/time)] for phytoplankton. The oxygen method defines production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light- and dark-bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period. (See also “Primary productivity”)

Radioisotopes are isotopic forms of elements that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Reach, as used in this report, is a length of stream that is chosen to represent a uniform set of physical, chemical, and biological conditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

Recoverable is the amount of a given constituent that is in solution after a representative water sample has been extracted or digested. Complete recovery is not achieved by the extraction or digestion and thus the determination represents something less than 95 percent of the constituent present in the sample. To achieve comparability of analytical data, equivalent extraction or digestion procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results. (See also “Bed material”)

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or nonexceedance of a specified low flow). The terms “return period” and “recurrence interval” do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day, 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See “Recurrence interval”)

Riffle, as used in this report, is a shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council and typically is used to denote location along a river.

Run, as used in this report, is a relatively shallow part of a stream with moderate velocity and little or no surface turbulence.

Runoff is the quantity of water that is discharged ("runs off") from a drainage basin during a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also "Annual runoff")

Salinity is the total quantity of dissolved salts, measured by weight in parts per thousand. Values in this report are calculated from specific conductance and temperature. Seawater has an average salinity of about 35 parts per thousand (for additional information, refer to: Miller, R.L., Bradford, W.L., and Peters, N.E., 1988, Specific conductance: theoretical considerations and application to analytical quality control: U.S. Geological Survey Water-Supply Paper 2311, 16 p.)

Sea level, as used in this report, refers to one of the two commonly used national vertical datums (NGVD 1929 or NAVD 1988). See separate entries for definitions of these datums.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as "fluvial sediment." Sediment includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Sensible heat flux (often used interchangeably with latent sensible heat-flux density) is the amount of heat energy that moves by turbulent transport through the air across a specified cross-sectional area per unit time and goes to heating (cooling) the air. Usually expressed in watts per square meter.

Seven-day, 10-year low flow ($7Q_{10}$) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-term average. The recurrence interval of the $7Q_{10}$ is 10 years; the chance that the annual 7-day minimum flow will be less than the $7Q_{10}$ is 10 percent in any given year. (See also "Annual 7-day minimum" and "Recurrence interval")

Shelves, as used in this report, are streambank features extending nearly horizontally from the flood plain to the lower limit of persistent woody vegetation.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Soil heat flux (often used interchangeably with soil heat-flux density) is the amount of heat energy that moves by conduction across a specified cross-sectional area of soil per unit time and goes to heating (or cooling) the soil. Usually expressed in watts per square meter.

Soil-water content is the water lost from the soil upon drying to constant mass at 105 °C; expressed either as mass of water per unit mass of dry soil or as the volume of water per unit bulk volume of soil.

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stable isotope ratio (per MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific water, to evaluate mixing of different water, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage (See “Gage height”)

Stage-discharge relation is the relation between the water-surface elevation, termed stage (gage height), and the volume of water flowing in a channel per unit time.

Streamflow is the discharge that occurs in a natural channel. Although the term “discharge” can be applied to the flow of a canal, the word “streamflow” uniquely describes the discharge in a surface stream course. The term “streamflow” is more general than “runoff” as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Substrate embeddedness class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2 mm, sand or finer). Below are the class categories expressed as the percentage covered by fine sediment:

0	no gravel or larger substrate	3	26-50 percent
1	> 75 percent	4	5-25 percent
2	51-75 percent	5	< 5 percent

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

Surficial bed material is the upper surface (0.1 to 0.2 foot) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Surrogate is an analyte that behaves similarly to a target analyte, but that is highly unlikely to occur in a sample. A surrogate is added to a sample in known amounts before extraction and is measured with the same laboratory procedures used to measure the target analyte. Its purpose is to monitor method performance for an individual sample.

Suspended is the amount (concentration) of undissolved material in a water-sediment mixture. Most commonly refers to that material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer filter has been extracted or digested. Complete recovery is not achieved by the extraction or digestion procedures and thus the determination represents less than 95 percent of the constituent present in the sample. To achieve comparability of analytical data, equivalent extraction or digestion procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results. (See also “Suspended”)

Suspended sediment is sediment carried in suspension by the turbulent components of the fluid or by the Brownian movement (a law of physics). (See also “Sediment”)

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also “Sediment” and “Suspended sediment”)

Suspended-sediment discharge (tons/d) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027. (See also “Sediment,” “Suspended sediment,” and “Suspended-sediment concentration”)

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as “annual suspended-sediment load” or “sand-size suspended-sediment load,” and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also “Sediment”)

Suspended solids, total residue at 105 °C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

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-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. 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 directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total concentrations of the constituent. (See also “Suspended”)

Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydro-logic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxa (Species) richness is the number of species (taxa) present in a defined area or sampling unit.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchial scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata,* is the following:

Kingdom:	Animal
Phylum:	Arthropeda
Class:	Insecta
Order:	Ephemeroptera
Family:	Ephemeridae
Genus:	*Hexagenia*
Species:	*Hexagenia limbata*

Thalweg is the line formed by connecting points of minimum streambed elevation (deepest part of the channel).

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term “temperature recorder” is used in the table descriptions and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (acre-foot) of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric ton per day.

Total is the amount of a given constituent in a representative whole-water (unfiltered) 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." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined at least 95 percent of the constituent in the sample.)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warmblooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35 °C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C plus or minus 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliters of sample. (See also "Bacteria")

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the 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."

Total length (fish) is the straight-line distance from the anterior point of a fish specimen's snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also "Organism count/volume")

Total recoverable is the amount of a given constituent in a whole-water sample after a sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data for whole-water samples, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures may produce different analytical results.

Total sediment discharge is the mass of suspended-sediment plus bed-load transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also "Bedload," "Bedload discharge," "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Total sediment load or **total load** is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as “annual suspended-sediment load” or “sand-size suspended-sediment load,” and so on. It differs from total sediment discharge in that load refers to the material, whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also “Sediment,” “Suspended-sediment load,” and “Total load”)

Transect, as used in this report, is a line across a stream perpendicular to the flow and along which measurements are taken, so that morphological and flow characteristics along the line are described from bank to bank. Unlike a cross section, no attempt is made to determine known elevation points along the line.

Turbidity is an expression of the optical properties of a liquid that causes light rays to be scattered and absorbed rather than transmitted in straight lines through water. Turbidity, which can make water appear cloudy or muddy, is caused by the presence of suspended and dissolved matter, such as clay, silt, finely divided organic matter, plankton and other microscopic organisms, organic acids, and dyes (ASTM International, 2003, D1889–00 Standard test method for turbidity of water, *in* ASTM International, Annual Book of ASTM Standards, Water and Environmental Technology, v. 11.01: West Conshohocken, Pennsylvania, 6 p.). The color of water, whether resulting from dissolved compounds or suspended particles, can affect a turbidity measurement. To ensure that USGS turbidity data can be understood and interpreted properly within the context of the instrument used and site conditions encountered, data from each instrument type are stored and reported in the National Water Information System (NWIS) using parameter codes and measurement reporting units that are specific to the instrument type, with specific instruments designated by the method code. The respective measurement units, many of which also are in use internationally, fall into two categories: (1) the designations NTU, NTRU, BU, AU, and NTMU signify the use of a broad spectrum incident light in the wavelength range of 400-680 nanometers (nm), but having different light detection configurations; (2) The designations FNU, FNRU, FBU, FAU, and FNMU generally signify an incident light in the range between 780-900 nm, also with varying light detection configurations. These reporting units are equivalent when measuring a calibration solution (for example, formazin or polymer beads), but their respective instruments may not produce equivalent results for environmental samples. Specific reporting units are as follows:

NTU (Nephelometric Turbidity Units): white or broadband [400-680 nm] light source, 90 degree detection angle, one detector.

NTRU (Nephelometric Turbidity Ratio Units): white or broadband [400-680 nm] light source, 90 degree detection angle, multiple detectors with ratio compensation.

BU (Backscatter Units): white or broadband [400-680 nm] light source, 30 ± 15 degree detection angle (backscatter).

AU (Attenuation Units): white or broadband [400-680 nm] light source, 180 degree detection angle (attenuation).

NTMU (Nephelometric Turbidity Multibeam Units): white or broadband [400-680 nm] light source, multiple light sources, detectors at 90 degrees and possibly other angles to each beam.

FNU (Formazin Nephelometric Units): near infrared [780-900 nm] or monochrome light source, 90 degree detection angle, one detector.

FNRU (Formazin Nephelometric Ratio Units): near infrared [780-900 nm] or monochrome light source, 90 degree detection angle, multiple detectors, ratio compensation.

FBU (Formazin Backscatter Units): near infrared [780-900 nm] or monochrome light source, 30±15 degree detection angle.

FAU (Formazin Attenuation Units): near infrared [780-900 nm] light source, 180 degree detection angle.

FNMU (Formazin Nephelometric Multibeam Units): near infrared [780-900 nm] or monochrome light source, multiple light sources, detectors at 90 degrees and possibly other angles to each beam.

For more information please see http://water.usgs.gov/owq/FieldManual/Chapter6/6.7_contents.html.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of path length of UV light through a sample.

Unconfined aquifer is an aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure. (See “Water-table aquifer”)

Unfiltered pertains to the constituents in an unfiltered, representative water-suspended sediment sample.

Unfiltered, recoverable is the amount of a given constituent in a representative water-suspended sediment sample that has been extracted or digested. Complete recovery is not achieved by the extraction or digestion treatment and thus the determination represents less than 95 percent of the constituent present in the sample. To achieve comparability of analytical data, equivalent extraction or digestion procedures are required of all laboratories performing such analyses because different procedures are likely to produce different analytical results.

Vertical datum (See “Datum”)

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and, subsequently, analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They often are components of fuels, solvents, hydraulic fluids, paint thinners, and dry-cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human-health concern because many are toxic and are known or suspected human carcinogens.

Water table is that surface in a ground-water body at which the water pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which the water table is found.

Water year in USGS reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 2002, is called the “2002 water year.”

Watershed (See “Drainage basin”)

WDR is used as an abbreviation for “Water-Data Report” in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports. (WRD was used as an abbreviation for “Water-Resources Data” in reports published prior to 1976.)

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

Wet mass is the mass of living matter plus contained water. (See also “Biomass” and “Dry mass”)

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also “Dry weight”)

WSP is used as an acronym for “Water-Supply Paper” in reference to previously published reports.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and often are large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers. (See also “Plankton”)

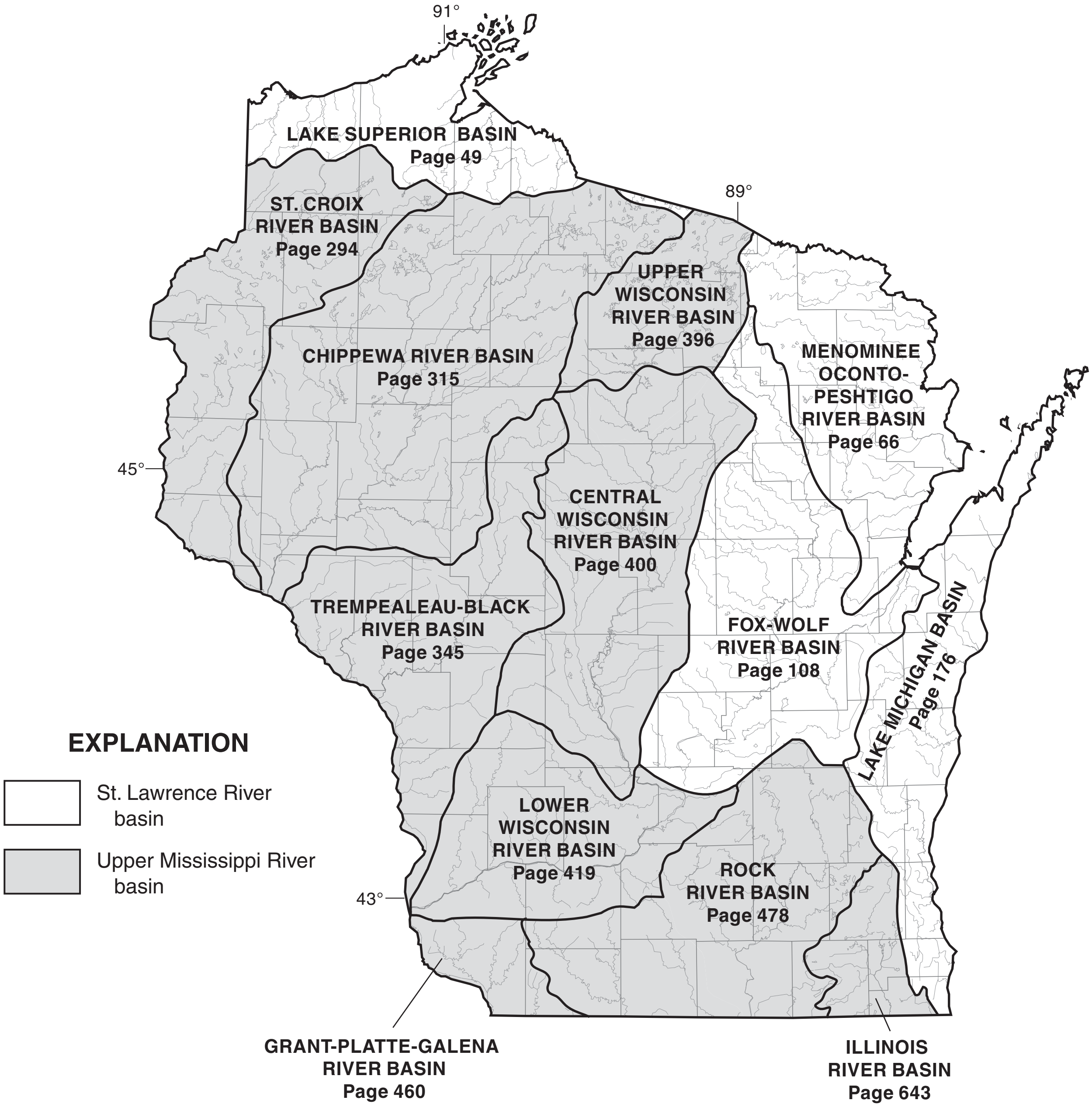
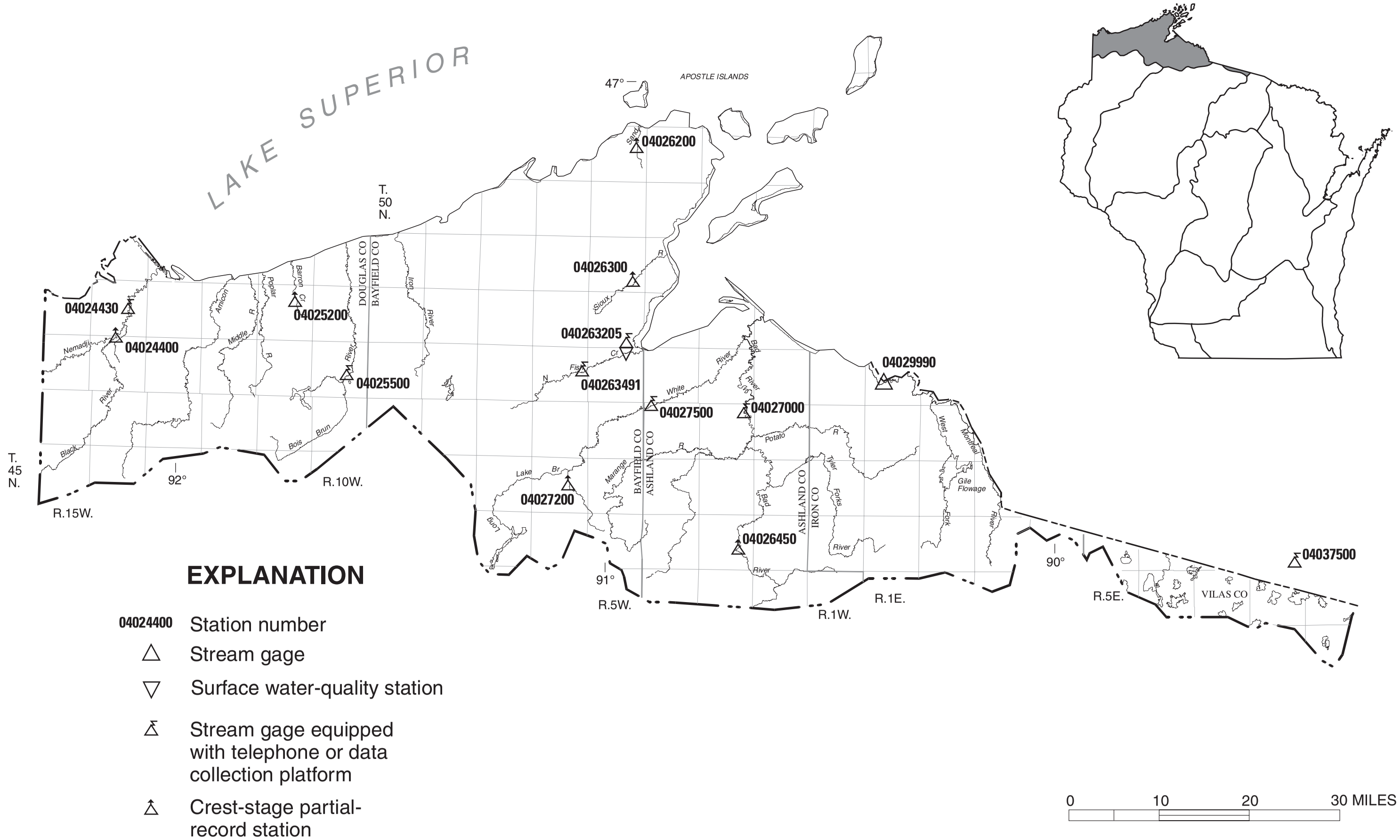


Figure 5. Major surface-water drainage basins and index of hydrologic records.

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

04024430 NEMADJI RIVER NEAR SOUTH SUPERIOR, WI

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 mi^2.

PERIOD OF RECORD.--November 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 NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191	687	e118	e121	e87	e71	5,270	329	343	948	60	44
2	538	524	e114	e120	e84	e68	4,850	307	298	548	60	43
3	412	443	e113	e117	e83	e73	3,760	283	263	398	55	42
4	295	379	e112	e120	e77	e77	2,570	260	245	333	53	42
5	241	326	e114	e119	e76	e79	2,000	243	329	278	54	41
6	212	285	e112	e117	e76	e83	3,250	255	1,280	235	49	46
7	189	258	e111	e116	e75	e86	4,010	282	761	205	46	49
8	169	234	e110	e113	e75	e90	2,230	270	573	184	43	46
9	155	210	e112	e113	e75	e92	1,640	279	817	167	78	45
10	145	197	e114	e113	e75	e94	1,360	399	781	152	182	43
11	135	194	e117	e106	e75	e97	1,150	511	1,170	137	111	41
12	125	177	e112	e106	e78	e99	980	461	843	124	80	48
13	120	e148	e106	e103	e80	e99	830	395	621	115	66	134
14	124	e145	e99	e99	e83	e96	705	396	1,000	107	57	170
15	137	e145	e96	e95	e82	e96	616	420	1,880	99	52	116
16	138	e149	e102	e89	e81	e96	562	385	1,210	93	49	87
17	137	152	e101	e87	e79	e97	522	331	723	88	47	74
18	134	153	e100	e90	e77	e99	486	297	525	87	47	66
19	127	152	e100	e94	e75	e108	489	1,240	415	83	50	70
20	127	154	e102	e97	e80	e117	776	1,670	384	76	50	129
21	132	170	e103	e97	e79	e135	718	995	1,190	71	48	111
22	130	170	e101	e98	e77	e161	587	749	728	66	46	95
23	446	161	e101	e96	e73	e194	516	613	468	64	45	83
24	788	e148	e104	e94	e71	e240	447	510	356	68	44	77
25	540	e136	e105	e92	e73	e280	395	431	285	65	43	78
26	397	e130	e108	e93	e73	e328	397	658	239	67	44	168
27	315	e139	e114	e94	e71	e476	487	749	207	66	57	207
28	274	e145	e115	e90	e71	e1,100	460	617	237	82	63	147
29	326	e138	e116	e88	---	e2,060	401	555	198	88	53	118
30	875	e123	e115	e88	---	2,820	361	476	872	74	48	98
31	957	---	e120	e88	---	4,130	---	402	---	65	45	---
TOTAL	9,031	6,572	3,367	3,153	2,161	13,741	42,825	15,768	19,241	5,233	1,825	2,558
MEAN	291	219	109	102	77.2	443	1,428	509	641	169	58.9	85.3
MAX	957	687	120	121	87	4,130	5,270	1,670	1,880	948	182	207
MIN	120	123	96	87	71	68	361	243	198	64	43	41
CFSM	0.69	0.52	0.26	0.24	0.18	1.06	3.40	1.21	1.53	0.40	0.14	0.20
IN.	0.80	0.58	0.30	0.28	0.19	1.22	3.79	1.40	1.70	0.46	0.16	0.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	304	292	136	80.9	98.8	440	1,394	603	479	348	212	308
MAX	1,082	1,200	418	177	336	1,088	3,474	1,355	1,357	1,145	1,047	1,485
(WY)	(1983)	(1992)	(1992)	(1984)	(1984)	(1995)	(2001)	(1979)	(1993)	(1999)	(1999)	(1986)
MIN	41.0	33.9	28.2	27.3	29.8	96.6	244	119	82.9	46.6	40.6	34.4
(WY)	(1977)	(1977)	(1977)	(1977)	(1977)	(2002)	(1987)	(1998)	(1988)	(1988)	(1976)	(1976)

04024430 NEMADJI RIVER NEAR SOUTH SUPERIOR, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1974 - 2005	
ANNUAL TOTAL	109,977		125,475			
ANNUAL MEAN	300		344		391	
HIGHEST ANNUAL MEAN					786	1986
LOWEST ANNUAL MEAN					200	1980
HIGHEST DAILY MEAN	3,700	May 31	5,270	Apr 1	11,900	Apr 24, 2001
LOWEST DAILY MEAN	(a)48	Jan 29	41	Sep 5, 11	(a)19	Dec 8, 1976
ANNUAL SEVEN-DAY MINIMUM	(a)49	Jan 23	43	Aug 31	(a)26	Dec 5, 1976
MAXIMUM PEAK FLOW			5,420	Apr 1	(b)15,800	Apr 23, 2001
MAXIMUM PEAK STAGE			20.30	Apr 1	(c)25.97	Sep 6, 1990
ANNUAL RUNOFF (CFSM)	0.715		0.818		0.930	
ANNUAL RUNOFF (INCHES)	9.74		11.11		12.64	
10 PERCENT EXCEEDS	638		754		945	
50 PERCENT EXCEEDS	136		120		145	
90 PERCENT EXCEEDS	53		60		56	

(a) Ice affected
(b) Gage height, 25.18 ft
(c) Discharge 13,700 ft^3/s, rating then in use
(e) Estimated

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 mi^2.

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 NGVD of 1929. Prior to October 1964, nonrecording gage at same site and datum, supplemented by water-stage recorder part of 1959-62.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	167	208	134	e134	e132	e130	454	181	147	150	112	108
2	195	198	134	e132	132	e130	407	177	144	147	109	106
3	179	187	e134	e132	130	e130	373	172	141	141	109	106
4	169	176	e135	e132	130	131	354	168	145	136	110	106
5	160	171	136	e132	132	131	349	165	168	132	108	106
6	150	166	135	e132	137	133	463	169	192	130	105	109
7	144	161	136	e132	134	134	459	165	184	127	104	108
8	142	158	136	e132	132	132	413	166	180	125	105	108
9	138	157	136	e132	132	e132	383	171	174	123	145	107
10	137	155	139	e132	132	133	357	182	197	122	144	107
11	135	153	139	e132	132	133	333	179	231	120	131	106
12	133	149	138	e132	132	e130	310	172	223	119	120	109
13	135	146	e135	e134	132	e130	289	171	209	118	113	171
14	142	145	e134	e132	138	129	269	174	235	116	109	159
15	143	145	e132	e130	135	129	253	179	241	114	108	144
16	143	145	e134	e130	130	128	242	176	225	113	107	130
17	140	145	e132	e129	e130	128	233	168	209	113	118	120
18	138	145	e134	e128	e130	127	235	165	192	111	126	115
19	137	144	e134	e132	e130	128	235	171	176	109	120	130
20	137	152	e133	e132	e130	127	232	171	175	108	123	142
21	136	150	e132	e134	e132	127	220	168	180	106	120	135
22	136	146	e132	e134	e130	127	211	165	175	107	114	126
23	148	143	e132	e132	e130	128	204	161	166	107	110	119
24	151	139	e130	e130	e130	129	195	158	157	127	109	122
25	147	136	e130	e132	129	132	193	156	150	116	108	127
26	142	136	e132	e134	e130	134	206	162	146	113	112	146
27	139	140	e134	e132	e130	137	212	163	143	111	118	142
28	141	143	e134	e130	e132	148	204	169	143	136	114	134
29	176	139	e134	e132	---	168	195	163	143	137	111	126
30	223	137	e134	e132	---	213	187	157	147	121	109	122
31	220	---	e134	e132	---	324	---	152	---	115	109	---
TOTAL	4,723	4,615	4,158	4,087	3,685	4,372	8,670	5,216	5,338	3,770	3,560	3,696
MEAN	152	154	134	132	132	141	289	168	178	122	115	123
MAX	223	208	139	134	138	324	463	182	241	150	145	171
MIN	133	136	130	128	129	127	187	152	141	106	104	106
CFSM	1.29	1.30	1.14	1.12	1.12	1.20	2.45	1.43	1.51	1.03	0.97	1.04
IN.	1.49	1.45	1.31	1.29	1.16	1.38	2.73	1.64	1.68	1.19	1.12	1.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	158	161	143	133	133	154	282	232	192	167	148	156
MAX	259	295	205	164	187	265	611	495	416	345	289	297
(WY)	(1978)	(1972)	(1972)	(1984)	(1966)	(1945)	(2001)	(1950)	(1944)	(1952)	(1999)	(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)

04025500 BOIS BRULE RIVER AT BRULE, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1943 - 2005	
ANNUAL TOTAL	57,793		55,890			
ANNUAL MEAN	158		153		171	
HIGHEST ANNUAL MEAN					223	1972
LOWEST ANNUAL MEAN					133	1948
HIGHEST DAILY MEAN	328	Apr 19	463	Apr 6	1,700	Apr 23, 2001
LOWEST DAILY MEAN	115	Jul 27	104	Aug 7	74	Mar 23, 1943
ANNUAL SEVEN-DAY MINIMUM	119	Jul 22	107	Sep 1	89	Mar 23, 1943
MAXIMUM PEAK FLOW			(a)511	Apr 6	1,860	Apr 23, 2001
MAXIMUM PEAK STAGE			(b)3.42	Dec 28	7.24	Apr 23, 2001
INSTANTANEOUS LOW FLOW			103	Aug 7, 8	67	Mar 13, 1943
ANNUAL RUNOFF (CFSM)	1.34		1.30		1.45	
ANNUAL RUNOFF (INCHES)	18.22		17.62		19.72	
10 PERCENT EXCEEDS	227		205		253	
50 PERCENT EXCEEDS	139		135		146	
90 PERCENT EXCEEDS	120		112		120	

(a) Gage height, 3.25 ft
(b) Ice affected
(e) Estimated

040263205 WHITTLESEY CREEK NEAR ASHLAND, WI

LOCATION.--Lat 46°35'40", long 90°57'47", in SE 1/4 NW 1/4 sec.35, T.48 N., R.5 W., Bayfield County, Hydrologic Unit 04010301, at Cherryville road, 3.7 mi west of courthouse in Ashland.

DRAINAGE AREA.--37.6 mi^2, of which 30.2 mi^2 is noncontributing.

PERIOD OF RECORD.--April 1999 to current year.

REVISED RECORDS.--WDR WI-02-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 615 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	19	18	18	17	17	48	17	17	22	18	18
2	21	18	18	18	18	17	37	17	17	19	18	18
3	19	18	18	17	18	17	33	17	17	18	18	18
4	19	18	18	17	18	17	31	17	18	18	17	18
5	19	18	18	17	18	17	30	17	18	18	17	18
6	18	18	19	17	18	17	66	18	18	18	17	18
7	18	18	18	17	18	17	32	17	17	18	17	18
8	18	18	18	17	18	17	26	17	17	18	17	18
9	18	18	18	17	18	17	23	19	17	18	20	18
10	18	18	18	17	18	17	22	24	18	18	18	18
11	18	18	18	17	18	17	21	20	19	18	18	18
12	18	18	18	17	17	17	20	19	41	18	18	19
13	18	18	18	17	17	17	19	19	23	18	18	25
14	18	18	17	17	18	17	18	20	43	18	18	19
15	18	18	18	17	17	17	18	20	38	18	18	18
16	18	18	17	17	17	17	18	19	22	18	18	18
17	18	18	17	17	17	17	18	18	19	18	19	18
18	18	18	17	17	17	17	18	18	18	19	19	18
19	18	18	17	17	17	17	19	23	18	18	18	20
20	18	18	17	17	17	17	18	21	18	17	19	19
21	18	18	17	17	17	17	17	19	18	17	18	19
22	18	18	17	17	17	17	17	19	18	17	18	18
23	19	18	17	17	17	18	17	18	18	18	18	18
24	19	18	17	17	17	18	17	17	17	27	18	19
25	18	18	17	17	17	18	17	18	17	19	18	19
26	18	18	17	17	17	18	17	18	17	18	18	21
27	18	19	17	17	17	19	17	18	18	18	18	19
28	18	18	17	17	17	32	17	19	18	18	18	19
29	20	18	17	17	---	60	17	18	18	18	18	18
30	21	18	18	17	---	91	17	18	67	18	18	18
31	19	---	18	17	---	122	---	17	---	18	18	---
TOTAL	576	542	544	529	487	770	705	576	659	571	558	560
MEAN	18.6	18.1	17.5	17.1	17.4	24.8	23.5	18.6	22.0	18.4	18.0	18.7
MAX	22	19	19	18	18	122	66	24	67	27	20	25
MIN	18	18	17	17	17	17	17	17	17	17	17	18
CFSM	2.51	2.44	2.37	2.31	2.35	3.36	3.18	2.51	2.97	2.49	2.43	2.52
IN.	2.90	2.72	2.73	2.66	2.45	3.87	3.54	2.90	3.31	2.87	2.81	2.82

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	20.1	19.9	18.5	17.8	18.5	22.8	37.4	23.2	19.9	21.2	19.2	19.6
MAX	25.5	25.1	19.8	18.4	21.4	25.5	76.5	31.5	22.6	36.6	22.8	22.4
(WY)	(2003)	(2001)	(2002)	(2003)	(2000)	(2004)	(2001)	(2003)	(1999)	(1999)	(1999)	(2002)
MIN	18.2	18.1	17.5	17.1	17.4	18.2	19.2	18.6	18.4	17.6	17.1	17.6
(WY)	(2004)	(2005)	(2005)	(2005)	(2005)	(2002)	(2000)	(2005)	(2004)	(2004)	(2003)	(2003)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1999 - 2005	
ANNUAL TOTAL	7,336		7,077			
ANNUAL MEAN	20.0		19.4		21.4	
HIGHEST ANNUAL MEAN					24.3	2001
LOWEST ANNUAL MEAN					19.4	2005
HIGHEST DAILY MEAN	110	Mar 28	122	Mar 31	370	Apr 23, 2001
LOWEST DAILY MEAN	17	(a)Jan 26	17	(a)Dec 14	16	(b)Jul 26, 2001
ANNUAL SEVEN-DAY MINIMUM	17	Jul 19	17	(a)Dec 16	17	(a)Jul 23, 2003
MAXIMUM PEAK FLOW			230	Jun 30	777	Apr 23, 2001
MAXIMUM PEAK STAGE			3.60	Jun 30	(c)6.44	Apr 23, 2001
INSTANTANEOUS LOW FLOW			16	(a)Mar 13	16	(a)Jul 25, 2001
ANNUAL RUNOFF (CFSM)	2.71		2.62		2.89	
ANNUAL RUNOFF (INCHES)	36.88		35.58		39.33	
10 PERCENT EXCEEDS	21		20		23	
50 PERCENT EXCEEDS	18		18		18	
90 PERCENT EXCEEDS	17		17		17	

040263205 WHITTLESEY CREEK NEAR ASHLAND, WI—Continued

(a) Also occurred additional days
(b) Also occurred July 28, 29, 2003, and Feb. 17, 2000, estimated
(c) 7.18 ft, July 5, 1999, from crest-stage gage

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 mi^2, of which 27.1 mi^2 is noncontributing (revised).

PERIOD OF RECORD.--October 1989 to September 1991, October 1994 to September 1997, July 2000 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 660 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	65	51	56	50	49	263	56	55	106	56	51
2	64	59	52	55	50	51	175	55	55	70	54	51
3	58	57	51	52	50	51	151	54	55	58	54	51
4	54	56	53	51	51	50	137	53	59	55	53	51
5	53	54	53	51	53	49	128	54	72	53	53	51
6	52	54	53	51	65	53	371	58	65	52	52	51
7	52	52	52	50	66	54	182	56	60	51	52	51
8	53	51	52	50	66	51	121	56	59	51	51	51
9	52	51	53	50	61	51	99	71	57	51	83	51
10	52	51	69	50	56	51	88	96	62	50	68	51
11	53	50	66	50	55	50	86	74	70	49	56	50
12	53	50	62	51	55	49	78	65	192	50	53	52
13	53	50	57	49	55	49	70	68	109	50	52	85
14	54	50	55	53	55	49	66	73	164	50	51	58
15	54	50	55	54	53	49	63	77	146	50	51	53
16	54	50	54	56	52	49	62	68	87	50	51	52
17	54	51	52	56	51	50	61	62	67	50	52	52
18	54	51	52	59	50	50	61	60	59	59	55	52
19	54	51	51	57	50	50	61	102	56	51	53	59
20	54	53	54	51	51	51	61	97	56	50	54	56
21	52	52	51	51	50	51	60	74	55	50	51	54
22	53	52	47	50	50	52	59	75	54	49	51	52
23	58	51	49	52	49	54	57	71	53	50	51	52
24	58	51	51	50	50	58	57	65	51	1,020	51	53
25	57	50	55	50	50	62	58	61	51	143	51	54
26	56	50	52	49	50	70	58	64	51	82	53	68
27	57	54	51	50	52	93	59	65	52	65	52	59
28	56	54	50	49	50	247	59	68	53	81	51	55
29	68	52	50	49	---	403	57	62	53	78	51	53
30	87	53	54	49	---	525	56	58	294	63	51	53
31	77	---	56	49	---	684	---	57	---	60	51	---
TOTAL	1,767	1,575	1,663	1,600	1,496	3,305	2,964	2,075	2,372	2,847	1,668	1,632
MEAN	57.0	52.5	53.6	51.6	53.4	107	98.8	66.9	79.1	91.8	53.8	54.4
MAX	87	65	69	59	66	684	371	102	294	1,020	83	85
MIN	52	50	47	49	49	49	56	53	51	49	51	50
CFSM	1.49	1.37	1.40	1.35	1.40	2.78	2.58	1.75	2.06	2.40	1.40	1.42
IN.	1.72	1.53	1.62	1.55	1.45	3.21	2.88	2.02	2.30	2.77	1.62	1.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	68.7	63.8	55.1	53.6	54.5	93.1	172	85.5	69.1	74.1	56.4	67.8
MAX	110	102	68.6	63.7	64.1	141	374	114	97.6	155	74.4	135
(WY)	(1991)	(1997)	(2002)	(1997)	(1997)	(1990)	(2001)	(2003)	(1991)	(1996)	(1990)	(1990)
MIN	50.6	52.0	49.0	49.4	49.5	59.3	87.8	59.6	54.6	51.0	49.6	50.4
(WY)	(2004)	(2004)	(2001)	(2001)	(2003)	(2001)	(1990)	(1990)	(2003)	(2004)	(2003)	(2003)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1990 - 2005	
ANNUAL TOTAL	24,600		24,964			
ANNUAL MEAN	67.2		68.4		76.4	
HIGHEST ANNUAL MEAN					87.9	1996
LOWEST ANNUAL MEAN					66.4	2004
HIGHEST DAILY MEAN	671	Mar 28	1,020	Jul 24	1,960	Apr 23, 2001
LOWEST DAILY MEAN	46	Jan 5, 28	47	Dec 22	45	(a)Dec 10, 2000
ANNUAL SEVEN-DAY MINIMUM	49	Jul 21	49	(b)Jan 25	48	(b)Dec 4, 2000
MAXIMUM PEAK FLOW			3,710	Jul 24	3,710	Jul 24, 2005
MAXIMUM PEAK STAGE			18.07	Jul 24	18.07	Jul 24, 2005
INSTANTANEOUS LOW FLOW			(c)38	Jan 11, 27, 28	(c)35	Dec 19, 1989
ANNUAL RUNOFF (CFSM)	1.75		1.79		1.99	
ANNUAL RUNOFF (INCHES)	23.89		24.25		27.10	
10 PERCENT EXCEEDS	85		77		97	
50 PERCENT EXCEEDS	53		53		56	
90 PERCENT EXCEEDS	50		50		50	

040263491 NORTH FISH CREEK NEAR MOQUAH, WI—Continued

(a) Also occurred Jan. 2, 1995, estimated
(b) Also occurred additional days
(c) Result of freezeup
(d) Also occurred Feb. 21, 2001

04027000 BAD RIVER NEAR ODANAH, WI

LOCATION.--Lat 46°29'12", long 90°41'46", in NE 1/4 NE 1/4 sec.11 (revised), T.46 N., R.3 W., Ashland County, Hydrologic Unit 04010302, Bad River Indian Reservation, on left bank just downstream from Elm Hoist bridge, 5.0 mi downstream from Potato River, 8.5 mi south of Odanah, and 23 mi from mouth.

DRAINAGE AREA.--597 mi^2.

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

REVISED RECORDS.--WSP 1337: 1922. WDR WI-82-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 668.3 ft above NGVD of 1929. May 17, 1948, to Nov. 6, 1959, and Oct. 19, 1960, to Nov. 23, 1961, water-stage recorder. Nov. 7, 1959, to Oct. 18, 1960, and Nov. 24, 1961, to July 12, 1962, nonrecording gage. Prior to Nov. 11, 1922, water-stage recorder at site 2 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

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.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	1,300	e232	e329	e245	e183	5,430	575	342	234	264	128
2	229	1,030	e227	e326	e274	e193	4,220	553	307	204	222	126
3	271	865	e219	e347	e294	e198	3,550	536	274	181	195	125
4	248	739	e227	e350	e306	e203	3,140	491	261	171	179	121
5	221	628	e244	e329	e309	e205	2,970	441	1,320	164	170	119
6	208	553	e244	e330	e314	e209	4,870	430	1,140	163	160	116
7	197	487	e244	e322	e311	e265	5,640	436	858	162	147	115
8	199	432	e244	e309	e306	e278	3,760	427	640	155	136	114
9	233	385	e255	e308	e302	e305	2,630	443	507	148	198	117
10	228	368	e255	e293	e296	e300	1,940	766	418	139	318	112
11	216	376	e255	e292	e291	e313	1,520	877	397	132	260	109
12	205	363	e255	e276	e290	e309	1,230	746	415	125	215	108
13	199	323	e253	e250	e283	e326	1,000	714	439	119	184	127
14	213	320	e249	e225	e281	e326	832	943	582	114	161	135
15	252	307	e269	e207	e275	e308	704	1,230	1,030	108	147	131
16	270	299	e258	e192	e268	e300	629	1,100	923	106	137	125
17	289	305	e249	e185	e265	e281	612	898	637	102	146	120
18	273	309	e244	e180	e262	e278	572	736	479	128	256	117
19	255	304	e244	e201	e262	e278	581	667	381	145	260	128
20	244	e294	e244	e216	e258	e283	1,400	660	318	127	228	177
21	231	e294	e255	e225	e249	e274	1,460	587	293	116	197	176
22	220	e288	e255	e225	e240	e270	1,170	522	263	108	175	163
23	231	e278	e247	e240	e235	e283	927	510	233	104	161	147
24	406	e266	e264	e249	e227	e284	751	508	204	4,800	147	137
25	479	e241	e272	e262	e219	e283	639	446	183	2,920	141	138
26	435	e255	e288	e248	e219	e316	609	447	168	990	140	176
27	379	e244	e294	e239	e210	e356	725	462	159	554	140	205
28	341	e249	e300	e232	e198	e601	755	472	197	415	137	198
29	721	e244	e300	e225	---	e1,220	691	502	237	562	133	198
30	1,280	e227	e316	e222	---	e2,760	620	431	236	437	132	201
31	1,480	---	e339	e222	---	e4,310	---	373	---	328	130	---
TOTAL	10,824	12,573	8,041	8,056	7,489	16,298	55,577	18,929	13,841	14,261	5,616	4,209
MEAN	349	419	259	260	267	526	1,853	611	461	460	181	140
MAX	1,480	1,300	339	350	314	4,310	5,640	1,230	1,320	4,800	318	205
MIN	171	227	219	180	198	183	572	373	159	102	130	108
CFSM	0.58	0.70	0.43	0.44	0.45	0.88	3.10	1.02	0.77	0.77	0.30	0.24
IN.	0.67	0.78	0.50	0.50	0.47	1.02	3.46	1.18	0.86	0.89	0.35	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	467	510	293	190	199	676	2,217	1,057	635	477	299	343
MAX	1,861	2,151	638	410	713	2,494	4,320	2,752	2,054	2,311	1,565	1,775
(WY)	(1986)	(1992)	(1992)	(1992)	(1984)	(1973)	(2001)	(1950)	(1951)	(1949)	(1972)	(1977)
MIN	67.1	95.2	107	95.0	69.3	113	513	202	121	77.9	68.2	74.3
(WY)	(1949)	(1949)	(1977)	(1917)	(1964)	(1917)	(1987)	(1998)	(1948)	(1964)	(1948)	(1976)

04027000 BAD RIVER NEAR ODANAH, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	213,727		175,714			
ANNUAL MEAN	584		481		616	
HIGHEST ANNUAL MEAN					942	1983
LOWEST ANNUAL MEAN					346	1990
HIGHEST DAILY MEAN	7,650	Mar 29	5,640	Apr 7	22,000	Apr 24, 1960
LOWEST DAILY MEAN	(a)110	Jan 30	102	Jul 17	52	(b)Oct 1, 1948
ANNUAL SEVEN-DAY MINIMUM	(a)119	Jan 24	113	Sep 6	54	Feb 19, 1964
MAXIMUM PEAK FLOW			6,810	Jul 24	(c)27,700	Apr 24, 1960
MAXIMUM PEAK STAGE			10.32	Jul 24	(d)21.70	Apr 24, 1960
INSTANTANEOUS LOW FLOW			95	Jul 17	(f)34	Nov 8, 1976
ANNUAL RUNOFF (CFSM)	0.978		0.806		1.03	
ANNUAL RUNOFF (INCHES)	13.32		10.95		14.01	
10 PERCENT EXCEEDS	1,430		870		1,410	
50 PERCENT EXCEEDS	272		269		274	
90 PERCENT EXCEEDS	130		137		120	

(a) Ice affected
(b) Also occurred Aug. 6, 7, 1964
(c) From rating curve extended above 12,000 ft^3/s and a comparison with contracted-opening measurement of peak flow 45,600 ft^3/s at Odanah, drainage area, 990 mi^2
(d) From floodmarks
(e) Estimated
(f) Result of freezeup

04027500 WHITE RIVER NEAR ASHLAND, WI

LOCATION.--Lat 46°29'54", long 90°54'11", in NE 1/4 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 mi^2.

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 NGVD of 1929 (Lake Superior District Power Co. bench mark). Prior to May 20, 1976, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Diurnal fluctuation caused by hydroelectric plant at gage. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163	307	171	225	177	170	1,250	215	226	299	166	146
2	188	266	163	206	175	155	1,140	208	223	305	176	130
3	229	233	135	199	174	154	927	203	220	303	148	140
4	225	189	192	167	195	160	769	200	216	238	157	138
5	195	212	217	156	206	180	618	193	228	204	143	126
6	182	206	224	157	220	188	1,280	193	317	181	138	138
7	174	201	217	160	245	214	751	204	201	182	132	134
8	163	194	196	e170	232	172	798	205	215	183	143	126
9	173	188	188	e172	185	137	732	209	212	185	151	135
10	171	187	205	e176	197	184	620	298	214	172	213	134
11	165	187	236	e174	183	171	427	339	257	171	169	126
12	167	184	224	e171	179	149	369	328	510	169	188	134
13	169	183	192	e174	181	157	329	288	413	167	176	145
14	174	180	114	e175	181	183	272	300	593	149	171	168
15	184	179	114	e124	184	169	249	317	593	157	157	184
16	187	179	205	e152	171	180	236	296	521	160	145	172
17	181	181	205	e140	e118	168	225	270	438	143	159	154
18	177	185	204	e154	e138	168	215	245	340	197	177	143
19	156	185	178	e165	e145	168	200	274	242	200	174	142
20	146	188	107	e167	e151	168	291	321	228	179	173	161
21	182	206	138	e168	e154	168	295	281	196	177	171	177
22	172	229	151	e168	e165	167	262	263	209	174	153	167
23	168	189	e155	e171	e164	174	236	232	190	142	143	146
24	197	179	e153	e176	e164	182	230	240	174	e2,580	152	142
25	218	175	e154	e180	e165	182	213	242	175	e700	135	144
26	201	176	e159	e171	e161	223	194	239	175	503	145	166
27	186	194	e164	e167	158	319	272	248	158	380	148	183
28	186	194	e169	e161	169	657	266	260	177	323	149	187
29	202	185	180	e170	---	868	247	265	210	317	149	169
30	252	173	179	e172	---	1,280	228	249	269	276	148	145
31	293	---	177	e174	---	1,560	---	233	---	224	147	---
TOTAL	5,826	5,914	5,466	5,262	4,937	9,175	14,141	7,858	8,340	9,740	4,896	4,502
MEAN	188	197	176	170	176	296	471	253	278	314	158	150
MAX	293	307	236	225	245	1,560	1,280	339	593	2,580	213	187
MIN	146	173	107	124	118	137	194	193	158	142	132	126
CFSM	0.62	0.65	0.59	0.56	0.59	0.98	1.57	0.84	0.92	1.04	0.52	0.50
IN.	0.72	0.73	0.68	0.65	0.61	1.13	1.75	0.97	1.03	1.20	0.61	0.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	234	245	202	186	193	307	590	358	283	265	225	233
MAX	445	509	311	248	318	666	1,330	867	707	697	744	635
(WY)	(1983)	(1992)	(2002)	(1952)	(1984)	(1973)	(2001)	(1950)	(1952)	(1953)	(1972)	(1960)
MIN	152	160	150	146	136	178	231	175	140	142	147	146
(WY)	(1949)	(1977)	(1964)	(1991)	(1968)	(1965)	(2000)	(1998)	(1948)	(1988)	(1948)	(1948)

04027500 WHITE RIVER NEAR ASHLAND, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1948 - 2005	
ANNUAL TOTAL	90,275		86,057			
ANNUAL MEAN	247		236		277	
HIGHEST ANNUAL MEAN					426	1953
LOWEST ANNUAL MEAN					210	2000
HIGHEST DAILY MEAN	1,920	Apr 19	2,580	Jul 24	4,100	Aug 20, 1972
LOWEST DAILY MEAN	100	Jan 5	107	Dec 20	61	Sep 7, 8 1979
ANNUAL SEVEN-DAY MINIMUM	143	Jul 17	131	Sep 5	68	Sep 4, 1979
MAXIMUM PEAK FLOW			6,720	Jul 24	(a)8,100	Jul 1, 1953
MAXIMUM PEAK STAGE			7.18	Jul 24	7.90	Jul 1, 1953
ANNUAL RUNOFF (CFSM)	0.819		0.783		0.922	
ANNUAL RUNOFF (INCHES)	11.16		10.64		12.52	
10 PERCENT EXCEEDS	422		311		462	
50 PERCENT EXCEEDS	185		182		208	
90 PERCENT EXCEEDS	160		145		160	

(a) From rating curve extended above 3,000 ft^3/s
(e) Estimated

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 mi^2.

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.

REMARKS.--Diurnal fluctuation caused by Saxon Falls powerplant. Flow regulated by Gile Reservoir on West Branch Montreal River (capacity 1,290,000,000 ft^3/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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	420	110	143	130	143	2,270	251	173	160	190	115
2	40	325	102	143	160	137	2,270	205	166	160	160	94
3	40	320	89	235	155	137	2,270	210	154	160	178	94
4	80	225	89	235	155	137	1,402	194	164	160	178	94
5	78	203	89	178	155	137	1,305	192	164	160	154	94
6	71	203	130	167	155	137	1,305	180	190	166	154	100
7	71	203	120	167	200	190	4,002	180	163	155	159	100
8	65	172	123	167	190	191	1,710	180	164	155	160	94
9	65	161	131	167	185	180	1,710	179	160	155	142	76
10	60	115	130	155	185	161	1,710	214	163	155	179	76
11	59	131	130	161	185	161	654	230	163	147	205	76
12	65	107	130	157	185	161	531	197	163	148	154	94
13	65	107	130	155	185	161	420	185	190	153	154	82
14	72	107	113	131	185	167	350	185	212	142	154	100
15	71	100	150	131	160	167	286	185	290	136	100	110
16	71	100	160	131	150	149	286	320	290	136	120	95
17	71	100	125	125	155	143	286	256	290	136	120	95
18	100	105	125	120	140	149	214	205	290	142	172	95
19	100	102	125	95	140	149	236	205	290	136	136	88
20	100	102	155	125	140	149	684	210	106	145	136	88
21	100	102	115	108	170	131	617	210	118	145	136	106
22	100	137	165	108	145	143	445	210	159	136	94	106
23	100	137	165	108	165	143	445	190	172	136	100	94
24	100	125	143	145	137	149	445	188	148	136	100	94
25	183	125	143	131	150	149	239	175	148	355	100	106
26	148	125	143	165	150	149	210	175	148	321	95	94
27	124	125	118	119	150	149	221	171	172	286	95	120
28	94	125	155	125	137	227	240	171	172	183	95	106
29	111	119	149	125	---	306	251	171	165	183	94	120
30	111	95	143	125	---	1,030	251	171	162	183	105	130
31	111	---	173	110	---	2,385	---	171	---	183	105	---
TOTAL	2,666	4,623	4,068	4,457	4,499	8,067	27,265	6,166	5,509	5,254	4,224	2,936
MEAN	86.0	154	131	144	161	260	909	199	184	169	136	97.9
MAX	183	420	173	235	200	2,380	4,000	320	290	355	205	130
MIN	40	95	89	95	130	131	210	171	106	136	94	76
CFSM	0.33	0.59	0.50	0.55	0.61	0.99	3.47	0.76	0.70	0.65	0.52	0.37
IN.	0.38	0.66	0.58	0.63	0.64	1.15	3.87	0.88	0.78	0.75	0.60	0.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2005, BY WATER YEAR (WY)

MEAN	198	240	175	159	157	317	1,014	524	356	280	191	185
MAX	566	800	391	295	321	888	2,388	1,180	1,172	1,068	432	894
(WY)	(2003)	(1992)	(1952)	(1969)	(1969)	(1945)	(2002)	(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)

04029990 MONTREAL RIVER AT SAXON FALLS NEAR SAXON, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1938 - 2005	
ANNUAL TOTAL	103,120		79,734			
ANNUAL MEAN	282		218		316	
HIGHEST ANNUAL MEAN					487	1952
LOWEST ANNUAL MEAN					162	1987
HIGHEST DAILY MEAN	3,140	Apr 20	4,000	Apr 7	9,880	Jul 3, 1992
LOWEST DAILY MEAN	40	Oct 1-3	40	Oct 1-3	7.2	Oct 24, 1948
ANNUAL SEVEN-DAY MINIMUM	46	Sep 27	60	Oct 1	7.7	Oct 29, 1948
ANNUAL RUNOFF (CFSM)	1.08		0.834		1.21	
ANNUAL RUNOFF (INCHES)	14.64		11.32		16.40	
10 PERCENT EXCEEDS	627		286		635	
50 PERCENT EXCEEDS	143		149		190	
90 PERCENT EXCEEDS	83		94		85	

STREAMS TRIBUTARY TO LAKE SUPERIOR

04037500 CISCO BRANCH ONTONAGON RIVER AT CISCO LAKE OUTLET, MI

LOCATION.--Lat 46°15'12", long 89°27'05", in NE1/4 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 mi^2.

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.--Records good except for daily discharges below 3.0 ft^3/s, which are poor. Flow regulated by Cisco Lake (station 04037400). Several measurements of water temperature were made during the year. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

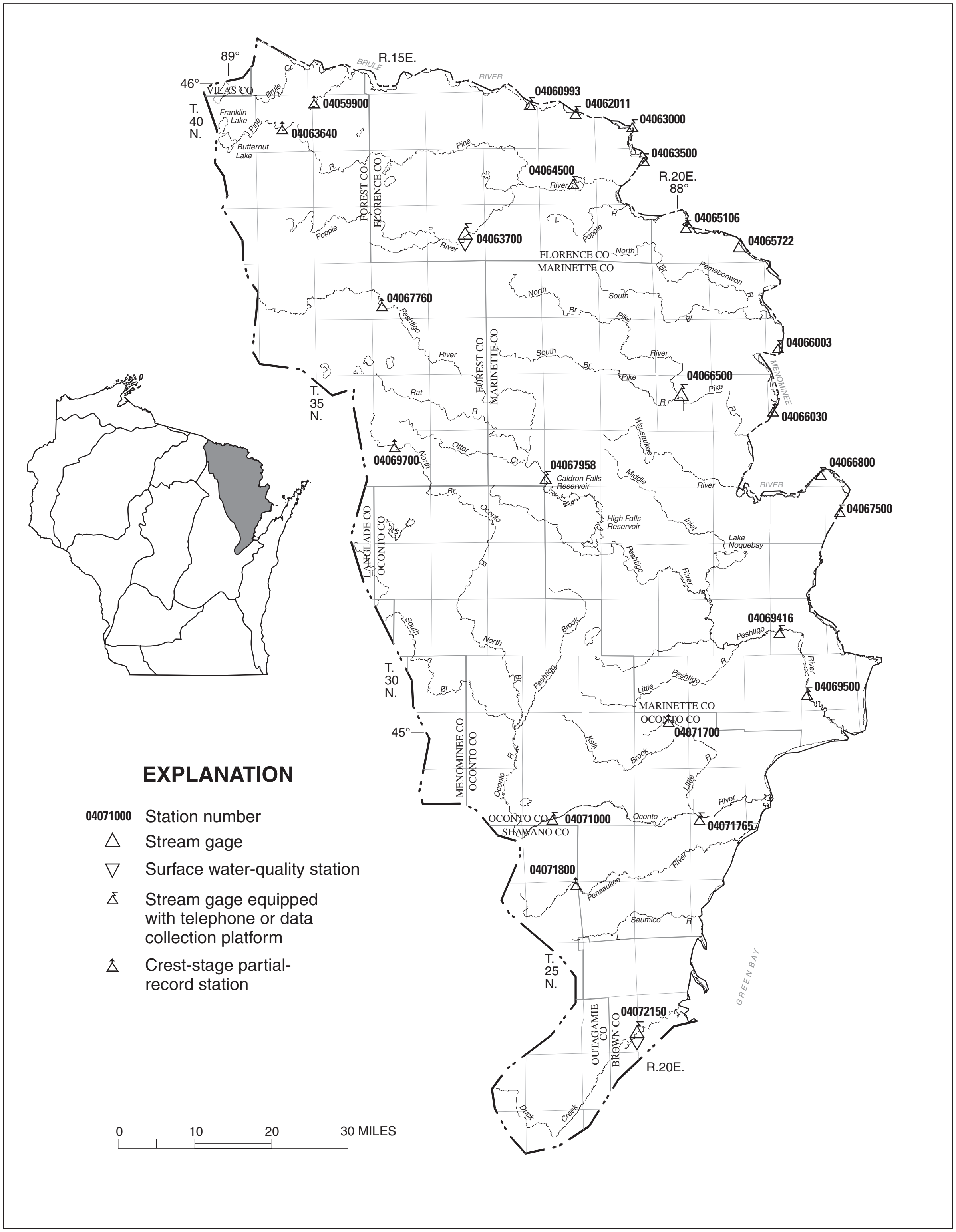
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.07	109	85	85	2.2	79	154	11	34	77	49	e0.07
2	e0.07	15	67	85	2.0	111	150	11	61	3.0	8.7	e0.07
3	e0.07	4.0	42	66	1.8	82	146	11	36	1.6	1.3	e0.07
4	e0.07	3.5	42	26	1.7	22	103	27	0.41	1.4	0.50	e0.07
5	e0.07	2.9	41	12	1.6	2.8	36	53	0.35	0.88	0.38	e0.07
6	e0.07	2.4	31	12	1.5	2.8	40	62	0.34	0.70	0.34	e0.07
7	e0.07	2.1	19	12	36	2.5	88	35	26	0.58	0.34	e0.07
8	e0.07	0.64	20	13	91	2.2	136	12	43	0.48	e0.07	e0.07
9	e0.07	0.47	20	13	113	2.1	156	26	27	0.45	e1.0	e0.07
10	e0.07	0.41	20	15	79	13	152	44	11	0.42	1.8	e0.07
11	e3.5	0.41	21	17	32	70	92	43	38	0.42	1.5	e0.07
12	12	0.34	23	25	15	111	20	52	99	0.40	1.1	e0.07
13	15	0.34	38	39	16	107	11	81	101	0.40	0.76	e0.10
14	15	0.34	85	45	20	58	3.1	106	98	0.41	0.51	e0.10
15	25	15	112	45	27	8.3	1.9	53	165	0.41	0.40	e0.10
16	36	78	82	44	30	1.9	1.3	7.0	159	0.41	e0.10	e0.10
17	36	116	25	31	38	1.8	1.0	1.5	80	0.40	e0.07	e0.10
18	27	112	12	20	47	1.7	0.75	1.1	4.3	0.38	e0.36	e0.10
19	15	95	12	21	46	1.7	22	20	2.2	0.37	0.43	e20
20	12	61	16	23	46	1.7	74	61	1.1	0.37	0.39	70
21	8.0	60	21	26	36	1.7	110	85	0.49	0.34	e0.10	52
22	13	61	21	27	22	1.7	47	85	0.41	e0.07	e0.10	22
23	19	39	21	27	16	1.6	1.6	48	0.36	e0.07	e0.07	10
24	50	15	21	34	11	4.3	1.4	6.8	0.34	e65	e0.07	2.0
25	58	11	21	56	4.5	11	1.3	0.90	0.34	142	e0.07	1.8
26	38	11	21	64	4.5	12	1.1	0.35	0.34	163	e0.07	16
27	46	12	32	53	4.5	12	1.1	0.34	0.37	136	e0.07	52
28	57	14	43	39	23	29	6.4	0.34	36	81	e0.07	66
29	87	47	43	34	---	61	10	e0.10	96	46	e0.07	67
30	135	88	44	33	---	111	11	e0.07	141	72	e0.07	48
31	153	---	66	19	---	144	---	5.3	---	86	e0.07	---
TOTAL	861.20	976.85	1167	1061	768.3	1071.8	1578.95	949.80	1262.35	881.96	69.88	428.24
MEAN	27.8	32.6	37.6	34.2	27.4	34.6	52.6	30.6	42.1	28.5	2.25	14.3
MAX	153	116	112	85	113	144	156	106	165	163	49	70
MIN	0.07	0.34	12	12	1.5	1.6	0.75	0.07	0.34	0.07	0.07	0.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	65.6	64.5	46.6	38.4	34.7	44.1	64.4	49.3	44.2	31.6	24.4	35.5
MAX	151	116	84.1	62.6	81.0	92.1	156	160	123	113	99.7	104
(WY)	1986	1968	1961	1983	1945	1973	2002	1996	1953	1953	1978	1977
MIN	13.1	14.5	23.5	23.1	20.6	24.1	2.02	0.17	0.11	0.25	0.15	0.23
(WY)	1958	1945	1990	1959	1950	1956	1948	1977	1977	1977	1970	1976

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1945 - 2005	
ANNUAL TOTAL	14530.13		11077.33			
ANNUAL MEAN	39.7		30.3		45.3	
HIGHEST ANNUAL MEAN					65.9	1973
LOWEST ANNUAL MEAN					25.2	1949
HIGHEST DAILY MEAN	219	Apr 21	165	Jun 15	288	May 1 1951
LOWEST DAILY MEAN	0.07	Aug 24	0.07	(a)	0.07	(b)
ANNUAL SEVEN-DAY MINIMUM	0.07	Aug 24	0.07	Oct 1	0.07	Aug 24 2004
MAXIMUM PEAK FLOW			171	Jul 25	288	May 1 1951
MAXIMUM PEAK STAGE			5.54	Jul 25	(c)6.10	May 1 1951
ANNUAL RUNOFF (CFSM)	0.783		0.599		0.893	
ANNUAL RUNOFF (INCHES)	10.66		8.13		12.14	
10 PERCENT EXCEEDS	112		87		103	
50 PERCENT EXCEEDS	21		14		36	
90 PERCENT EXCEEDS	0.37		0.09		0.88	

(a) On many days during the year.
(b) On many days in water years 2004, 2005.
(c) Present datum.
(e) Estimated.



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

MENOMINEE-OCONTO-PESHTIGO BASIN

STREAMS TRIBUTARY TO LAKE MICHIGAN

04060993 BRULE RIVER NEAR FLORENCE, WI

LOCATION.--Lat 45°57'39", long 88°18'57", in NW1/4 SE1/4 sec.9, T.41 N., R.32 W., Michigan Meridian, Iron County, Hydrologic Unit 04030106, on left bank 30 ft upstream from bridge on U.S. Highway 2, 4.0 mi upstream from Paint River, 4.0 mi northwest of Florence, WI, and 8.0 mi upstream from confluence with Michigamme River.

DRAINAGE AREA.--366 mi^2 , approximately.

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

REVISED RECORDS.--WSP 1387: 1914-16. WDR MI-92-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,240 ft above sea level, from topographic map. Prior to Aug. 29, 1944, nonrecording gage, and Aug. 29, 1944 to Apr. 4, 1994, water-stage recorder at site 3.0 mi downstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Discharge includes some mine pumpage prior to August 1977. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	208	379	238	e229	e212	e222	e551	276	215	196	201	171
2	269	328	250	e231	e213	e219	e589	278	209	190	192	165
3	259	302	225	e226	e212	e218	726	282	202	181	184	163
4	233	284	e214	e218	e211	e217	747	270	199	193	182	162
5	221	274	e211	e209	e219	e217	739	258	224	190	176	160
6	213	269	e228	e205	e224	e217	799	255	253	188	171	160
7	209	259	e228	e204	e228	e226	904	251	242	179	164	161
8	229	250	e228	e199	e232	e236	844	245	223	172	164	162
9	242	240	e231	e204	e233	e241	716	244	214	168	165	161
10	223	247	e235	e204	e233	e242	623	281	208	166	186	160
11	216	252	e248	e203	e230	e237	554	303	209	163	183	160
12	218	238	e249	e207	e226	e225	494	275	218	159	176	158
13	215	237	e230	e208	e222	e219	446	271	223	159	168	174
14	211	243	e190	e209	e219	e215	408	304	437	161	162	206
15	221	247	e185	e207	e216	e213	378	309	593	157	157	219
16	242	239	e198	e201	e216	e210	356	297	493	153	155	209
17	236	243	e212	e199	e216	e210	398	276	361	152	152	190
18	227	245	e217	e196	e217	e210	402	264	299	151	156	181
19	221	243	e195	e196	e220	e209	377	281	266	153	200	186
20	219	288	e188	e196	e225	e209	404	339	246	151	292	216
21	219	300	e191	e197	e238	e209	421	317	229	151	317	199
22	221	271	e205	e199	e254	e209	372	308	215	148	289	193
23	304	263	e220	e201	e259	e210	347	321	204	147	233	191
24	411	246	e212	e203	e260	e211	327	302	197	519	202	185
25	339	233	e206	e204	e251	e215	311	274	192	543	188	180
26	291	239	e204	e206	e240	e220	301	253	187	447	182	213
27	308	270	e205	e206	e228	e225	301	244	183	334	237	224
28	309	278	e209	e207	e226	e245	299	242	207	260	213	218
29	342	268	e212	e210	---	e250	290	244	210	260	192	260
30	402	275	e218	e209	---	e283	279	234	205	239	182	233
31	439	---	e225	e209	---	e381	---	225	---	214	178	---
TOTAL	8117	7950	6707	6402	6380	7070	14703	8523	7563	6644	5999	5620
MEAN	262	265	216	207	228	228	490	275	252	214	194	187
MAX	439	379	250	231	260	381	904	339	593	543	317	260
MIN	208	233	185	196	211	209	279	225	183	147	152	158
CFSM	0.72	0.72	0.59	0.56	0.62	0.62	1.34	0.75	0.69	0.59	0.53	0.51
IN.	0.83	0.81	0.68	0.65	0.65	0.72	1.49	0.87	0.77	0.68	0.61	0.57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	321	329	272	247	242	317	656	493	388	332	284	303
MAX	612	600	424	369	406	833	1235	1104	712	983	604	582
(WY)	1986	1916	1986	1986	1984	1973	1967	1965	1981	1953	1972	1959
MIN	179	202	175	156	163	178	235	242	194	185	186	182
(WY)	1949	1990	1990	1995	1995	1965	1990	1998	1988	1989	1948	1948

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	116644		91678			
ANNUAL MEAN	319		251		347	
HIGHEST ANNUAL MEAN					512	1973
LOWEST ANNUAL MEAN					221	1990
HIGHEST DAILY MEAN	2090	Apr 21	904	Apr 7	4420	Jul 2 1953
LOWEST DAILY MEAN	165	Feb 4	147	Jul 23	130	Dec 2 1963
ANNUAL SEVEN-DAY MINIMUM	165	Feb 4	150	Jul 17	140	Jan 2 1995
MAXIMUM PEAK FLOW			(a)921	Apr 7	4700	Jul 2 1953
MAXIMUM PEAK STAGE			(b)6.05	Dec 17	(c)8.41	Jul 15 1999
INSTANTANEOUS LOW FLOW			144	(d)	(f)95	Dec 17 1999
ANNUAL RUNOFF (CFSM)	0.871		0.686		0.949	
ANNUAL RUNOFF (INCHES)	11.86		9.32		12.90	
10 PERCENT EXCEEDS	597		340		546	
50 PERCENT EXCEEDS	244		221		283	
90 PERCENT EXCEEDS	170		171		202	

(a) Gage height 4.90 ft.
(b) Backwater from ice.
(c) Present site and datum; peak stage at previous site and datum, 8.60 ft, Dec. 20, 1983, backwater from ice.
(d) July 22, 23.
(e) Estimated.
(f) Result of freezeup.

STREAMS TRIBUTARY TO LAKE MICHIGAN

04062011 BRULE RIVER NEAR COMMONWEALTH, WI

LOCATION.--Lat 45°56'51", long 88°12'55", in NW1/4 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 mi^2.

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

REVISED RECORDS.--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.--Records excellent. 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. Gage-height telemeter at station.

COOPERATION.--Gage-height record was provided by We Energies, under general supervision of the Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	549	691	486	456	432	426	1120	628	486	496	490	460
2	517	624	446	460	448	426	1320	666	527	453	481	427
3	535	535	397	479	427	424	1250	646	527	452	465	439
4	514	561	436	449	425	418	1280	608	523	484	476	443
5	495	557	470	429	480	419	1190	608	545	485	452	448
6	479	554	455	418	435	427	1710	635	572	466	453	438
7	477	494	443	421	513	486	2560	598	570	714	448	457
8	477	442	443	417	479	570	2860	577	574	769	455	452
9	563	467	475	417	485	523	2420	586	513	669	453	436
10	481	579	499	417	453	526	1720	661	557	665	461	444
11	527	514	550	420	449	481	1230	699	534	641	450	442
12	484	532	520	434	474	449	969	628	535	594	319	425
13	517	490	375	426	454	401	804	587	529	572	249	461
14	487	506	386	450	441	426	768	689	832	561	259	471
15	497	549	350	396	468	423	715	686	957	451	264	471
16	535	540	473	396	435	404	750	677	888	440	256	500
17	489	525	484	395	438	398	790	613	653	441	258	468
18	496	500	402	389	430	431	743	531	585	433	297	461
19	545	531	421	390	462	418	783	606	560	435	482	475
20	487	609	364	401	440	423	775	675	523	438	496	493
21	494	635	393	400	533	431	774	687	510	442	597	455
22	506	590	460	411	576	412	744	673	492	423	547	481
23	569	548	417	418	530	411	740	655	462	440	390	453
24	768	512	436	410	521	407	661	657	495	797	420	456
25	656	506	415	423	480	419	621	603	491	884	454	469
26	534	495	408	405	425	440	671	542	472	765	451	502
27	596	559	413	419	440	459	687	621	460	639	548	510
28	597	569	436	434	414	477	674	528	494	548	487	487
29	679	571	431	413	---	549	669	574	518	529	471	533
30	643	541	437	417	---	803	578	549	490	519	469	527
31	701	---	495	413	---	1090	---	550	---	489	465	---
TOTAL	16894	16326	13616	13023	12987	14797	32576	19243	16874	17134	13263	13984
MEAN	545	544	439	420	464	477	1086	621	562	553	428	466
MAX	768	691	550	479	576	1090	2860	699	957	884	597	533
MIN	477	442	350	389	414	398	578	528	460	423	249	425

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	453	424	376	356	366	453	1222	869	536	478	402	399
MAX	923	603	545	476	497	634	3128	2757	855	887	680	569
(WY)	2003	2003	2002	2003	2003	1998	2002	1996	2004	1999	2002	2002
MIN	276	307	270	259	270	327	322	355	334	272	296	285
(WY)	1990	1990	1990	1991	1991	2001	1990	1998	1992	1990	1990	1998

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1990 - 2005	
ANNUAL TOTAL	252965		200717			
ANNUAL MEAN	691		550		528	
HIGHEST ANNUAL MEAN					810	1996
LOWEST ANNUAL MEAN					325	1990
HIGHEST DAILY MEAN	6050	Apr 21	2860	Apr 8	10500	Apr 17 2002
LOWEST DAILY MEAN	349	Jan 6	249	Aug 13	182	Feb 11 1994
ANNUAL SEVEN-DAY MINIMUM	381	Jan 4	272	Aug 12	202	Mar 26 1990
MAXIMUM PEAK FLOW			3020	Apr 7	11200	Apr 17 2002
MAXIMUM PEAK STAGE			9.63	Apr 7	15.67	Apr 17 2002
10 PERCENT EXCEEDS	1000		694		751	
50 PERCENT EXCEEDS	506		487		403	
90 PERCENT EXCEEDS	423		415		290	

STREAMS TRIBUTARY TO LAKE MICHIGAN

04063000 MENOMINEE RIVER NEAR FLORENCE, WI

LOCATION.--Lat 45°57'05", long 88°11'21", in SE1/4 sec.12, T.41 N., R.18 E., Wisconsin Meridian, Florence County, Hydrologic Unit 04030108, on right bank 0.4 mi downstream from confluence of Brule and Michigamme Rivers, 3.5 mi northeast of Florence, WI, and at mile 117.

DRAINAGE AREA.--1,760 mi^2.

PERIOD OF RECORD.--January 1914 to current year. Published as "at Twin Falls near Iron Mountain, MI", January 1914 to June 1950, October 1996 to September 1998. Records published for both sites July 1950 to September 1957, October 1989 to September 1996, October 1998 to current year.

REVISED RECORDS.--WSP 1707: 1953(M). WDR MI-92-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,119.23 ft above sea level (levels by Owen Ayres Associates). Prior to July 5, 1950, headwater and tailwater gages and generation data entered hourly in daily log sheets by company employees at the We Energies Twin Falls Powerplant, 10.4 mi downstream. July 5, 1950 to Oct. 19, 2000, water-stage recorder at site 500 ft downstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Prior to July 1950, discharge determined from powerplant records computed on basis of load-discharge rating of hydroelectric units and rating for 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. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	721	1490	921	1310	1260	e1580	2060	1620	e1230	1270	840	773
2	787	1460	1110	1400	1330	e1540	2290	1550	e1310	1220	868	715
3	834	1220	1120	1200	1330	e1590	2290	1480	e1260	1180	1030	729
4	832	1070	1050	e1380	1320	e1450	2340	1430	e1260	1180	968	738
5	794	1100	1010	e1470	1300	e1600	2270	1430	e1260	1230	848	740
6	784	1060	896	e1440	1260	e1570	2810	1490	e1280	1150	903	732
7	776	1120	1120	e1420	1310	e1700	3980	1430	e1280	1400	792	735
8	756	1110	1110	e1500	e1440	e1700	4210	1450	e1370	1180	768	730
9	820	942	1140	1410	1420	e1620	3930	1430	1410	1110	756	716
10	741	1120	1230	1360	1570	e1550	3290	e1380	1350	1130	763	729
11	783	1090	1260	1420	1720	e1550	3020	e1140	1230	1150	822	728
12	734	1250	1270	e1380	1640	e1590	2340	e1140	1240	1050	679	702
13	770	994	e1110	e1430	e1790	e1600	2130	e1220	1200	1020	712	738
14	684	1020	e1090	e1450	1650	e1420	2280	1320	1470	936	670	743
15	698	915	e1080	e1490	1750	e1320	1990	1240	1920	848	813	630
16	876	916	1010	e1420	e1700	e1480	1960	1270	2150	895	850	619
17	587	845	1080	e1410	e1620	e1420	1990	1240	1940	960	667	607
18	737	833	e998	e1470	e1550	e1420	1830	1320	1850	812	637	597
19	830	913	e1270	e1390	e1600	e1480	1820	1520	1660	760	801	614
20	769	947	e1390	1380	e1560	e1440	1830	1560	1560	750	812	708
21	782	1000	1330	1400	e1530	e1410	1930	1540	1360	768	926	736
22	763	978	e1290	1310	e1600	1010	2290	1560	1430	738	814	756
23	802	1010	e1340	1370	e1670	1530	2580	1700	1450	761	668	720
24	1400	977	e1330	1320	e1550	1250	2580	1830	1490	1130	691	722
25	1400	945	e1380	1380	e1620	1390	2350	1820	1590	1170	725	735
26	1340	980	e1380	1250	e1620	1400	1840	e1850	1550	1070	724	759
27	1260	1010	e1310	1360	e1620	1260	1830	e1770	1640	1090	824	782
28	1210	1140	1370	1610	e1550	1200	1760	e1740	1630	898	763	762
29	1370	1060	1280	1270	---	1370	1690	e1770	1450	914	751	804
30	1310	1050	1410	1400	---	1790	1600	e1700	1330	859	747	841
31	1450	---	1440	1240	---	1860	---	e1460	---	823	783	---
TOTAL	28400	31565	37125	43040	42880	46090	71110	46400	44150	31452	24415	21640
MEAN	916	1052	1198	1388	1531	1487	2370	1497	1472	1015	788	721
MAX	1450	1490	1440	1610	1790	1860	4210	1850	2150	1400	1030	841
MIN	587	833	896	1200	1260	1010	1600	1140	1200	738	637	597

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1452	1563	1437	1398	1389	1596	3159	3004	2101	1574	1285	1368
MAX	3537	3465	2640	2253	2514	3544	8159	6319	5035	4253	2359	3149
(WY)	1986	1986	1984	1983	1984	1973	1916	1960	1916	1953	1972	1968
MIN	726	725	765	691	647	692	735	595	799	721	545	718
(WY)	1949	1964	1925	1924	1926	1914	1990	1987	1988	1925	1925	1925

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	611293		468267			
ANNUAL MEAN	1670		1283		1777	
HIGHEST ANNUAL MEAN					3069	1916
LOWEST ANNUAL MEAN					922	1925
HIGHEST DAILY MEAN	9470	Apr 21	4210	Apr 8	18800	Jul 2 1953
LOWEST DAILY MEAN	587	Oct 17	587	Oct 17	57	Sep 26 1975
ANNUAL SEVEN-DAY MINIMUM	727	Oct 12	644	Sep 15	277	Oct 18 1975
MAXIMUM PEAK FLOW			4620	Apr 8	19500	Apr 26 1960
MAXIMUM PEAK STAGE			6.75	Apr 8	14.15	Apr 26 1960
INSTANTANEOUS LOW FLOW					38	(a)
10 PERCENT EXCEEDS	2910		1790		2980	
50 PERCENT EXCEEDS	1380		1270		1460	
90 PERCENT EXCEEDS	846		738		846	

(a) Aug. 21, 1962, Sept. 26, 1975.
(e) Estimated.

STREAMS TRIBUTARY TO LAKE MICHIGAN

04063500 MENOMINEE RIVER AT TWIN FALLS NEAR IRON MOUNTAIN, MI

LOCATION.--Lat 45°52'17", long 88°04'12", in NE1/4 SE1/4 sec. 12, T.40 N., R.31 W., Michigan Meridian, Dickinson County, Hydrologic Unit 04030108, on left bank 150 ft downstream from We Energies powerhouse at Twin Falls Dam, 3.6 mi north of Iron Mountain, and at mile 106.6.

DRAINAGE AREA.--1,800 mi^2.

PERIOD OF RECORD.--January 1914 to current year. Published as "near Florence, WI", October 1957 to September 1989. Records published for both sites July 1950 to September 1957, October 1989 to September 1996, October 1998 to current year.

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 We Energies). 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.--Records good. 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. Gage-height telemeter at station.

COOPERATION.--Gage-height record was provided by We Energies, under general supervision of the Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	737	e1560	1060	1320	1330	1580	2130	1570	1270	1240	937	796
2	841	e1500	1140	1430	1460	1540	2330	1500	1330	1290	940	698
3	893	e1260	1120	1300	1420	1590	2410	1450	1310	1220	951	789
4	882	e1120	1120	1410	1430	1460	2330	1410	1260	1160	983	767
5	884	e1130	1090	1460	1370	1600	2350	1350	1290	1250	909	721
6	786	e1090	970	1450	1470	1570	2750	1480	1330	1150	889	776
7	857	e1150	1090	1420	e1380	1680	4020	1340	1280	1400	836	785
8	747	e1150	1150	1520	e1470	1700	4520	1400	1370	1120	858	773
9	897	e980	1220	1460	e1500	1600	4200	1340	1370	1190	841	767
10	820	e1160	1240	1370	e1560	1550	3270	1420	1250	1020	755	747
11	834	e1130	1290	1470	e1750	1510	3120	1180	1200	1160	862	792
12	770	e1140	1380	1440	e1690	1620	2440	1150	1220	1070	851	708
13	802	e1090	1210	1470	e1810	1590	2120	1260	1240	993	764	746
14	784	e1050	1290	1480	e1630	1380	2250	1240	1410	1010	717	753
15	811	e919	1110	1490	e1630	1310	2040	1240	1970	901	720	765
16	796	e939	1120	1430	1710	1450	2050	1250	2160	e928	848	675
17	788	e875	1140	1400	1680	1450	1950	1230	2070	e998	770	679
18	756	e855	1110	1500	1570	1380	1940	1310	1850	e833	726	678
19	829	e944	1230	1390	1650	1470	1870	1370	1700	e796	705	607
20	822	e987	1330	1430	1570	1460	1840	1670	1570	803	785	645
21	830	e1030	1350	1430	1520	1380	2020	1520	1310	837	880	742
22	782	e1020	1320	1320	1570	1150	2300	1550	1330	853	1130	767
23	857	e1030	1360	1410	1660	1350	2510	1630	1420	800	666	776
24	1370	e996	1330	1390	1580	1250	2620	1860	1530	1010	736	726
25	e1430	e979	1380	1460	1620	1320	2330	1850	1570	1230	773	812
26	e1380	e1010	1380	1420	1580	1310	1900	1880	1560	1160	801	815
27	e1320	e1040	1350	1440	1620	1280	1870	1870	1610	1180	924	819
28	e1270	e1140	1360	1470	1560	1260	1830	1770	1580	933	854	805
29	e1400	e1090	1300	1420	---	1400	1720	1780	1420	865	809	878
30	e1370	e1070	1360	1430	---	1690	1590	1760	1380	929	861	926
31	e1520	---	1520	1390	---	2020	---	1510	---	927	863	---
TOTAL	29865	32434	38420	44220	43790	45900	72620	46140	44160	32256	25944	22733
MEAN	963	1081	1239	1426	1564	1481	2421	1488	1472	1041	837	758
MAX	1520	1560	1520	1520	1810	2020	4520	1880	2160	1400	1130	926
MIN	737	855	970	1300	1330	1150	1590	1150	1200	796	666	607

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

MEAN	1464	1577	1447	1407	1396	1610	3183	3022	2120	1589	1300	1382
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	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	648361		478482			
ANNUAL MEAN	1771		1311		1791	
HIGHEST ANNUAL MEAN					3069	1916
LOWEST ANNUAL MEAN					922	1925
HIGHEST DAILY MEAN	9980	Apr 21	4520	Apr 8	18100	Apr 26 1960
LOWEST DAILY MEAN	737	Oct 1	607	Sep 19	57	Sep 26 1975
ANNUAL SEVEN-DAY MINIMUM	787	Oct 12	684	Sep 15	277	Oct 18 1975
MAXIMUM PEAK FLOW			4870	Apr 7	(a)19500	Apr 26 1960
MAXIMUM PEAK STAGE			9.30	Apr 7	(b)13.88	Apr 17 2002
10 PERCENT EXCEEDS	3190		1830		3000	
50 PERCENT EXCEEDS	1430		1310		1470	
90 PERCENT EXCEEDS	924		785		857	

(a) Gage height 14.15 ft, site and datum then in use.
(b) Present site and datum.
(e) Estimated.

04063700 POPPLE RIVER NEAR FENCE, WI
(HYDROLOGIC BENCHMARK 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 mi^2.

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 NGVD of 1929. Prior to June 18, 1964, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	139	62	e47	e31	e39	e243	106	71	47	43	31
2	51	128	60	e48	e32	e39	e283	105	64	45	38	28
3	50	118	55	e46	e32	e39	e306	100	59	43	34	27
4	44	109	56	e42	e32	e39	e313	95	56	42	32	26
5	40	101	57	e39	e34	e39	318	90	61	44	32	24
6	39	95	54	e36	e36	e39	325	88	76	39	30	24
7	38	88	55	e33	e38	e39	337	88	74	37	27	24
8	39	81	58	e32	e39	e42	341	84	86	35	25	24
9	56	73	60	e32	e41	e40	336	81	93	34	27	23
10	47	72	65	e32	e40	e40	320	83	80	33	37	22
11	41	72	68	e32	e41	e40	298	96	83	32	35	23
12	40	66	58	e33	e40	e39	274	104	90	31	33	22
13	39	65	60	e35	e39	e39	249	107	98	30	30	22
14	37	71	60	e36	e39	e38	223	122	168	30	28	27
15	38	69	58	e35	e38	e37	197	131	294	29	26	28
16	41	61	58	e35	e39	e37	176	130	308	28	25	26
17	41	57	53	e35	e38	e36	173	122	270	27	24	24
18	42	58	53	e34	e38	e36	176	114	224	26	24	24
19	40	58	49	e29	e39	e36	176	119	191	26	28	25
20	40	75	45	e26	e38	e36	203	144	149	25	33	30
21	39	85	e43	e25	e39	e36	210	145	116	25	34	28
22	39	79	e42	e25	e39	e36	204	139	99	25	31	26
23	50	78	e41	e25	e39	e36	180	141	85	25	28	26
24	80	71	e40	e27	e39	e37	158	130	74	55	26	25
25	72	74	e40	e30	e39	e37	142	117	66	63	26	28
26	66	64	e40	e35	e39	e37	134	106	58	93	25	37
27	77	64	e40	e36	e39	e38	130	97	54	105	52	38
28	84	73	e39	e32	e39	e45	124	91	52	76	56	38
29	105	71	e39	e32	---	e60	118	88	51	65	41	52
30	139	65	e40	e31	---	e123	111	82	49	55	35	48
31	146	---	e46	e31	---	e214	---	76	---	48	33	---
TOTAL	1,734	2,380	1,594	1,046	1,056	1,468	6,778	3,321	3,299	1,318	998	850
MEAN	55.9	79.3	51.4	33.7	37.7	47.4	226	107	110	42.5	32.2	28.3
MAX	146	139	68	48	41	214	341	145	308	105	56	52
MIN	34	57	39	25	31	36	111	76	49	25	24	22
CFSM	0.40	0.57	0.37	0.24	0.27	0.34	1.63	0.77	0.79	0.31	0.23	0.20
IN.	0.46	0.64	0.43	0.28	0.28	0.39	1.81	0.89	0.88	0.35	0.27	0.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	112	108	64.2	46.7	46.0	84.6	308	213	141	79.5	64.0	99.8
MAX	265	220	116	86.6	107	356	613	617	345	260	147	356
(WY)	(1972)	(1986)	(1992)	(1969)	(1984)	(1973)	(1979)	(1965)	(1993)	(1999)	(1978)	(1980)
MIN	25.0	30.9	23.9	24.6	22.8	30.5	54.6	52.0	21.2	17.5	23.1	16.4
(WY)	(1990)	(1977)	(1990)	(1977)	(2003)	(1964)	(1990)	(1998)	(1988)	(1988)	(1989)	(1989)

04063700 POPPLE RIVER NEAR FENCE, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1964 - 2005	
ANNUAL TOTAL	34,284		25,842			
ANNUAL MEAN	93.7		70.8		114	
HIGHEST ANNUAL MEAN					175	1973
LOWEST ANNUAL MEAN					64.3	1988
HIGHEST DAILY MEAN	434	Apr 21	341	Apr 8	1,610	Apr 25, 1979
LOWEST DAILY MEAN	(a)25	Jan 7	22	(b)Sep 10	10	Aug 12, 1989
ANNUAL SEVEN-DAY MINIMUM	(a)26	Jan 6	23	Sep 7	12	(c)Jul 3, 1988
MAXIMUM PEAK FLOW			(d)341	Apr 7	(f)1,640	Apr 25, 1979
MAXIMUM PEAK STAGE			(a)2.67	Apr 4	4.81	Apr 19, 2002
INSTANTANEOUS LOW FLOW			22	(b)Sep 10	(g)5.9	Oct 28, 1976
ANNUAL RUNOFF (CFSM)	0.674		0.509		0.819	
ANNUAL RUNOFF (INCHES)	9.18		6.92		11.13	
10 PERCENT EXCEEDS	264		141		250	
50 PERCENT EXCEEDS	50		42		68	
90 PERCENT EXCEEDS	32		27		33	

(a) Ice affected
(b) Also occurred additional days
(c) Also occurred Sept. 20, 1989
(d) Gage height, 2.43 ft
(e) Estimated
(f) Gage height, 4.52 ft
(g) Result of temporary storage from beaver dam

04063700 POPPLE RIVER NEAR FENCE, WI—Continued

WATER-QUALITY RECORD

PERIOD OF RECORD.--June 1964 to September 1997, October 2000 to current year. National Water-Quality Assessment Program sampling April 1993 to October 1996, and April 2001 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 2002 to September 2005 (discontinued).
SPECIFIC CONDUCTANCE: June 2002 to September 2005 (discontinued).

REMARKS.--Chemical analysis of some constituents done by the National Water-Quality Laboratory and Wisconsin District Mercury Lab.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Dis-charge, cfs (00060)	Instan-taneous dis-charge, cfs (00061)	Sam-pling method, code (82398)	UV absorb-ance, 254 nm, wat flt units /cm (50624)	SUVA, 254 nm, abs L/ (mgDOC* meter) (63162)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)
OCT													
19...	0920	--	40	10	.180	3.1	735	11.1	7.8	229	4.4	26.8	14.4
DEC													
09...	0840	--	59	70	.482	3.6	729	17.8	8.1	180	.2	21.9	11.8
FEB													
03...	0835	32	--	70	--	--	735	10.2	6.6	223	-.3	28.3	15.2
APR													
18...	1130	--	176	70	.881	3.8	737	10.0	7.2	98	11.5	11.9	6.22
JUN													
02...	0840	--	66	70	.642	4.1	740	7.0	7.5	177	16.9	20.4	11.6
AUG													
11...	1230	--	34	70	.270	3.2	741	7.3	7.4	235	20.9	27.8	14.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alka-linity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Carbon-ate, wat flt incrm. titr., field, mg/L (00452)	Chlor-ide, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitro-gen, wat unf by anal ysis, mg/L (62855)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)
OCT													
19...	1.05	2.08	117	113	136	<0.1	2.01	6.6	<.04	<.06	<.008	.20	<.006
DEC													
09...	.69	1.83	93	98	118	<0.1	1.74	6.9	E.02	.14	<.008	.58	<.006
FEB													
03...	.96	2.04	119	118	144	<0.1	2.22	8.1	.07	.22	<.008	.48	<.006
APR													
18...	.54	1.43	42	42	E51	<0.1	1.27	4.6	<.04	E.05	<.008	.78	<.006
JUN													
02...	.67	1.83	88	85	103	<0.1	1.43	4.8	<.04	<.06	<.008	.59	<.006
AUG													
11...	.77	1.86	114	92	111	<0.1	1.48	6.5	<.04	<.06	<.008	.37	<.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Phos-phorus, water, unfltrd mg/L (00665)	Organic carbon, water, fltrd, mg/L (00681)	Iron, water, fltrd, ug/L (01046)	Mercury water fltrd, ng/L (50287)	Mercury suspnd sedimnt total, ng/L (62976)	Methyl-mercury water fltrd, ng/L (50285)	Methyl-mercury suspnd sedimnt total, ng/L (62977)	Sus-pended sedi-ment concen-tration mg/L (80154)
OCT								
19...	.011	5.8	91	.46	E.126	<.04	<.022	6
DEC								
09...	.011	13.4	292	1.89	.294	.16	<.019	3
FEB								
03...	.006	5.6	224	.67	.461	.07	<.020	5
APR								
18...	.028	23.0	305	5.56	.881	.28	.033	6
JUN								
02...	.024	15.6	309	2.55	.668	.30	.031	7
AUG								
11...	.015	8.4	100	.84	.406	<.04	<.022	3

04063700 POPPLE RIVER NEAR FENCE, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instan- taneous dis- charge, cfs (00061)	Biomass peri- phyton, ashfree drymass g/m2 (49954)	Peri- phyton biomass ash weight, g/m2 (00572)	Peri- phyton biomass dry weight, g/m2 (00573)	Pheo- phytin a, peri- phyton, mg/m2 (62359)	Chloro- phyll a peri- phyton, chromo- fluoro, mg/m2 (70957)
AUG							
30...	1520	33	30.9	510	543.2	19	60.5

04064500 PINE RIVER BELOW PINE RIVER POWERPLANT NEAR FLORENCE, WI

LOCATION.--Lat 45°50'16", long 88°13'31", in SW 1/4 SE 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 mi^2.

PERIOD OF RECORD.--October 1923 to December 1975, October 1996 to current year.

REVISED RECORDS.--WDR WI-97-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,098.84 ft above mean NGVD of 1929. Prior to October 1968, record obtained from Pine River Powerplant 1.9 mi upstream with a drainage area of 528 mi^2.

REMARKS.--Records good except those for estimated daily discharges, which are fair (see Introduction). 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	148	605	247	e240	e180	e190	966	375	246	193	236	169
2	236	601	e250	e250	e200	e190	1,070	403	216	173	195	147
3	232	503	e240	e230	e180	e190	1,200	363	201	162	167	127
4	201	483	e250	e240	e180	e200	1,340	368	204	158	189	126
5	204	444	e270	e210	e200	e200	1,270	341	216	166	185	127
6	177	386	262	e190	e220	e200	1,200	340	279	162	161	128
7	190	364	267	e170	e220	e220	1,270	332	266	160	151	111
8	172	361	264	e180	e240	e200	1,250	313	256	137	151	108
9	220	309	295	e180	e230	e200	1,160	323	264	131	135	116
10	207	313	297	e190	e230	e210	1,070	328	244	129	160	145
11	199	315	307	e190	e230	e200	999	380	238	121	181	87
12	194	300	284	e180	e240	e190	939	428	270	111	161	117
13	204	235	e250	e180	e230	e190	840	400	290	118	152	139
14	162	259	e240	e210	e230	e200	781	439	675	122	152	138
15	172	297	e240	e170	e230	e190	681	500	1,040	133	154	147
16	199	261	e250	e160	e220	e180	654	464	932	105	133	134
17	196	263	e230	e140	e210	e190	633	429	754	96	117	130
18	181	260	e220	e130	e210	e190	657	409	580	104	115	125
19	200	264	e210	e110	e200	e180	646	433	500	105	154	139
20	172	313	e190	e120	e220	e170	726	512	414	110	174	160
21	189	355	e210	e130	e200	e180	757	537	347	110	216	139
22	174	357	e240	e160	e210	e190	714	487	295	107	185	139
23	229	329	e210	e160	e190	e180	636	505	274	105	160	148
24	389	287	e190	e170	e200	e200	556	437	238	341	158	142
25	377	206	e200	e170	e210	e210	517	400	222	346	138	146
26	314	259	e200	e160	e170	e200	475	355	214	441	134	184
27	352	318	e190	e170	e190	e220	484	320	195	471	242	179
28	381	330	e180	e180	e200	266	469	309	193	375	253	197
29	447	296	e190	e170	---	306	439	295	206	331	209	246
30	598	260	e210	e190	---	546	428	290	200	298	172	234
31	630	---	e220	e200	---	872	---	268	---	250	150	---
TOTAL	7,946	10,133	7,303	5,530	5,870	7,250	24,827	12,083	10,469	5,871	5,240	4,374
MEAN	256	338	236	178	210	234	828	390	349	189	169	146
MAX	630	605	307	250	240	872	1,340	537	1,040	471	253	246
MIN	148	206	180	110	170	170	428	268	193	96	115	87
CFSM	0.48	0.63	0.44	0.33	0.39	0.44	1.55	0.73	0.65	0.36	0.32	0.27
IN.	0.55	0.71	0.51	0.39	0.41	0.51	1.73	0.84	0.73	0.41	0.37	0.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2005, BY WATER YEAR (WY)

MEAN	371	383	258	214	197	314	955	789	539	376	297	354
MAX	1,017	694	433	473	351	1,188	1,882	2,127	1,424	1,000	760	1,115
(WY)	(1929)	(1946)	(2002)	(1939)	(1969)	(1973)	(1967)	(1965)	(1939)	(1999)	(1938)	(1928)
MIN	100	185	139	120	80.7	74.5	325	209	190	117	80.3	108
(WY)	(1949)	(1964)	(1964)	(1964)	(1964)	(1964)	(1931)	(1998)	(1948)	(1934)	(1933)	(1998)

04064500 PINE RIVER BELOW PINE RIVER POWERPLANT NEAR FLORENCE, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1924 - 2005	
ANNUAL TOTAL	137,160		106,896			
ANNUAL MEAN	375		293		421	
HIGHEST ANNUAL MEAN					658	1960
LOWEST ANNUAL MEAN					210	1931
HIGHEST DAILY MEAN	1,580	Apr 21	1,340	Apr 4	4,440	Apr 19, 2002
LOWEST DAILY MEAN	(a)130	Jan 11	87	Sep 11	0.00	(b)Jan 20, 1924
ANNUAL SEVEN-DAY MINIMUM	(a)147	Jan 7	105	Jul 16	41	Aug 4, 1936
MAXIMUM PEAK FLOW			1,470	Apr 4	(c)4,850	Apr 19, 2002
MAXIMUM PEAK STAGE			4.90	Apr 4	9.37	Apr 19, 2002
ANNUAL RUNOFF (CFSM)	0.703		0.549		0.790	
ANNUAL RUNOFF (INCHES)	9.57		7.46		10.73	
10 PERCENT EXCEEDS	887		525		868	
50 PERCENT EXCEEDS	240		210		295	
90 PERCENT EXCEEDS	170		136		150	

(a) Ice affected
(b) No flow at times during 1924, 1926-27, 1930-31, 1933, 1940
(c) From rating curve extended above 3,600 ft^3/s
(e) Estimated

04065106 MENOMINEE RIVER AT NIAGARA, WI

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 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 880 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair (see Introduction). 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,060	2,450	1,440	e1,720	e1,710	e1,870	3,630	2,060	1,670	1,390	1,220	875
2	1,100	2,320	1,470	e1,810	e1,680	e1,850	3,530	2,050	1,750	1,230	1,130	906
3	1,180	2,010	1,450	e1,720	e1,810	e1,850	3,870	1,950	1,670	1,290	1,020	811
4	1,240	1,730	1,530	e1,640	e1,700	e1,880	3,740	1,950	1,610	1,250	1,170	780
5	1,160	1,580	1,510	e1,820	e1,740	e1,820	3,760	1,720	1,640	1,350	1,040	793
6	1,090	1,720	1,550	e1,760	e1,750	e1,840	3,920	1,950	1,820	1,250	1,020	789
7	1,220	1,590	1,380	e1,710	e1,850	e1,980	5,170	1,850	1,780	1,340	899	783
8	1,080	1,590	1,490	e1,780	e1,720	e2,060	6,110	1,870	1,750	1,300	893	788
9	1,150	1,480	1,550	e1,720	e1,900	e2,030	5,830	1,820	1,820	1,180	1,020	843
10	1,150	1,570	1,670	e1,660	e1,950	e1,860	4,200	1,850	1,750	1,060	925	850
11	1,150	1,630	1,800	e1,750	e2,100	e1,910	4,520	1,890	1,640	1,190	989	839
12	1,120	1,650	1,730	e1,740	e2,180	e1,870	3,570	1,620	1,600	1,080	958	810
13	1,130	1,590	1,720	e1,780	e2,100	e1,850	3,050	1,730	1,700	953	882	782
14	1,080	1,440	1,570	e1,860	e2,090	e1,670	3,020	1,810	2,040	1,110	864	781
15	1,110	1,290	1,490	e1,740	e1,990	e1,620	2,910	1,820	3,260	1,030	866	801
16	1,110	1,240	1,470	e1,700	e2,040	e1,640	2,610	1,910	3,260	1,020	856	787
17	1,090	1,290	e1,560	e1,640	e2,000	e1,740	2,680	1,810	2,910	1,040	827	754
18	1,080	1,290	e1,480	e1,720	e1,910	e1,710	e2,600	1,920	2,220	980	818	765
19	1,140	1,290	e1,530	e1,680	e1,870	e1,760	e2,580	1,860	2,030	871	830	710
20	1,090	1,340	e1,640	e1,670	e1,910	e1,780	2,610	2,350	1,800	852	862	769
21	1,090	1,530	e1,620	e1,610	e1,950	e1,660	2,840	2,300	1,540	896	973	701
22	1,060	1,740	e1,550	e1,630	e1,860	e1,530	3,100	2,190	1,560	925	1,310	873
23	1,270	1,470	e1,630	e1,650	e1,890	e1,630	3,260	2,280	1,550	921	876	823
24	1,800	1,430	e1,590	e1,610	e1,930	1,610	3,190	2,380	1,580	1,180	807	751
25	2,060	1,400	e1,680	e1,640	e1,900	1,640	3,000	2,360	1,570	1,590	779	897
26	1,910	1,450	e1,550	e1,700	e1,960	1,570	2,470	2,380	1,640	1,560	782	960
27	1,860	1,470	e1,630	e1,680	e1,840	1,600	2,480	2,350	1,600	1,620	978	970
28	1,830	1,690	e1,540	e1,700	e1,930	1,620	2,380	2,280	1,660	1,190	1,040	966
29	1,890	1,620	e1,570	e1,680	---	1,930	2,220	2,150	1,440	1,310	1,030	1,090
30	2,140	1,590	e1,660	e1,660	---	2,100	2,140	2,180	1,470	1,070	948	1,070
31	2,450	---	e1,760	e1,650	---	3,330	---	2,000	---	1,040	953	---
TOTAL	41,890	47,480	48,810	52,830	53,260	56,810	100,990	62,640	55,330	36,068	29,565	25,117
MEAN	1,351	1,583	1,575	1,704	1,902	1,833	3,366	2,021	1,844	1,163	954	837
MAX	2,450	2,450	1,800	1,860	2,180	3,330	6,110	2,380	3,260	1,620	1,310	1,090
MIN	1,060	1,240	1,380	1,610	1,680	1,530	2,140	1,620	1,440	852	779	701

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1,745	1,713	1,681	1,710	1,846	2,063	3,982	3,547	2,508	1,956	1,587	1,517
MAX	3,689	2,531	2,458	2,258	2,286	2,800	7,476	7,555	4,184	3,547	2,290	2,225
(WY)	(2003)	(1993)	(1993)	(1993)	(1997)	(2000)	(2002)	(1996)	(1993)	(1999)	(1996)	(1994)
MIN	1,151	1,245	1,161	1,369	1,391	1,553	1,953	1,175	1,587	1,163	954	837
(WY)	(2001)	(2001)	(2001)	(1995)	(1995)	(2001)	(1994)	(1998)	(1998)	(2005)	(2005)	(2005)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1993 - 2005	
ANNUAL TOTAL	817,840		610,790			
ANNUAL MEAN	2,235		1,673		2,154	
HIGHEST ANNUAL MEAN					3,135	1996
LOWEST ANNUAL MEAN					1,673	2005
HIGHEST DAILY MEAN	12,100	Apr 21	6,110	Apr 8	18,400	Apr 19, 2002
LOWEST DAILY MEAN	1,040	Sep 13, 27	701	Sep 21	701	Sep 21, 2005
ANNUAL SEVEN-DAY MINIMUM	1,090	Oct 16	755	Sep 15	755	Sep 15, 2005
MAXIMUM PEAK FLOW			6,330	Apr 8	18,900	Apr 18, 2002
MAXIMUM PEAK STAGE			9.95	Apr 8	16.22	Apr 18, 2002
10 PERCENT EXCEEDS	4,000		2,370		3,460	
50 PERCENT EXCEEDS	1,700		1,640		1,760	
90 PERCENT EXCEEDS	1,240		880		1,180	

(e) Estimated

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 mi^2.

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.--Records good. 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 from station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1180	2900	1820	1930	1740	2010	4570	2080	1820	1580	1290	1060
2	1220	2840	1690	1860	1770	1890	5210	2090	1710	1500	1390	1080
3	1230	2120	1740	1940	1800	1870	5520	2160	1930	1500	1250	1070
4	1440	2010	1630	1930	1840	1910	5700	2060	1690	1490	1320	975
5	1200	1730	1800	1930	1730	1850	5160	1890	1670	1580	1320	958
6	1230	1950	1660	1900	1750	1880	5310	1870	1770	1460	1150	961
7	1260	1800	1630	1860	1880	1930	6350	2060	1900	1550	1120	962
8	1330	1710	1640	1830	1830	2060	7540	2130	1930	1520	1060	962
9	1240	1560	1740	1870	1970	2030	7370	2000	1820	1390	1080	984
10	1310	1720	1810	1750	1970	1980	5660	1900	1780	1410	1220	1040
11	1400	1830	1980	1820	2080	1830	5770	2030	1790	1200	1120	1050
12	1300	1700	1950	1830	2170	2000	4420	1850	1790	1430	1220	1050
13	1160	1690	1830	1830	2160	1900	3600	1720	1720	1100	1050	1000
14	1290	1740	1820	1970	2050	1850	3540	2010	1870	1150	1050	978
15	1140	1370	1620	1870	2060	1630	3420	2060	3320	1280	1060	980
16	1220	1370	1560	e1900	2040	1760	3080	1970	3880	1240	990	983
17	1270	1510	1650	1770	2080	1790	2970	2020	3320	1210	1030	984
18	1210	1400	1760	e1800	2020	1730	2950	e2060	2850	1220	1010	958
19	1230	1430	1690	e1800	1840	1830	3040	e2370	2300	1070	1000	941
20	1250	1580	1680	1860	2020	1810	2980	e2600	2230	1020	1010	936
21	1190	1680	1990	1810	1900	1750	3310	2840	1950	1010	1070	937
22	1160	1910	1640	1780	2020	1590	3670	2400	1680	1010	1490	935
23	1410	1690	1720	1750	1880	1640	3730	2310	1890	1070	1190	1030
24	1940	1610	1790	1730	1950	1710	3730	2770	1960	1370	989	1010
25	2570	1560	e1800	1770	2010	1700	3490	2540	1720	1760	934	966
26	2250	1680	1810	1790	1960	1710	2620	2520	1910	1780	937	1240
27	2030	1530	1750	1740	1990	1670	2460	2360	1850	1700	1130	1140
28	2130	1930	1880	1750	1820	1690	2490	2310	1810	e1350	1220	1160
29	2090	1930	1690	1830	---	2010	2470	2330	1830	e1410	1300	1470
30	2510	1940	1730	1720	---	2430	2290	2290	1610	1470	1180	1250
31	2810	---	1940	1710	---	4430	---	2140	---	1210	1110	---
TOTAL	47200	53420	54440	56630	54330	59870	124420	67740	61300	42040	35290	31050
MEAN	1523	1781	1756	1827	1940	1931	4147	2185	2043	1356	1138	1035
MAX	2810	2900	1990	1970	2170	4430	7540	2840	3880	1780	1490	1470
MIN	1140	1370	1560	1710	1730	1590	2290	1720	1610	1010	934	935

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1973	2136	2037	1959	2017	2473	4748	3874	2866	2105	1669	1731
MAX	4574	4412	3008	2533	2548	3701	9292	8850	4832	4196	2598	2456
(WY)	2003	1989	1989	1993	1997	2000	2002	1996	1993	1999	1996	1994
MIN	1081	1382	1376	1489	1442	1855	1356	1344	1062	1100	1138	1035
(WY)	1990	1990	2001	1995	1995	2001	1990	1998	1988	1988	2005	2005

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1988 - 2005	
ANNUAL TOTAL	955950		687730			
ANNUAL MEAN	2612		1884		2496	
HIGHEST ANNUAL MEAN					3781	1996
LOWEST ANNUAL MEAN					1864	1990
HIGHEST DAILY MEAN	13500	Apr 22	7540	Apr 8	22800	Apr 19 2002
LOWEST DAILY MEAN	1080	Sep 14	934	Aug 25	846	Aug 3 1988
ANNUAL SEVEN-DAY MINIMUM	1180	Sep 25	953	Sep 16	932	Oct 1 1989
MAXIMUM PEAK FLOW			7940	Apr 8	23000	Apr 19 2002
MAXIMUM PEAK STAGE			10.71	Apr 8	17.72	Apr 19 2002
INSTANTANEOUS LOW FLOW			590	Aug 9	414	Nov 13 2003
10 PERCENT EXCEEDS	5410		2610		4180	
50 PERCENT EXCEEDS	1860		1770		2000	
90 PERCENT EXCEEDS	1370		1060		1300	

(e) Estimated.

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 mi^2.

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 NGVD of 1929, 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.--Records good except those for estimated daily discharges, which are fair (see Introduction). 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,280	3,560	2,150	e2,270	e1,930	e2,140	5,070	2,570	2,140	1,690	1,130	1,020
2	1,340	3,380	1,980	e2,300	e2,030	e2,140	5,770	2,440	1,860	1,540	1,270	1,000
3	1,310	2,770	e1,930	e2,300	e2,070	e2,140	6,050	2,570	2,100	1,420	1,250	1,040
4	1,500	2,480	1,840	e2,270	e2,030	e2,110	6,290	2,460	1,950	1,430	1,140	998
5	1,410	2,120	2,030	e2,190	e2,050	e2,090	5,590	2,300	1,810	1,470	1,380	929
6	1,240	2,180	1,970	e2,140	e2,020	e2,150	5,730	2,100	1,920	1,500	1,090	938
7	1,390	2,200	1,820	e2,100	e2,070	e2,200	6,430	2,360	2,050	1,390	1,070	956
8	1,430	1,980	1,790	e2,050	e2,140	e2,260	7,740	2,520	2,250	1,540	1,010	967
9	1,410	1,820	1,980	e2,040	e2,230	e2,300	7,730	2,440	2,050	1,410	1,020	946
10	1,350	1,880	2,020	e2,010	e2,290	e2,260	6,140	2,210	1,940	1,320	1,170	980
11	1,490	2,140	2,340	e2,020	e2,380	e2,120	5,940	2,380	1,990	1,120	1,060	1,020
12	1,470	1,940	2,360	e2,110	e2,460	e2,090	5,120	2,260	1,970	1,270	1,130	1,010
13	1,300	1,940	2,140	e1,990	e2,510	e2,170	4,050	1,960	1,910	1,210	1,080	979
14	1,280	2,010	e2,040	e1,780	e2,530	e2,050	3,900	2,250	1,910	1,010	1,010	959
15	1,330	1,610	e1,880	e1,770	e2,450	e1,860	3,900	2,570	3,140	1,190	1,040	954
16	1,250	1,420	e1,930	e1,920	e2,350	e1,820	3,500	2,340	4,260	1,180	982	973
17	1,420	1,710	e1,890	e1,800	e2,250	e1,990	3,410	2,380	3,650	1,170	956	986
18	1,300	1,530	e1,890	e1,690	e2,200	e1,910	3,380	2,310	3,330	1,130	1,020	965
19	1,310	1,590	e1,730	e1,980	e2,180	e1,880	3,470	2,390	2,660	1,070	1,000	947
20	1,370	1,730	e1,800	e1,880	e2,200	e2,000	3,480	2,830	2,540	997	999	930
21	1,320	1,870	e1,980	e1,750	e2,240	e1,930	3,610	3,410	2,250	998	985	931
22	1,290	2,190	e1,870	e1,740	e2,250	1,800	4,160	3,090	1,710	994	1,280	929
23	1,390	2,090	e1,740	e1,780	e2,270	1,680	4,040	2,780	2,110	1,020	1,330	974
24	2,040	1,840	e1,890	e1,850	e2,180	1,950	4,110	3,180	1,950	1,230	983	1,010
25	2,720	1,780	e2,000	e1,870	e2,200	1,870	3,920	3,080	1,850	1,640	927	965
26	2,710	1,850	e2,090	e1,800	e2,260	1,830	3,310	2,960	1,990	1,870	918	1,100
27	2,340	1,800	e1,980	e1,890	e2,280	1,810	2,970	2,890	1,960	1,710	991	1,160
28	2,420	2,240	e1,930	e1,950	e2,200	1,820	2,990	2,730	1,880	1,540	1,190	1,150
29	2,540	2,470	e2,000	e1,980	---	2,230	2,990	2,770	1,890	1,220	1,180	1,430
30	2,950	2,390	e2,080	e2,010	---	2,940	2,840	2,730	1,580	1,530	1,180	1,340
31	3,270	---	e2,170	e1,910	---	4,650	---	2,590	---	1,150	1,030	---
TOTAL	52,170	62,510	61,240	61,140	62,250	66,190	137,630	79,850	66,600	40,959	33,801	30,486
MEAN	1,683	2,084	1,975	1,972	2,223	2,135	4,588	2,576	2,220	1,321	1,090	1,016
MAX	3,270	3,560	2,360	2,300	2,530	4,650	7,740	3,410	4,260	1,870	1,380	1,430
MIN	1,240	1,420	1,730	1,690	1,930	1,680	2,840	1,960	1,580	994	918	929

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2,438	2,555	2,256	2,103	2,099	2,620	5,623	4,745	3,345	2,485	2,049	2,228
MAX	5,660	5,766	3,939	3,035	3,810	7,461	10,000	12,100	6,118	6,523	3,505	5,335
(WY)	(1986)	(1986)	(1986)	(1986)	(1984)	(1973)	(1967)	(1960)	(1953)	(1953)	(1952)	(1968)
MIN	1,028	1,043	1,167	1,080	1,201	1,461	1,432	1,341	1,152	1,201	1,003	1,009
(WY)	(1977)	(1977)	(1977)	(1977)	(1964)	(1964)	(1990)	(1987)	(1988)	(1988)	(1977)	(1976)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1950 - 2005	
ANNUAL TOTAL	1,026,230		754,826			
ANNUAL MEAN	2,804		2,068		2,879	
HIGHEST ANNUAL MEAN					4,318	1960
LOWEST ANNUAL MEAN					1,778	1977
HIGHEST DAILY MEAN	14,200	Apr 22	7,740	Apr 8	26,700	May 8, 1960
LOWEST DAILY MEAN	1,170	Sep 29	918	Aug 26	840	Aug 14, 1977
ANNUAL SEVEN-DAY MINIMUM	1,260	Sep 25	952	Sep 16	914	Aug 8, 1977
MAXIMUM PEAK FLOW			(a)8,110	Apr 8	(b)26,900	May 8, 1960
MAXIMUM PEAK STAGE			(c)12.36	Jan 19	(c)18.94	Dec 17, 1985
10 PERCENT EXCEEDS	5,830		3,110		4,900	
50 PERCENT EXCEEDS	1,980		1,950		2,280	
90 PERCENT EXCEEDS	1,420		1,010		1,420	

04066003 MENOMINEE RIVER BELOW PEMENE CREEK NEAR PEMBINE, WI—Continued

(a) Gage height, 11.16 ft
(b) Gage height, 13.90 ft, site and datum then in use
(c) Ice affected
(e) Estimated

04066030 MENOMINEE RIVER AT WHITE RAPIDS DAM NEAR BANAT, MI

LOCATION.--Lat 45°28'55", long 87°48'08", in SE $\frac{1}{4}$ SE $\frac{1}{4}$, sec.30, T. 36 N., R.28 W., Michigan Meridian, Menominee County, Hydrologic Unit 04030108, on left bank at powerplant at White Rapids Dam, 5.7 mi southwest of Banat, MI.

DRAINAGE AREA.--3,190 mi^2.

PERIOD OF RECORD.--October 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 680.00 ft above NGVD of 1929 (levels by Wisconsin Electric Power Company).

REMARKS.--Records good except those for estimated daily discharges, which are fair (see Introduction). Flow regulated by powerplants, by Michigamme Reservoir, capacity, 119,950 acre-ft, by 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,200	3,880	2,320	e2,350	e1,940	e2,170	5,220	2,850	2,500	1,860	1,260	1,050
2	1,360	3,330	2,170	e2,290	e2,070	e2,330	6,070	2,410	1,920	1,790	1,230	1,000
3	1,340	2,980	2,150	e2,390	e2,160	e2,140	6,090	2,720	2,100	1,510	1,570	973
4	1,390	2,590	1,900	e2,360	e2,090	e2,140	6,460	2,570	2,290	1,640	1,260	994
5	1,570	2,370	2,070	e2,190	e2,070	e2,130	5,770	2,510	1,870	1,570	1,350	1,010
6	1,090	2,130	2,300	e2,270	e2,070	e2,210	5,920	2,250	2,110	1,610	1,300	866
7	1,540	2,320	1,990	e2,140	e2,040	e2,250	6,450	2,370	2,140	1,610	1,130	907
8	1,240	2,000	1,920	e2,100	e2,190	e2,290	7,760	2,820	2,540	1,640	1,080	935
9	1,530	2,170	1,950	e2,170	e2,310	e2,390	7,790	2,490	2,440	1,610	959	958
10	1,460	1,850	2,200	e2,060	e2,330	e2,370	6,350	2,330	1,930	1,410	1,130	977
11	1,370	2,210	2,390	e2,090	e2,450	e2,260	5,900	2,350	2,190	1,440	1,220	974
12	1,570	2,150	2,610	e2,200	e2,480	e2,060	5,270	2,480	2,290	1,240	1,240	1,050
13	1,360	1,930	2,430	e2,180	e2,590	e2,290	4,190	2,210	2,100	1,480	1,110	1,110
14	1,290	2,180	1,920	e1,860	e2,590	e2,270	4,050	2,170	2,080	1,090	972	1,080
15	1,390	1,880	1,920	e1,760	e2,430	e1,870	4,270	2,820	3,350	1,060	1,050	829
16	1,180	1,390	1,900	e1,950	e2,400	e1,880	3,620	2,440	4,360	1,230	1,150	936
17	1,460	1,790	1,940	e2,140	e2,360	e2,080	3,670	2,430	3,980	1,270	893	926
18	1,300	1,890	1,970	e1,500	e2,170	e2,100	3,250	2,460	3,370	1,240	827	908
19	1,350	1,400	1,820	e2,130	e2,280	e1,820	3,680	2,520	2,910	1,200	1,110	982
20	1,390	1,990	1,600	e2,140	e2,280	e2,110	3,790	3,060	2,770	953	1,150	981
21	1,340	1,880	1,920	e1,770	e2,290	e2,130	3,540	3,470	2,470	949	1,030	962
22	1,340	2,240	2,370	e1,810	e2,310	e1,880	4,460	3,390	1,970	1,030	1,260	940
23	1,720	2,520	1,460	e1,860	e2,430	e1,620	3,990	2,910	2,050	1,050	1,680	916
24	2,090	1,840	e2,090	e1,970	e2,250	e1,740	4,310	3,200	2,300	1,430	1,060	982
25	2,860	1,800	e1,960	e2,010	e2,170	e2,100	4,040	3,360	2,180	1,710	982	1,060
26	2,770	1,880	e2,250	e1,800	e2,400	e1,990	3,530	3,050	1,960	2,330	903	1,090
27	2,560	2,220	e2,000	e1,940	e2,440	e1,840	2,980	2,950	2,200	1,970	859	1,160
28	2,490	2,190	e1,980	e2,000	e2,180	e1,950	3,190	2,950	2,240	1,820	1,230	1,340
29	2,760	2,740	e2,090	e2,050	---	2,290	3,070	2,850	1,980	1,500	1,350	1,440
30	3,070	2,540	e2,100	e2,110	---	3,180	2,960	2,900	1,800	1,390	1,390	1,680
31	3,390	---	e2,210	e1,960	---	4,810	---	2,680	---	1,560	1,110	---
TOTAL	53,770	66,280	63,900	63,550	63,770	68,690	141,640	83,970	72,390	45,192	35,845	31,016
MEAN	1,735	2,209	2,061	2,050	2,278	2,216	4,721	2,709	2,413	1,458	1,156	1,034
MAX	3,390	3,880	2,610	2,390	2,590	4,810	7,790	3,470	4,360	2,330	1,680	1,680
MIN	1,090	1,390	1,460	1,500	1,940	1,620	2,960	2,170	1,800	949	827	829

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2,032	2,008	1,876	1,933	2,171	2,772	5,714	4,255	3,094	2,327	1,842	1,618
MAX	4,909	2,882	2,619	2,068	2,345	4,118	9,373	6,120	4,278	4,584	2,674	2,237
(WY)	(2003)	(2003)	(2002)	(2002)	(1999)	(2000)	(2002)	(2002)	(2004)	(1999)	(2002)	(2000)
MIN	1,417	1,659	1,493	1,774	1,948	2,065	3,147	2,156	2,087	1,395	1,156	1,034
(WY)	(2001)	(1999)	(2001)	(1999)	(2004)	(2001)	(2000)	(2000)	(2000)	(2003)	(2005)	(2005)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1999 - 2005	
ANNUAL TOTAL	1,061,380		790,013			
ANNUAL MEAN	2,900		2,164		2,635	
HIGHEST ANNUAL MEAN					3,244	2002
LOWEST ANNUAL MEAN					2,164	2005
HIGHEST DAILY MEAN	13,800	Apr 22	7,790	Apr 9	20,800	Apr 19, 2002
LOWEST DAILY MEAN	1,090	Oct 6	827	Aug 18	827	Aug 18, 2005
ANNUAL SEVEN-DAY MINIMUM	1,250	Sep 25	932	Sep 15	932	Sep 15, 2005
MAXIMUM PEAK FLOW			8,120	Apr 8	22,200	Apr 18, 2002
MAXIMUM PEAK STAGE			10.35	Apr 8	14.98	Apr 18, 2002
10 PERCENT EXCEEDS	5,960		3,280		4,470	
50 PERCENT EXCEEDS	2,100		2,080		2,090	
90 PERCENT EXCEEDS	1,450		1,060		1,350	

(e) Estimated

04066500 PIKE RIVER AT AMBERG, WI

LOCATION.--Lat 45°30'00", long 88°00'00", in SE 1/4 SE 1/4 , sec.16, T. 35 N., R.20 E., Marinette County, WI, Hydrologic Unit 04030108, on right bank 35 ft upstream from bridge on County Trunk Highway V, 0.4 mi southwest of Amberg.

DRAINAGE AREA.--255 mi^2.

PERIOD OF RECORD.--February 1914 to September 1970, June 2000 to current year.

REVISED RECORDS.--WSP 699: 1927. WSP 1207: Drainage area. WSP 1337: 1914(M), 1916-19(M), 1921-24(M), 1926(M), 1928(M), 1929, 1930(M), 1931, 1932-33(M), 1935, 1936-37(M), 1938, 1939-36(M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 855 ft above NGVD of 1929, from topographic map. Oct. 7, 1946 to Sept. 30, 1970, water-stage recorder at site 0.5 mi downstream at elevation 865 ft above mean NGVD of 1929 (from survey level line along railroad). See WSP 1727 for history of changes prior to Oct. 7, 1946.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	421	e217	e173	e141	e116	687	229	170	114	103	78
2	150	346	e231	e186	e146	e114	678	220	158	111	98	75
3	169	283	e210	e189	e149	e115	606	215	150	109	95	74
4	160	251	e214	e182	e151	e114	561	205	144	109	96	74
5	152	232	e206	e171	e150	e115	533	195	152	108	98	73
6	140	218	e188	e168	e159	e128	519	194	162	107	93	73
7	133	218	e176	e160	e175	e138	514	206	171	109	88	72
8	143	197	e184	e154	e177	e118	477	202	227	105	86	72
9	159	184	e186	e151	e169	e113	422	195	255	101	85	72
10	152	184	e195	e153	e146	e110	378	204	223	99	92	71
11	147	202	e213	e154	e143	e109	346	204	214	97	92	71
12	142	200	e208	e157	e160	e119	318	194	224	94	92	69
13	137	184	e194	e160	e149	e119	297	196	207	90	89	71
14	136	176	e192	e155	e142	e126	273	221	233	92	86	81
15	139	172	e182	e150	e138	e144	258	230	320	90	83	81
16	143	171	e169	e142	e134	e131	248	220	282	97	81	78
17	142	174	e162	e140	e129	e135	251	205	231	89	79	77
18	138	177	e158	e140	e125	e143	257	199	197	85	80	76
19	134	176	e150	e140	e125	e154	261	226	176	84	83	78
20	136	208	e148	e141	e123	e166	340	347	164	85	93	84
21	132	245	e147	e141	e120	e176	439	360	203	87	95	83
22	129	230	e151	e142	e122	e187	401	307	185	85	90	84
23	156	209	e149	e140	e122	e199	325	279	159	85	85	83
24	241	194	e146	e141	e119	e218	280	247	145	115	83	81
25	252	168	e146	e140	e118	e233	255	220	137	133	81	90
26	217	185	e141	e140	e116	e246	266	202	130	143	81	110
27	231	205	e143	e140	e116	e259	284	191	127	141	86	111
28	266	e289	e145	e140	e116	e274	274	187	122	126	89	112
29	306	e272	e148	e140	---	e282	258	194	118	124	85	135
30	365	e243	e151	e140	---	e348	242	193	117	118	82	132
31	434	---	e165	e140	---	562	---	184	---	110	81	---
TOTAL	5,592	6,614	5,415	4,710	3,880	5,511	11,248	6,871	5,503	3,242	2,730	2,521
MEAN	180	220	175	152	139	178	375	222	183	105	88.1	84.0
MAX	434	421	231	189	177	562	687	360	320	143	103	135
MIN	111	168	141	140	116	109	242	184	117	84	79	69
CFSM	0.71	0.86	0.69	0.60	0.54	0.70	1.47	0.87	0.72	0.41	0.35	0.33
IN.	0.82	0.96	0.79	0.69	0.57	0.80	1.64	1.00	0.80	0.47	0.40	0.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	179	205	158	132	123	211	462	338	268	179	153	169
MAX	454	422	296	215	194	503	1,016	820	699	525	365	452
(WY)	(1942)	(1920)	(1929)	(1939)	(1942)	(1921)	(1922)	(1960)	(1916)	(1914)	(1914)	(1941)
MIN	83.2	119	93.5	82.7	78.1	98.8	188	181	111	90.2	80.3	84.0
(WY)	(1949)	(1954)	(1918)	(1964)	(1948)	(1964)	(1931)	(1925)	(1948)	(1948)	(1934)	(2005)

04066500 PIKE RIVER AT AMBERG, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	84,538		63,837			
ANNUAL MEAN	231		175		214	
HIGHEST ANNUAL MEAN					344	1916
LOWEST ANNUAL MEAN					133	1931
HIGHEST DAILY MEAN	956	May 25	687	Apr 1	2,620	Apr 11, 1922
LOWEST DAILY MEAN	(a)100	Jan 28-30	69	Sep 12	26	Dec 27, 1925
ANNUAL SEVEN-DAY MINIMUM	(a)106	(b)Jan 24	71	Sep 7	(a)53	Mar 5, 1928
MAXIMUM PEAK FLOW			744	Apr 1	(c)2,800	Apr 10, 1922
MAXIMUM PEAK STAGE			5.17	Apr 1	(d)(f)7.80	Apr 10, 1922
INSTANTANEOUS LOW FLOW			68	Sep 12-13	26	Dec 27, 1925
ANNUAL RUNOFF (CFSM)	0.906		0.686		0.840	
ANNUAL RUNOFF (INCHES)	12.33		9.31		11.42	
10 PERCENT EXCEEDS	439		274		395	
50 PERCENT EXCEEDS	174		150		160	
90 PERCENT EXCEEDS	110		85		100	

(a) Ice affected
(b) Also occurred additional days
(c) From rating curve extended above 1,100 ft^3/s
(d) Site and datum then in use
(e) Estimated
(f) From graph based on gage readings

04066800 MENOMINEE RIVER AT KOSS, MI

LOCATION.--Lat 45°23'14", long 87°42'07", in SE$\frac{1}{4}$ NE $\frac{1}{4}$, sec.36, T. 35 N., R.28 W., Michigan Meridian, Menominee County, MI, Hydrologic Unit 04030108, on left upstream bank 30 ft from river and 18 ft west of County Trunk JJ (Koss) bridge, 0.3 mi southeast of Koss and 3.4 mi upstream of Grand Rapids Dam.

DRAINAGE AREA.--3,700 mi^2.

PERIOD OF RECORD.--July 1907 to March 1909 monthly discharge only (published as "at Koss"), July 1913 to September 1981 (published as 04067000 Menominee River below Koss, MI), June 1998 to current year. Records prior to October 1913 published in WSP 244, 264, and 384.

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

GAGE.--Water-stage recorder. Elevation of gage is 665 ft above NGVD of 1929, from topographic map. June 1913 to September 1981, headwater and tailwater gages and generation data entered hourly in daily log sheet by Wisconsin Public Service Corp. employees at powerplant 4 mi downstream. Records of daily discharge furnished by Wisconsin Public Service Corp. Prior to June 1913, chain gage on railroad bridge at Koss.

REMARKS.--Records good except those for estimated daily discharges, which are fair (see Introduction). 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,370	3,910	2,700	e2,550	e2,070	e2,360	e7,660	3,350	2,690	1,500	1,320	1,210
2	1,390	3,990	2,470	e2,600	e2,120	e2,490	6,930	3,060	2,220	1,860	1,260	1,120
3	1,440	3,710	e2,310	e2,660	e2,290	e2,440	7,260	2,810	2,060	1,530	1,320	1,200
4	1,480	3,060	e2,380	e2,680	e2,340	e2,360	7,570	2,920	2,390	1,580	1,450	1,160
5	1,570	2,990	2,210	e2,550	e2,320	e2,350	7,210	2,630	2,180	1,510	1,250	1,200
6	1,520	2,570	2,410	e2,420	e2,340	e2,410	6,860	2,600	2,110	1,500	1,330	1,000
7	1,400	2,830	2,400	e2,490	e2,340	e2,480	7,040	2,410	2,260	1,610	1,270	723
8	1,520	2,640	2,080	e2,380	e2,400	e2,490	8,050	2,800	2,480	1,530	1,240	1,030
9	1,470	2,680	e2,120	e2,360	e2,530	e2,590	8,830	2,830	2,830	1,540	1,050	1,110
10	1,600	2,440	e2,290	e2,360	e2,600	e2,770	8,280	2,580	2,460	1,460	829	1,140
11	1,530	2,730	e2,480	e2,340	e2,620	e2,620	6,690	2,590	2,250	1,320	1,200	1,070
12	1,570	2,680	e2,720	e2,390	e2,680	e2,410	6,610	2,600	2,530	1,260	1,240	1,090
13	1,660	2,260	e2,710	e2,390	e2,780	e2,430	5,290	2,550	2,450	1,280	1,190	1,170
14	1,570	2,100	e2,130	e2,190	e2,830	e2,520	4,530	2,420	2,320	1,260	1,140	1,130
15	1,480	2,400	e1,700	e1,920	e2,750	e2,380	4,410	2,700	2,910	863	1,090	1,070
16	1,530	1,730	e2,010	e1,920	e2,690	e2,120	4,210	2,850	4,320	1,010	1,120	969
17	1,400	1,420	e1,930	e2,090	e2,630	e2,200	4,050	2,620	4,640	1,220	1,140	997
18	1,450	2,120	e1,960	e2,000	e2,590	e2,400	3,830	2,590	3,940	1,230	1,010	772
19	1,350	1,780	e1,830	e1,730	e2,450	e2,240	3,770	2,670	3,600	1,290	1,120	722
20	1,420	1,700	e1,720	e2,190	e2,550	e2,160	4,180	3,190	3,060	1,140	1,200	1,040
21	1,410	2,280	e1,700	e2,000	e2,570	e2,440	4,080	3,680	2,980	937	1,140	907
22	1,420	2,190	e2,260	e1,890	e2,570	e2,330	4,570	4,210	2,570	1,130	1,100	1,110
23	1,620	2,610	e2,140	e1,890	e2,600	e2,110	4,640	3,370	1,860	1,160	1,550	1,070
24	2,300	2,460	e1,830	e1,970	e2,570	e2,000	4,550	3,240	2,460	1,200	1,390	1,150
25	2,700	1,820	e2,140	e2,090	e2,500	e2,070	4,580	3,580	2,190	1,660	892	1,130
26	3,210	2,000	e2,070	e2,010	e2,490	e2,330	4,220	3,400	1,940	1,990	1,090	1,120
27	2,990	2,210	e2,320	e1,930	e2,690	e2,220	3,760	3,090	2,040	2,100	1,040	1,150
28	2,830	2,540	e2,200	e2,050	e2,650	e2,270	3,570	3,110	2,140	1,810	839	1,230
29	2,970	2,830	e2,300	e2,090	---	e2,680	3,660	2,980	1,970	1,660	1,350	1,390
30	3,380	2,940	e2,380	e2,160	---	e3,850	3,480	3,030	1,860	1,320	1,300	1,710
31	3,610	---	e2,460	e2,130	---	e6,070	---	2,920	---	1,570	1,300	---
TOTAL	58,160	75,620	68,360	68,420	70,560	78,590	164,370	91,380	77,710	44,030	36,760	32,890
MEAN	1,876	2,521	2,205	2,207	2,520	2,535	5,479	2,948	2,590	1,420	1,186	1,096
MAX	3,610	3,990	2,720	2,680	2,830	6,070	8,830	4,210	4,640	2,100	1,550	1,710
MIN	1,350	1,420	1,700	1,730	2,070	2,000	3,480	2,410	1,860	863	829	722

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2,547	2,791	2,194	1,989	1,904	2,732	6,666	5,674	3,863	2,724	2,137	2,378
MAX	6,178	5,597	3,588	3,174	3,176	7,973	13,650	13,180	10,780	6,159	3,800	5,538
(WY)	(1929)	(1917)	(1919)	(1969)	(1969)	(1973)	(1916)	(1960)	(1916)	(1953)	(1972)	(1928)
MIN	1,131	1,170	1,166	989	864	1,199	2,479	2,220	1,708	1,111	731	1,013
(WY)	(1977)	(1977)	(1931)	(1926)	(1926)	(1934)	(1964)	(1977)	(1977)	(1934)	(1934)	(1933)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1913 - 2005	
ANNUAL TOTAL	1,246,880		866,850			
ANNUAL MEAN	3,407		2,375		3,138	
HIGHEST ANNUAL MEAN					5,262	1916
LOWEST ANNUAL MEAN					1,642	1931
HIGHEST DAILY MEAN	15,700	Apr 23	8,830	Apr 9	33,000	May 10, 1960
LOWEST DAILY MEAN	1,350	Oct 19	722	Sep 19	162	Sep 15, 1931
ANNUAL SEVEN-DAY MINIMUM	1,420	Sep 27	925	Sep 15	402	Sep 9, 1931
MAXIMUM PEAK FLOW			(a)8,910	Apr 9		
MAXIMUM PEAK STAGE			(b)13.87	Apr 1		
10 PERCENT EXCEEDS	7,830		3,690		5,920	
50 PERCENT EXCEEDS	2,300		2,260		2,330	
90 PERCENT EXCEEDS	1,570		1,140		1,390	

04066800 MENOMINEE RIVER AT KOSS, MI—Continued

(a) Gage height, 13.06 ft
(b) Ice affected
(e) Estimated

04067500 MENOMINEE RIVER NEAR MC ALLISTER, WI

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

DRAINAGE AREA.--3,930 mi^2.

PERIOD OF RECORD.--March 1945 to September 1961; October 1961 to September 1979, miscellaneous measurements and peaks only; October 1979 to September 1986; October 1986 to March 1987, crest-stage partial-record station; April 1988 to September 1990; April 1993 to September 1995; October 1997 to current year.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 622.20 ft above NGVD of 1929 (Michigan Department of Transportation reference mark). Prior to May 15, 1945, nonrecording gage 1,400 ft downstream at same datum; May 16, 1945 to September 1961, water-stage recorder 1,000 ft downstream at same datum; October 1961 to September 1979, crest- stage gage 1,100 ft downstream at same datum; October 1979 to September 1986, water-stage recorder at same site and datum; October 1986 to March 1987, crest-stage gage at same site and datum. April 1988 to September 1990, and April 1993 to September 1995, water-stage recorder at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair (see Introduction). Flow regulated by powerplants, by Michigamme Reservoir, capacity, 119,950 acre-ft, and Peavy Pond, capacity, 33,860 acre-ft on the Michigamme River, and by many smaller reservoirs above station. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,430	4,130	3,000	e2,790	e2,320	e2,540	9,250	3,430	2,940	1,740	1,510	1,170
2	1,470	4,300	2,740	e2,840	e2,420	e2,680	7,730	3,260	2,520	1,990	1,330	1,100
3	1,560	3,900	2,570	e2,890	e2,460	e2,660	7,820	3,020	2,130	1,740	1,370	1,070
4	1,620	3,070	2,720	e2,830	e2,530	e2,590	7,980	3,240	2,470	1,710	1,580	1,070
5	1,720	3,090	2,340	e2,750	e2,490	e2,570	7,710	2,900	2,310	1,710	1,310	1,070
6	1,770	2,440	2,590	e2,650	e2,510	e2,640	7,250	2,920	2,190	1,660	1,450	1,110
7	1,430	2,690	2,640	e2,640	e2,540	e2,710	7,360	2,620	2,270	1,740	1,260	978
8	1,710	2,460	2,340	e2,640	e2,570	e2,760	8,140	2,970	2,590	1,670	1,170	937
9	1,570	2,440	2,330	e2,600	e2,670	e2,810	8,860	3,120	2,970	1,760	1,170	1,030
10	1,810	2,240	2,490	e2,580	e2,840	e2,910	8,460	2,810	2,660	1,650	1,100	1,040
11	1,660	2,370	2,710	e2,570	e2,910	e2,740	7,030	2,790	2,310	1,510	1,200	1,090
12	1,640	2,700	2,930	e2,570	e2,960	e2,600	6,850	2,800	2,580	1,430	1,310	1,050
13	1,750	2,410	3,010	e2,500	e3,010	e2,620	5,780	2,820	2,550	1,370	1,270	1,200
14	1,600	2,230	e2,200	e2,340	e3,030	e2,680	4,980	2,640	2,370	1,490	1,120	1,200
15	1,560	2,500	e1,920	e2,140	e2,950	e2,570	4,820	2,890	2,810	1,220	1,080	1,110
16	1,640	2,020	e2,210	e2,160	e2,900	e2,340	4,660	3,160	4,190	1,120	1,140	976
17	1,480	1,770	e2,120	e2,270	e2,860	e2,430	4,370	2,910	4,640	1,350	1,140	1,090
18	1,760	2,240	e2,060	e2,160	e2,780	e2,480	4,160	2,830	3,950	1,330	955	1,020
19	1,500	2,030	e2,000	e1,950	e2,690	e2,420	4,030	2,930	3,560	1,270	994	1,030
20	1,580	2,000	e1,890	e2,370	e2,690	e2,350	4,500	3,490	3,000	1,250	1,260	1,020
21	1,590	2,460	e1,860	e2,190	e2,730	e2,540	4,420	4,070	2,910	1,060	1,160	1,100
22	1,510	2,350	e2,430	e2,100	e2,780	e2,470	4,730	4,480	2,640	1,030	1,120	1,050
23	1,680	2,790	e2,250	e2,130	e2,780	e2,290	4,990	3,800	1,950	1,140	1,430	999
24	2,200	2,700	e2,040	e2,210	e2,800	e2,210	4,770	3,580	2,540	1,240	1,600	1,010
25	2,570	2,110	e2,330	e2,280	e2,680	e2,250	4,840	3,890	2,370	1,660	1,100	1,150
26	3,320	2,200	e2,370	e2,220	e2,690	e2,520	4,530	3,740	2,110	2,030	1,050	1,200
27	3,160	2,370	e2,550	e2,150	e2,810	e2,460	4,020	3,330	2,180	2,260	1,100	1,260
28	3,010	2,860	e2,430	e2,240	e2,880	e2,510	3,710	3,350	2,350	1,980	1,030	1,400
29	3,050	3,070	e2,510	e2,300	---	e2,950	3,890	3,230	2,160	1,860	1,350	1,540
30	3,560	3,310	e2,600	e2,370	---	e4,010	3,670	3,240	2,020	1,500	1,380	1,690
31	3,810	---	e2,690	e2,340	---	6,260	---	3,190	---	1,640	1,410	---
TOTAL	61,720	79,250	74,870	74,770	76,280	84,570	175,310	99,450	80,240	48,110	38,449	33,760
MEAN	1,991	2,642	2,415	2,412	2,724	2,728	5,844	3,208	2,675	1,552	1,240	1,125
MAX	3,810	4,300	3,010	2,890	3,030	6,260	9,250	4,480	4,640	2,260	1,600	1,690
MIN	1,430	1,770	1,860	1,950	2,320	2,210	3,670	2,620	1,950	1,030	955	937

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2,861	3,102	2,532	2,358	2,400	3,100	6,669	5,269	3,899	3,058	2,311	2,527
MAX	6,755	7,332	4,561	3,777	4,710	5,687	12,800	15,930	6,958	7,127	4,056	5,952
(WY)	(1986)	(1986)	(1986)	(1983)	(1984)	(1983)	(1951)	(1960)	(1993)	(1951)	(1952)	(1959)
MIN	1,195	1,753	1,532	1,621	1,245	1,897	1,869	1,636	1,296	1,374	1,240	1,125
(WY)	(1949)	(1990)	(1990)	(1949)	(1948)	(1956)	(1990)	(1998)	(1988)	(1988)	(2005)	(2005)

04067500 MENOMINEE RIVER NEAR MC ALLISTER, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1945 - 2005	
ANNUAL TOTAL	1,299,750		926,779			
ANNUAL MEAN	3,551		2,539		3,348	
HIGHEST ANNUAL MEAN					5,496	1960
LOWEST ANNUAL MEAN					2,118	1948
HIGHEST DAILY MEAN	15,500	Apr 23	9,250	Apr 1	31,800	May 9, 1960
LOWEST DAILY MEAN	1,430	Oct 1, 7	937	Sep 8	810	Oct 26, 1948
ANNUAL SEVEN-DAY MINIMUM	1,480	Sep 26	1,030	Sep 18	952	Oct 24, 1948
MAXIMUM PEAK FLOW			11,200	Apr 1	32,500	May 9, 1960
MAXIMUM PEAK STAGE			14.30	Apr 1	(a)20.00	May 9, 1960
INSTANTANEOUS LOW FLOW					(b)538	Oct 6, 1946
10 PERCENT EXCEEDS	8,120		3,920		5,930	
50 PERCENT EXCEEDS	2,400		2,420		2,550	
90 PERCENT EXCEEDS	1,690		1,140		1,620	

(a) From graph based on gage readings
(b) Observed
(e) Estimated

04067958 PESHTIGO RIVER NEAR WABENO, WI

LOCATION.--Lat 45°23'16", long 88°18'18", in NW 1/4 NW 1/4 sec.31, T.34 N., R.18 E., Marinette County, Hydrologic Unit 04030105, on left upstream bank 50 ft from river's edge and 12 ft north of County Trunk C, 12.2 mi west of Athelstane and 17.7 mi east of Wabeno.

DRAINAGE AREA.--447 mi^2.

PERIOD OF RECORD.--June 1998 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 980 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185	698	e230	e190	e180	e200	e980	432	287	199	204	157
2	224	601	e240	e200	e190	e200	e960	394	271	191	189	150
3	246	515	e220	e200	e190	e200	e990	369	249	186	178	143
4	252	444	e220	e190	e190	e200	e1,100	350	235	183	179	141
5	241	396	e220	e180	e190	e200	e1,100	332	248	179	174	138
6	228	365	e220	e180	e200	e200	1,070	322	275	175	166	137
7	220	342	e220	e170	e200	e210	1,070	317	293	174	159	137
8	227	322	e230	e170	e210	e220	1,040	309	462	169	153	135
9	245	304	e230	e160	e210	e210	964	303	547	165	152	138
10	248	300	e230	e160	e210	e200	879	329	550	162	159	137
11	249	314	e230	e160	e210	e200	807	326	505	160	155	138
12	243	317	e220	e170	e210	e200	721	353	461	155	161	135
13	236	307	e210	e190	e210	e200	634	373	441	155	160	137
14	229	294	e200	e180	e210	e200	566	392	490	154	156	150
15	227	292	e200	e170	e200	e200	507	416	625	153	150	156
16	227	289	e190	e160	e200	e190	464	425	736	149	145	157
17	226	283	e180	e150	e200	e190	453	411	736	143	141	164
18	226	281	e180	e150	e190	e200	453	390	682	139	142	158
19	234	284	e170	e150	e200	e200	465	428	597	138	147	159
20	229	313	e160	e150	e200	e200	637	522	486	139	165	166
21	224	342	e160	e150	e200	e210	727	527	413	142	181	168
22	222	353	e160	e150	e200	e210	715	489	356	138	182	169
23	265	340	e160	e160	e200	e210	622	459	312	141	172	168
24	361	315	e160	e170	e200	e220	535	436	279	169	163	163
25	373	e260	e160	e180	e200	e220	473	398	259	193	156	184
26	357	e277	e160	e180	e200	e230	474	359	239	238	152	213
27	390	e310	e160	e180	e200	e230	479	333	227	260	162	220
28	415	e330	e160	e180	e200	e220	476	316	216	264	175	234
29	521	e280	e160	e180	---	e390	472	306	211	264	172	280
30	691	e250	e160	e180	---	e410	472	304	206	236	170	283
31	777	---	e180	e180	---	e670	---	291	---	219	164	---
TOTAL	9,238	10,318	5,980	5,320	5,600	7,240	21,305	11,711	11,894	5,532	5,084	5,015
MEAN	298	344	193	172	200	234	710	378	396	178	164	167
MAX	777	698	240	200	210	670	1,100	527	736	264	204	283
MIN	185	250	160	150	180	190	453	291	206	138	141	135
CFSM	0.67	0.77	0.43	0.38	0.45	0.52	1.59	0.85	0.89	0.40	0.37	0.37
IN.	0.77	0.86	0.50	0.44	0.47	0.60	1.77	0.97	0.99	0.46	0.42	0.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	291	296	229	180	191	318	807	563	436	299	225	238
MAX	624	367	356	203	209	542	1,201	978	694	481	308	422
(WY)	(2003)	(2003)	(2002)	(2004)	(1999)	(2000)	(2002)	(2002)	(2002)	(1999)	(2002)	(2000)
MIN	210	221	184	154	172	211	400	288	267	178	164	160
(WY)	(2001)	(2000)	(2001)	(1999)	(2002)	(2002)	(2000)	(2000)	(1998)	(2005)	(2005)	(1998)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1998 - 2005	
ANNUAL TOTAL	139,250		104,237			
ANNUAL MEAN	380		286		344	
HIGHEST ANNUAL MEAN					441	2002
LOWEST ANNUAL MEAN					286	2005
HIGHEST DAILY MEAN	1,440	Apr 3	(a)1,100	Apr 4-5	2,340	Apr 17, 18 2002
LOWEST DAILY MEAN	(a)150	Feb 15	135	Sep 8, 12	(a)130	(b)Jan 5, 1999
ANNUAL SEVEN-DAY MINIMUM	(a)160	Dec 20	137	Sep 6	(a)130	Jan 21, 2003
MAXIMUM PEAK FLOW			(a)		2,370	Apr 17, 2002
MAXIMUM PEAK STAGE			(a)6.02	Apr 1	7.17	Apr 17, 2002
INSTANTANEOUS LOW FLOW			132	Sep 12	(c)124	Dec 9, 1998
ANNUAL RUNOFF (CFSM)	0.851		0.639		0.770	
ANNUAL RUNOFF (INCHES)	11.59		8.67		10.46	
10 PERCENT EXCEEDS	789		506		653	
50 PERCENT EXCEEDS	267		210		246	
90 PERCENT EXCEEDS	180		154		170	

04067958 PESHTIGO RIVER NEAR WABENO, WI—Continued

(a) Ice affected
(b) Also occurred Jan. 21-28, 2003
(c) Result of freezeup
(e) Estimated

04069416 PESHTIGO RIVER AT PORTERFIELD, WI

LOCATION.--Lat 45°08'36", long 87°48'02", in SE 1/4 NE 1/4 sec.19, T.31 N., R.22 E., Marinette County, Hydrologic Unit 04030105, on right bank 15 ft upstream from County Trunk E bridge, 0.8 mi south of Porterfield.

DRAINAGE AREA.--1,020 mi^2.

PERIOD OF RECORD.--June 1998 to current year. Prior to October 2000, published as "near Porterfield".

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 625 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Diurnal fluctuation caused by powerplant upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	436	1,830	935	e660	e400	e460	2,670	1,050	686	502	415	304
2	481	1,740	752	e730	e400	e460	2,790	919	552	360	418	275
3	407	1,630	e660	e730	e400	e450	2,760	825	536	374	402	243
4	381	1,190	e758	e590	e460	e430	2,700	811	526	341	341	210
5	390	1,180	743	e580	e470	e400	2,600	674	516	357	267	191
6	400	955	720	e560	e480	e420	2,490	615	626	355	265	195
7	476	872	724	e540	e550	e460	2,100	785	584	378	270	749
8	517	873	823	e510	e560	e470	1,860	830	749	363	292	941
9	486	816	777	e500	e570	e480	1,800	751	1,180	353	299	995
10	490	797	845	e490	e570	e500	1,710	696	1,170	327	393	1,010
11	460	746	890	e490	e590	e490	1,500	683	953	309	397	987
12	438	796	901	e490	e570	e460	1,690	706	1,020	312	312	880
13	470	808	839	e490	e590	e430	1,460	738	1,110	293	292	714
14	471	800	e680	e480	e570	e450	1,020	1,000	834	279	309	795
15	473	785	e540	e460	e610	e480	966	1,090	1,060	280	331	856
16	478	774	e540	e430	e560	e480	1,090	972	1,310	295	273	759
17	533	762	e570	e350	e530	e510	923	922	1,270	279	222	566
18	529	691	e530	e320	e520	e650	912	863	1,230	217	169	407
19	560	732	e480	e320	e520	e700	939	905	1,080	228	223	507
20	508	789	e390	e370	e470	e720	1,150	1,240	866	259	408	573
21	483	877	e440	e370	e460	e750	1,490	1,430	685	387	370	427
22	500	921	e470	e370	e460	e780	1,550	1,300	568	395	356	440
23	616	888	e480	e410	e480	e720	1,610	1,190	560	377	301	453
24	686	872	e540	e440	e460	e680	1,410	1,060	563	359	266	399
25	939	856	e560	e410	e410	e660	1,030	862	541	346	292	421
26	925	852	e480	e410	e420	e770	1,010	727	536	396	316	503
27	961	760	e420	e430	e430	e860	1,090	661	475	485	313	539
28	1,010	923	e470	e430	e460	e1,000	1,180	708	393	606	297	464
29	1,180	1,310	e510	e420	---	e1,400	1,240	764	474	532	291	611
30	1,370	1,060	e560	e410	---	1,880	1,180	789	524	458	307	549
31	1,740	---	e610	e410	---	2,480	---	750	---	431	313	---
TOTAL	19,794	28,885	19,637	14,600	13,970	21,880	47,920	27,316	23,177	11,233	9,720	16,963
MEAN	639	963	633	471	499	706	1,597	881	773	362	314	565
MAX	1,740	1,830	935	730	610	2,480	2,790	1,430	1,310	606	418	1,010
MIN	381	691	390	320	400	400	912	615	393	217	169	191
CFSM	0.63	0.94	0.62	0.46	0.49	0.69	1.57	0.86	0.76	0.36	0.31	0.55
IN.	0.72	1.05	0.72	0.53	0.51	0.80	1.75	1.00	0.85	0.41	0.35	0.62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	631	669	499	395	444	875	1,742	1,156	970	567	461	509
MAX	1,379	963	675	471	526	1,415	2,651	1,754	1,791	844	660	762
(WY)	(2003)	(2005)	(2002)	(2005)	(1999)	(2004)	(2004)	(2002)	(2002)	(1999)	(2002)	(2000)
MIN	432	429	347	334	368	589	774	587	518	330	314	316
(WY)	(2000)	(2000)	(2000)	(2003)	(2001)	(2002)	(2000)	(2000)	(2000)	(2001)	(2005)	(1999)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1998 - 2005	
ANNUAL TOTAL	369,181		255,095			
ANNUAL MEAN	1,009		699		753	
HIGHEST ANNUAL MEAN					966	2004
LOWEST ANNUAL MEAN					568	2000
HIGHEST DAILY MEAN	6,280	Mar 30	2,790	Apr 2	6,280	Mar 30, 2004
LOWEST DAILY MEAN	(a)300	Feb 1	169	Aug 18	164	Sep 25, 1998
ANNUAL SEVEN-DAY MINIMUM	(a)339	Jan 27	247	Aug 31	218	Jul 28, 1998
MAXIMUM PEAK FLOW			2,830	Apr 2	6,630	Mar 30, 2004
MAXIMUM PEAK STAGE			10.53	Apr 2	13.87	Mar 30, 2004
ANNUAL RUNOFF (CFSM)	0.989		0.685		0.738	
ANNUAL RUNOFF (INCHES)	13.46		9.30		10.03	
10 PERCENT EXCEEDS	2,130		1,180		1,360	
50 PERCENT EXCEEDS	708		552		529	
90 PERCENT EXCEEDS	420		315		341	

04069416 PESHTIGO RIVER AT PORTERFIELD, WI—Continued

(a) Ice affected
(e) Estimated

04069500 PESHTIGO RIVER AT PESHTIGO, WI

LOCATION.--Lat 45°02'51", long 87°44'40", in NE 1/4 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 mi^2.

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 and crest-stage gage. Datum of gage is 584.64 ft above NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair (see Introduction). Diurnal fluctuation caused by two powerplants upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	388	1,830	1,000	e690	e404	e472	2,900	1,090	643	483	444	293
2	498	1,750	833	e760	e405	e476	2,940	953	576	368	443	266
3	396	1,610	698	e774	e399	e465	2,860	844	513	358	434	220
4	380	1,280	879	e612	e469	e439	2,760	811	497	366	411	207
5	399	1,200	808	e604	e486	e406	2,670	712	477	355	332	188
6	420	1,010	748	e591	e493	e430	2,480	628	607	354	240	173
7	461	910	760	e560	e566	e474	2,190	753	597	384	288	695
8	546	915	861	e532	e581	e485	1,910	840	650	375	300	1,030
9	485	818	831	e519	e591	e490	1,810	774	1,220	368	318	1,070
10	462	819	925	e508	e591	e520	1,750	711	1,250	359	409	1,080
11	452	731	1,000	e504	e616	e511	1,530	679	1,040	326	435	1,040
12	416	787	993	e506	e599	e481	1,650	671	1,000	327	316	943
13	441	793	924	e501	e610	e441	1,540	721	1,190	300	248	777
14	434	790	738	e489	e593	e459	1,140	1,000	910	253	271	771
15	483	786	561	e481	e636	e499	977	1,150	1,070	258	312	881
16	523	776	561	e446	e583	e497	1,160	1,030	1,330	288	267	777
17	517	776	627	e359	e551	e517	954	962	1,300	256	213	621
18	526	715	e551	e316	e535	e680	947	895	1,280	212	160	312
19	549	731	e499	e321	e539	e732	965	957	1,120	154	240	464
20	537	810	e393	e368	e487	e757	1,210	1,300	922	181	394	490
21	470	877	e450	e369	e467	e794	1,520	1,500	759	259	386	437
22	464	922	e484	e368	e473	e825	1,570	1,390	607	307	328	361
23	586	907	e492	e410	e499	e763	1,580	1,280	575	351	269	375
24	755	882	e566	e443	e474	e718	1,480	1,150	546	338	217	289
25	996	852	e581	e418	e415	e685	1,080	909	530	313	259	345
26	1,040	827	e493	e412	e426	e800	1,080	783	524	374	306	375
27	1,060	840	e428	e441	e437	e894	1,150	685	466	451	326	501
28	1,110	965	e479	e442	e471	e1,030	1,200	678	377	560	268	436
29	1,310	1,310	e525	e424	---	e1,480	1,290	679	430	633	274	525
30	1,480	1,170	e575	e415	---	e2,080	1,230	745	483	528	285	521
31	1,730	---	e633	e417	---	e2,750	---	728	---	468	296	---
TOTAL	20,314	29,389	20,896	15,000	14,396	23,050	49,523	28,008	23,489	10,907	9,689	16,463
MEAN	655	980	674	484	514	744	1,651	903	783	352	313	549
MAX	1,730	1,830	1,000	774	636	2,750	2,940	1,500	1,330	633	444	1,080
MIN	380	715	393	316	399	406	947	628	377	154	160	173
CFSM	0.61	0.91	0.62	0.45	0.48	0.69	1.53	0.84	0.72	0.33	0.29	0.51
IN.	0.70	1.01	0.72	0.52	0.50	0.79	1.71	0.96	0.81	0.38	0.33	0.57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	786	881	625	530	539	1,059	2,047	1,442	1,064	646	579	720
MAX	1,728	2,197	1,128	1,219	1,449	3,272	3,813	4,639	2,768	1,362	1,242	1,706
(WY)	(1986)	(1986)	(1966)	(1960)	(1984)	(1973)	(1979)	(1960)	(1993)	(1993)	(1974)	(1959)
MIN	310	328	250	268	282	424	485	538	228	300	285	264
(WY)	(1990)	(1977)	(1990)	(1990)	(1990)	(1964)	(1990)	(1977)	(1988)	(1989)	(1957)	(1989)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1953 - 2005	
ANNUAL TOTAL	377,686		261,124			
ANNUAL MEAN	1,032		715		910	
HIGHEST ANNUAL MEAN					1,559	1973
LOWEST ANNUAL MEAN					580	2000
HIGHEST DAILY MEAN	7,660	Mar 30	2,940	Apr 2	9,600	May 9, 1960
LOWEST DAILY MEAN	(a)300	Feb 1	154	Jul 19	84	Aug 5, 1957
ANNUAL SEVEN-DAY MINIMUM	368	Sep 25	229	Jul 14	172	Aug 4, 1957
MAXIMUM PEAK FLOW			3,130	Apr 2	(b)9,790	May 9, 1960
MAXIMUM PEAK STAGE			6.33	Apr 2	11.59	May 9, 1960
ANNUAL RUNOFF (CFSM)	0.955		0.662		0.842	
ANNUAL RUNOFF (INCHES)	13.01		8.99		11.44	
10 PERCENT EXCEEDS	2,140		1,260		1,780	
50 PERCENT EXCEEDS	703		561		662	
90 PERCENT EXCEEDS	400		313		351	

04069500 PESHTIGO RIVER AT PESHTIGO, WI—Continued

(a) Ice affected
(b) From rating curve extended above 5,000 ft^3/s on basis of computation of peak flow through dam gates
(e) Estimated

04071000 OCONTO RIVER NEAR GILLETT, WI

LOCATION.--Lat 44°51'55", long 88°18'00", in NE 1/4 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 mi^2.

PERIOD OF RECORD.--June 1906 to April 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 NGVD of 1929 (levels by Wisconsin Department of Transportation). See WSP 1727 for history of changes prior to Aug. 25, 1938.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	278	938	591	e470	e332	e334	e1,670	613	446	258	213	213
2	284	950	520	e490	e337	e334	e1,790	567	424	256	206	210
3	298	913	e545	e487	e337	e337	e1,710	550	403	250	198	205
4	310	826	e581	e480	e337	e343	e1,610	544	382	245	191	201
5	307	724	e599	e469	e345	e343	e1,500	520	375	238	184	201
6	306	656	e581	e434	e359	e339	e1,430	502	418	237	179	201
7	307	608	e572	e403	e399	e348	1,330	489	423	237	177	200
8	304	568	530	e387	e419	e362	1,300	478	557	233	174	196
9	302	540	538	e382	e419	e356	e1,260	478	575	228	178	197
10	317	518	593	e369	e418	e349	e1,200	505	632	220	191	199
11	320	489	631	e369	e412	e341	e1,150	522	711	215	230	197
12	318	478	e629	e360	e406	e336	1,100	513	677	210	279	192
13	318	482	e571	e371	e406	e332	1,010	532	724	208	245	195
14	315	486	e491	e378	e412	e328	926	596	1,020	205	223	210
15	327	471	e408	e363	e406	e328	858	641	893	201	211	225
16	324	462	e381	e339	e399	e326	794	634	862	195	202	230
17	321	456	e390	e321	e382	e318	746	595	791	189	195	223
18	323	441	e402	e311	e359	e314	710	541	651	183	202	216
19	320	437	e375	e294	e345	e318	701	575	544	180	242	212
20	318	459	e337	e287	e334	e328	796	681	475	178	266	211
21	314	494	e309	e286	e348	e334	809	778	426	184	277	216
22	303	514	e280	e292	e354	e338	826	803	376	193	258	229
23	320	515	e283	e306	e351	e342	801	753	354	193	248	226
24	356	508	e321	e315	e357	e346	761	665	340	193	238	225
25	431	485	e369	e319	e357	e357	694	585	329	196	227	229
26	502	463	e397	e327	e353	e396	666	550	315	213	228	244
27	521	488	e372	e351	e342	e467	679	517	308	238	235	277
28	530	574	e372	e354	e334	e665	724	489	300	273	234	306
29	651	637	e397	e348	---	e734	704	474	289	265	230	315
30	791	667	e393	e334	---	e857	660	464	266	222	223	361
31	883	---	e426	e324	---	e1,290	---	457	---	219	219	---
TOTAL	11,819	17,247	14,184	11,320	10,359	12,840	30,915	17,611	15,286	6,755	6,803	6,762
MEAN	381	575	458	365	370	414	1,030	568	510	218	219	225
MAX	883	950	631	490	419	1,290	1,790	803	1,020	273	279	361
MIN	278	437	280	286	332	314	660	457	266	178	174	192
CFSM	0.54	0.82	0.65	0.52	0.52	0.59	1.46	0.81	0.72	0.31	0.31	0.32
IN.	0.62	0.91	0.75	0.60	0.55	0.68	1.63	0.93	0.81	0.36	0.36	0.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1906 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	481	558	445	355	348	643	1,217	865	675	459	380	443
MAX	1,216	1,377	900	700	643	1,867	3,435	2,185	1,744	1,022	742	1,347
(WY)	(1942)	(1986)	(1907)	(1907)	(1984)	(1973)	(1922)	(1960)	(1916)	(1922)	(1960)	(1928)
MIN	199	259	216	206	204	240	379	357	197	218	158	190
(WY)	(1949)	(1934)	(1990)	(1957)	(1948)	(1934)	(1931)	(1931)	(1988)	(2005)	(1934)	(1933)

04071000 OCONTO RIVER NEAR GILLETT, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1906 - 2005	
ANNUAL TOTAL	230,094		161,901			
ANNUAL MEAN	629		444		573	
HIGHEST ANNUAL MEAN					930	1973
LOWEST ANNUAL MEAN					315	1931
HIGHEST DAILY MEAN	2,940	Mar 30	(a)1,790	Apr 2	(b)6,790	Apr 10, 1922
LOWEST DAILY MEAN	(a)270	Feb 15-17	174	Aug 8	95	Jun 3, 1907
ANNUAL SEVEN-DAY MINIMUM	276	Sep 24	182	Aug 4	137	Aug 9, 1908
MAXIMUM PEAK FLOW			(a)	Apr 2	(b)8,400	Apr 10, 1922
MAXIMUM PEAK STAGE			(a)6.15	Apr 2	(b)11.20	Apr 10, 1922
INSTANTANEOUS LOW FLOW			172	Aug 8	(c)93	Nov 26, 1941
ANNUAL RUNOFF (CFSM)	0.892		0.629		0.813	
ANNUAL RUNOFF (INCHES)	12.14		8.54		11.04	
10 PERCENT EXCEEDS	1,250		749		1,050	
50 PERCENT EXCEEDS	460		357		435	
90 PERCENT EXCEEDS	290		209		257	

(a) Ice affected
(b) From floodmarks, caused by failure of a dam at Pulcifer 4 mi above station
(c) Result of freezeup
(e) Estimated

04071765 OCONTO RIVER NEAR OCONTO, WI

LOCATION.--Lat 44°51'38", long 87°59'02", in NW 1/4 NW 1/4 sec.32, T.28 N., R.21 E., Oconto County, Hydrologic Unit 04030104, on left bank 30 ft upstream from County Highway J bridge, 0.7 mi downstream from mouth of Little River, and 4.6 mi west of Oconto.

DRAINAGE AREA.--966 mi^2.

PERIOD OF RECORD.--October 1988 to September 1990, October 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 583.14 ft above NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Flow regulated by Machickanee Flowage (capacity, 556 acre-ft) 3.9 mi upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	314	1,330	735	e664	e394	e295	3,370	745	473	324	242	238
2	336	1,350	576	e688	e417	e342	2,870	655	467	294	239	234
3	281	1,240	583	e676	e425	e392	2,880	617	442	232	223	220
4	356	1,100	517	e653	e425	e385	2,340	591	428	289	210	209
5	306	883	733	e641	e425	e398	2,130	589	406	296	205	212
6	360	816	624	e564	e441	e392	2,030	584	455	281	201	216
7	331	772	664	e471	e579	e366	1,900	587	514	269	182	228
8	349	644	742	e529	e506	e418	1,750	526	732	267	171	223
9	362	535	740	e486	e506	e403	1,730	534	834	272	174	200
10	314	582	e879	e472	e539	e380	1,620	589	727	260	240	203
11	345	601	e940	e493	e513	e411	1,530	631	1,040	251	226	212
12	410	594	e901	e455	e458	e360	1,360	630	1,010	228	310	227
13	329	536	e850	e379	e477	e361	1,260	626	848	257	323	245
14	274	557	e734	e472	e506	e356	1,120	768	1,080	233	304	287
15	382	669	e436	e489	e506	e301	1,010	812	1,320	216	270	251
16	380	505	e283	e432	e506	e379	938	778	1,070	226	227	232
17	319	515	e441	e425	e498	e356	848	707	1,030	209	206	247
18	357	536	e470	e334	e448	e297	788	666	891	212	185	247
19	346	495	e470	e373	e391	e367	798	695	699	230	332	270
20	389	550	e325	e347	e375	e405	1,130	911	570	215	317	239
21	280	632	e298	e338	e412	e348	1,210	988	547	200	369	247
22	338	653	e289	e310	e393	e401	1,120	1,030	467	203	307	231
23	472	642	e283	e363	e415	e420	1,030	937	409	241	257	268
24	429	631	e365	e393	e410	e412	952	826	387	223	257	253
25	400	607	e420	e393	e417	e432	845	675	388	230	264	253
26	565	549	e520	e403	e398	573	837	599	386	272	264	279
27	617	617	e469	e427	e391	706	859	584	365	269	389	319
28	637	918	e490	e440	e384	1,400	879	562	357	273	292	404
29	989	939	e514	e444	---	2,270	889	496	348	323	275	384
30	1,330	948	e482	e421	---	2,730	805	530	343	304	245	379
31	1,310	---	e520	e366	---	3,720	---	515	---	264	231	---
TOTAL	14,207	21,946	17,293	14,341	12,555	20,776	42,828	20,983	19,033	7,863	7,937	7,657
MEAN	458	732	558	463	448	670	1,428	677	634	254	256	255
MAX	1,330	1,350	940	688	579	3,720	3,370	1,030	1,320	324	389	404
MIN	274	495	283	310	375	295	788	496	343	200	171	200
CFSM	0.47	0.76	0.58	0.48	0.46	0.69	1.48	0.70	0.66	0.26	0.27	0.26
IN.	0.55	0.85	0.67	0.55	0.48	0.80	1.65	0.81	0.73	0.30	0.31	0.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	412	498	380	323	369	892	1,265	875	903	439	380	442
MAX	909	732	558	463	565	1,811	1,957	1,403	1,631	751	635	1,044
(WY)	(2003)	(2005)	(2005)	(2005)	(1998)	(2004)	(2004)	(2004)	(2004)	(2000)	(2002)	(1990)
MIN	240	280	251	240	263	459	423	448	370	254	256	196
(WY)	(2000)	(2000)	(1990)	(2000)	(1990)	(2001)	(1990)	(1998)	(1999)	(2005)	(2005)	(1999)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1989 - 2005	
ANNUAL TOTAL	325,812		207,419			
ANNUAL MEAN	890		568		598	
HIGHEST ANNUAL MEAN					880	2004
LOWEST ANNUAL MEAN					433	2000
HIGHEST DAILY MEAN	8,100	Mar 29	3,720	Mar 31	8,100	Mar 29, 2004
LOWEST DAILY MEAN	272	Sep 24	171	Aug 8	153	Sep 4, 1999
ANNUAL SEVEN-DAY MINIMUM	290	Sep 24	195	Aug 3	181	(a)Jul 30, 1998
MAXIMUM PEAK FLOW			3,840	Mar 31	8,320	Mar 29, 2004
MAXIMUM PEAK STAGE			9.09	Mar 31	13.24	Mar 29, 2004
ANNUAL RUNOFF (CFSM)	0.922		0.588		0.619	
ANNUAL RUNOFF (INCHES)	12.55		7.99		8.41	
10 PERCENT EXCEEDS	1,740		997		1,200	
50 PERCENT EXCEEDS	561		425		400	
90 PERCENT EXCEEDS	326		233		240	

(a) Also occurred Sept. 3, 1999
(e) Estimated

04072150 DUCK CREEK NEAR HOWARD, WI

LOCATION.--Lat 44°32'09", long 88°07'47", in SW 1/4 SW 1/4 sec.19, T.24 N., R.20 E., Brown County, Hydrologic Unit 04030103, on left bank upstream from County Trunk Highway FF bridge 2.2 mi southwest of Howard, and about 9 mi upstream from mouth.

DRAINAGE AREA.--108 mi^2.

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

GAGE.--Continuous water-stage recorder since April 1988. Elevation of gage is 605 ft above NGVD of 1929, from topographic map.

REMARKS.-Records good except those for estimated daily discharges and discharges less than 0.5 ft^3/s, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	13	e10	e10	e3.2	e4.6	565	27	11	1.7	0.02	0.87
2	0.00	10	e9.2	e50	e3.8	e4.3	349	24	8.7	1.9	0.00	0.51
3	0.00	7.7	e8.3	e64	e4.1	e4.0	263	21	7.1	1.5	0.00	0.29
4	0.00	7.0	7.5	e110	e4.6	e4.0	206	18	6.2	2.3	0.00	0.17
5	0.00	6.0	e7.0	e100	e5.0	e4.2	172	16	6.0	2.0	0.00	0.12
6	0.00	5.5	e7.0	e70	e41	e4.9	151	14	5.7	1.5	0.00	0.10
7	0.00	5.2	11	e48	e500	e6.8	132	13	5.2	2.2	0.00	0.09
8	0.16	4.6	12	e30	e900	e10	116	13	9.0	1.7	0.00	0.12
9	0.47	4.2	23	e18	e550	e16	99	13	7.7	1.3	0.00	0.11
10	0.26	4.2	53	e11	e240	e190	83	13	12	1.3	0.00	0.11
11	0.16	4.4	118	e8.0	e160	e120	73	13	12	0.99	0.00	0.10
12	0.12	3.9	112	e8.2	e98	e50	66	12	11	0.78	0.01	0.09
13	0.12	3.6	65	e9.7	e61	e32	56	19	57	0.60	0.17	0.51
14	0.12	3.7	e35	e7.0	e38	e20	47	23	979	0.44	0.11	2.4
15	0.14	3.6	e58	e5.2	e38	e16	36	32	475	0.28	0.09	0.67
16	0.28	3.4	e40	e4.1	e51	e13	31	29	182	0.15	0.06	0.32
17	0.29	3.8	e27	e3.0	e66	e11	29	24	112	0.11	0.03	0.17
18	0.24	3.4	e18	e2.6	e55	e10	26	20	78	0.10	0.18	0.11
19	0.22	4.0	e11	e2.4	e26	e9.5	24	32	48	0.07	2.8	0.91
20	0.26	6.1	e8.5	e2.2	e14	e9.0	70	62	27	0.06	2.2	1.3
21	0.26	5.3	e6.5	e2.0	e11	e9.0	142	72	17	0.05	3.1	0.75
22	0.31	5.0	e5.6	e1.9	e8.4	e9.8	104	52	11	0.04	1.8	0.75
23	5.1	5.4	e4.9	e1.9	e7.7	e16	73	39	8.0	0.04	1.1	0.84
24	7.6	5.7	e4.4	e2.0	e6.8	e35	52	32	5.8	0.05	0.77	0.49
25	6.3	5.2	e4.3	e2.1	e6.1	e49	39	24	4.5	0.04	0.49	0.87
26	5.9	5.2	e4.3	e2.3	e5.4	e170	48	18	3.8	0.45	0.39	1.9
27	4.5	8.4	e4.3	e2.2	e5.1	e460	50	14	3.4	0.27	2.7	0.98
28	4.3	12	e4.4	e2.2	e4.9	e1,600	47	11	2.8	0.11	1.2	1.6
29	15	12	e4.5	e2.4	---	e1,700	39	11	2.3	0.08	2.2	3.0
30	31	e14	e4.8	e2.6	---	e1,100	31	11	2.2	0.06	2.1	2.2
31	21	---	e11	e2.9	---	e830	---	12	---	0.04	1.4	---
TOTAL	104.11	185.5	699.5	587.9	2,914.1	6,518.1	3,219	734	2,120.4	22.21	22.92	22.45
MEAN	3.36	6.18	22.6	19.0	104	210	107	23.7	70.7	0.72	0.74	0.75
MAX	31	14	118	110	900	1,700	565	72	979	2.3	3.1	3.0
MIN	0.00	3.4	4.3	1.9	3.2	4.0	24	11	2.2	0.04	0.00	0.09
CFSM	0.03	0.06	0.21	0.18	0.96	1.95	0.99	0.22	0.65	0.01	0.01	0.01
IN.	0.04	0.06	0.24	0.20	1.00	2.25	1.11	0.25	0.73	0.01	0.01	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.56	30.1	17.3	8.28	29.9	159	150	61.8	115	26.9	11.4	7.42
MAX	52.7	207	93.5	36.8	104	369	318	232	370	295	106	36.8
(WY)	(1996)	(1993)	(1993)	(1996)	(2005)	(2004)	(1994)	(2004)	(1990)	(1993)	(2003)	(1990)
MIN	0.14	1.02	0.59	0.11	0.51	16.4	9.40	2.79	0.00	0.00	0.00	0.00
(WY)	(2000)	(2000)	(1990)	(1990)	(1989)	(2000)	(1990)	(1988)	(1988)	(1988)	(1988)	(1989)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1988 - 2005	
ANNUAL TOTAL	32,809.72		17,150.19			
ANNUAL MEAN	89.6		47.0		53.1	
HIGHEST ANNUAL MEAN					123	1993
LOWEST ANNUAL MEAN					14.5	2000
HIGHEST DAILY MEAN	1,220	May 24	(a)1,700	Mar 29	3,690	Jun 23, 1990
LOWEST DAILY MEAN	0.00	Sep 28	0.00	(b)Oct 1-7	0.00	(c)Jun 1, 1988
ANNUAL SEVEN-DAY MINIMUM	0.00	Sep 28	0.00	Oct 1	0.00	(c)Jun 1, 1988
MAXIMUM PEAK FLOW					(d)4,520	Jun 23, 1990
MAXIMUM PEAK STAGE			(a)18.73	Mar 28	(g)21.00	Jun 23, 1990
INSTANTANEOUS LOW FLOW			0.00	Oct 1	0.00	(c)Jun 1, 1988
ANNUAL RUNOFF (CFSM)	0.830		0.435		0.492	
ANNUAL RUNOFF (INCHES)	11.30		5.91		6.68	
10 PERCENT EXCEEDS	288		73		120	
50 PERCENT EXCEEDS	9.3		5.6		6.8	
90 PERCENT EXCEEDS	0.22		0.10		0.46	

(a) Ice affected
(b) Also occurred Aug. 2-11
(c) Also occurred additional days
(d) Based on rating curve extended above 1,500 ft^3/s on basis of contracted-opening measurement of peak flow
(e) Estimated
(f) Estimated from floodmarks

04072150 DUCK CREEK NEAR HOWARD, WI—Continued

PRECIPITATION QUANTITY

PERIOD OF RECORD.--November 2003 to current year (non-frozen precipitation).

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

REMARKS.--Rainfall estimated to be 0.00 for Dec. 6, 7, 28-30, Jan. 8, 10, 11, 12, 19, 21, 23-25, Feb. 4, 13, 14, 20, 21, 25, 28, Mar. 1, 2, 4, 7, 10-12, and 16-20 because recorded precipitation interpreted as collector snowmelt. Rainfall data missing for the periods Mar. 28-Apr. 6, and Aug. 9-16.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 2.09 in., June 13, 2005.

EXTREMES FOR CURRENT YEAR.-- Maximum daily rainfall, 2.09 in., June 13.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.24	0.13	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00
2	0.00	0.12	0.00	0.32	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.01	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.00	0.46	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00	0.06	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.12	0.00	---	0.04	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.01	0.01	0.00	0.00	0.48
8	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
9	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.24	0.18	0.00	---	0.00
10	0.00	0.15	1.01	0.00	0.00	0.00	0.00	0.00	0.13	0.00	---	0.00
11	0.00	0.01	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	---	0.00
12	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	---	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	2.09	0.00	---	1.15
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	---	0.00
15	0.23	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00
16	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	0.00
17	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.07	0.00	0.00	1.84	0.00
19	0.00	0.41	0.00	0.00	0.00	0.00	1.04	0.68	0.00	0.00	0.04	0.30
20	0.00	0.12	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.17	0.53	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.38
23	2.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.39	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.01	0.43	0.00	0.63
26	0.12	0.22	0.00	0.00	0.00	0.00	0.16	0.03	0.03	0.25	0.86	0.07
27	0.04	0.69	0.00	0.00	0.00	0.00	0.02	0.10	0.00	0.00	0.23	0.00
28	1.16	0.04	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.65
29	0.03	0.00	0.00	0.00	---	---	0.00	0.07	0.00	0.00	0.00	0.01
30	0.19	0.00	0.00	0.00	---	---	0.00	0.00	0.11	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	---	---	0.00	---	0.00	0.00	---
TOTAL	4.56	2.01	1.22	0.32	0.34	---	---	2.20	2.62	1.70	---	3.68

04072150 DUCK CREEK NEAR HOWARD, WI—Continued

WATER-QUALITY RECORD

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

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: May 2002 to September 2004 (discontinued).
SPECIFIC CONDUCTANCE: May 2002 to September 2004 (discontinued).
SUSPENDED-SOLIDS DISCHARGE: October 2003 to current year.
TOTAL-PHOPHORUS DISCHARGE: October 2003 to current year.

INSTRUMENTATION.--Water-quality sampler October 2003 to current year.

REMARKS.--Chemical analyses by Green Bay Metropolitan Sewerage District Laboratory. Samples are point samples unless otherwise indicated.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum, 30.5°C, July 2, 21 and 2, 2002; minimum, 0.0° many days during 2003 water year.
SPECIFIC CONDUCTANCE: Maximum, 1,930 µS/cm, Jan. 15, 2003 (partial day); minimum, 340 µS/cm, June 4, 2002.
SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 1,730 tons, June 10, 2004; minimum daily, 0.00 tons, Sept. 27 to Oct. 7, 2004, Aug. 1-12, 17, 2005 (result of zero flow).
TOTAL-PHOPHORUS DISCHARGE: Maximum daily, 9,950 lbs, Mar. 28, 2005; minimum daily, 0.00 lbs, Sept. 27 to Oct. 7, 2004, Aug. 2-12, 2005 (result of zero flow).

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 1,020 tons, Mar. 29; minimum daily, 0.00 tons, Oct. 1-7, Aug. 1-12, 17 (result of zero flow).
TOTAL-PHOPHORUS DISCHARGE: Maximum daily, 9,950 lbs, Mar. 28; minimum daily, 0.00 lbs, Oct. 1-7, Aug. 2-12 (result of zero flow).

SUSPENDED SOLIDS, DRIED AT 105 DEGREES CELSIUS, WATER, UNFILTERED, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.000	0.44	0.15	0.13	0.030	0.040	105	0.15	0.16	0.040	0.000	0.009
2	0.000	0.23	0.10	0.97	0.040	0.030	31.8	0.13	0.14	0.040	0.000	0.006
3	0.000	0.12	0.090	1.34	0.040	0.030	11.6	0.11	0.11	0.030	0.000	0.003
4	0.000	0.090	0.080	2.69	0.050	0.030	4.74	0.10	0.10	0.050	0.000	0.002
5	0.000	0.070	0.080	2.38	0.050	0.030	3.36	0.090	0.10	0.040	0.000	0.001
6	0.000	0.060	0.080	1.50	0.87	0.030	2.70	0.080	0.090	0.030	0.000	0.001
7	0.000	0.060	0.13	0.92	41.4	0.050	2.15	0.070	0.080	0.040	0.000	0.001
8	0.003	0.050	0.18	0.50	56.6	0.070	1.72	0.070	0.15	0.030	0.000	0.001
9	0.009	0.040	0.43	0.22	20.0	0.22	1.34	0.070	0.12	0.020	0.000	0.001
10	0.006	0.040	3.77	0.13	4.87	5.40	1.03	0.070	0.19	0.020	0.000	0.001
11	0.004	0.040	8.00	0.10	2.56	3.01	0.83	0.070	0.20	0.020	0.000	0.001
12	0.004	0.030	4.36	0.10	1.32	0.97	0.67	0.070	0.18	0.010	0.000	0.001
13	0.004	0.030	1.23	0.11	0.70	0.55	0.52	0.10	37.4	0.010	0.002	0.006
14	0.005	0.030	0.57	0.080	0.41	0.30	0.40	0.13	540	0.007	0.001	0.030
15	0.006	0.020	0.93	0.060	0.40	0.22	0.28	1.00	80.9	0.005	0.001	0.007
16	0.010	0.020	0.64	0.050	0.52	0.070	0.22	0.85	12.1	0.003	0.001	0.004
17	0.010	0.020	0.42	0.030	0.66	0.060	0.19	0.62	4.61	0.002	0.000	0.002
18	0.008	0.020	0.28	0.030	0.54	0.050	0.15	0.46	2.79	0.002	0.002	0.001
19	0.006	0.020	0.17	0.030	0.25	0.050	0.13	1.00	1.57	0.001	0.030	0.010
20	0.007	0.040	0.13	0.020	0.13	0.050	0.56	3.00	0.85	0.001	0.020	0.020
21	0.006	0.040	0.10	0.020	0.10	0.050	3.04	3.84	0.51	0.001	0.030	0.009
22	0.006	0.040	0.080	0.020	0.080	0.050	1.44	2.24	0.34	0.001	0.020	0.009
23	0.090	0.040	0.070	0.020	0.070	0.22	0.62	1.39	0.23	0.001	0.010	0.010
24	0.12	0.050	0.060	0.020	0.060	0.61	0.28	1.00	0.16	0.001	0.008	0.006
25	0.090	0.050	0.060	0.020	0.050	0.95	0.21	0.62	0.12	0.001	0.005	0.010
26	0.070	0.060	0.060	0.020	0.040	9.08	0.26	0.18	0.10	0.008	0.004	0.020
27	0.050	0.12	0.060	0.020	0.040	42.8	0.27	0.14	0.080	0.005	0.030	0.010
28	0.050	0.20	0.060	0.020	0.040	546	0.25	0.13	0.070	0.002	0.010	0.020
29	0.27	0.20	0.060	0.030	---	1,020	0.21	0.14	0.050	0.001	0.020	0.040
30	3.63	0.24	0.070	0.030	---	557	0.17	0.15	0.050	0.001	0.020	0.030
31	1.18	---	0.15	0.030	---	261	---	0.17	---	0.001	0.010	---
TOTAL	5.644	2.510	22.650	11.640	131.920	2,449.020	176.14	18.240	683.550	0.424	0.224	0.272

WTR YR 2005 TOTAL 3,502.234

04072150 DUCK CREEK NEAR HOWARD, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

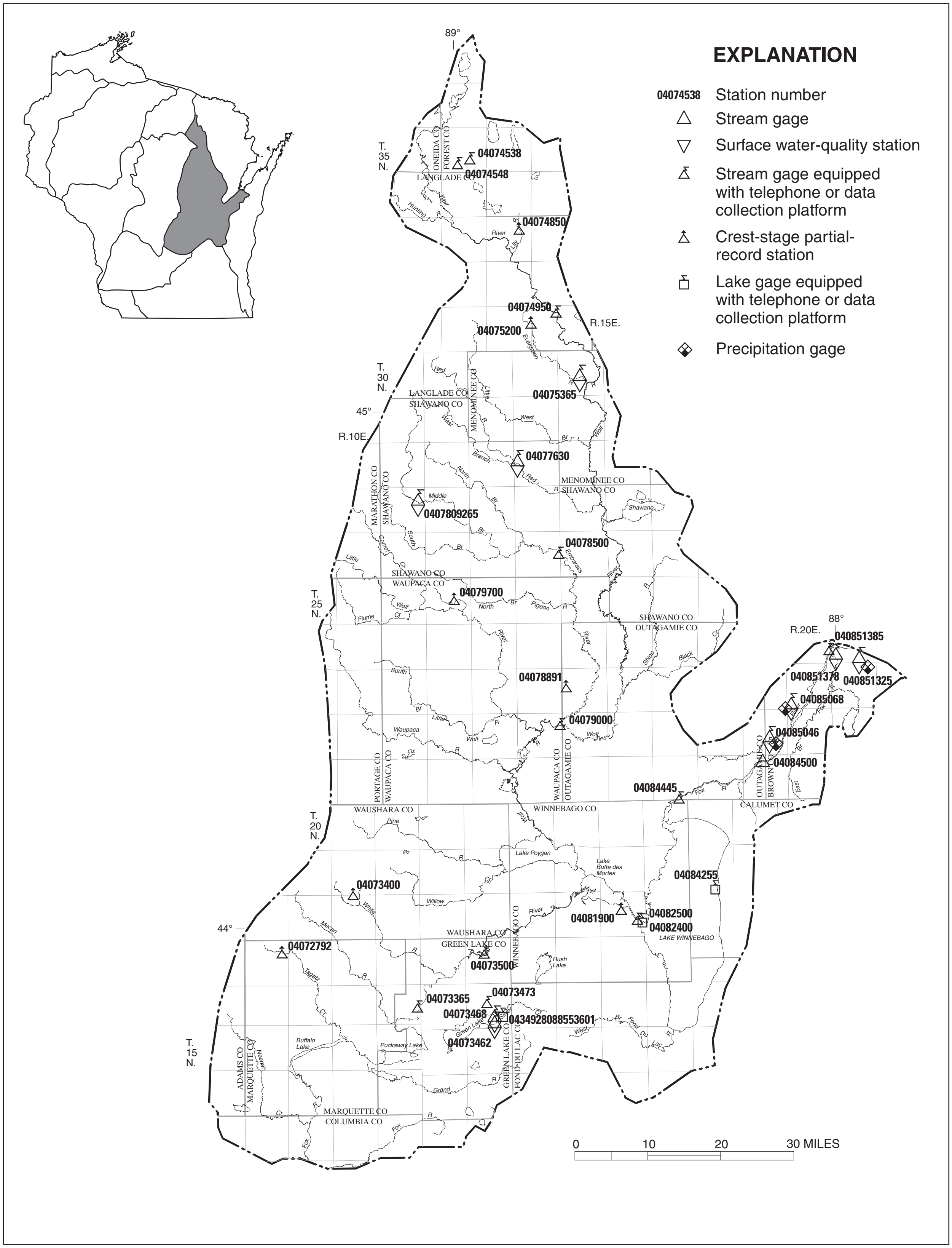
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	19.2	9.51	10.1	2.59	3.38	788	12.7	10.2	1.96	0.03	0.70
2	0.00	12.8	8.76	62.4	3.08	3.15	421	10.8	8.42	2.29	0.00	0.39
3	0.00	8.46	7.92	85.1	3.32	2.92	284	9.18	6.74	1.84	0.00	0.21
4	0.00	7.45	7.18	168	3.72	2.92	201	7.92	5.79	2.79	0.00	0.11
5	0.00	6.30	6.72	149	4.05	3.05	157	6.97	5.52	2.47	0.00	0.07
6	0.00	5.79	6.73	95.3	38.2	3.55	130	6.37	5.19	1.87	0.00	0.06
7	0.00	5.37	10.5	59.3	867	4.91	108	6.18	4.67	2.75	0.00	0.05
8	0.11	4.66	11.9	32.9	2,710	7.19	89.3	5.96	7.97	2.21	0.00	0.06
9	0.31	4.24	21.9	17.3	1,580	14.9	74.1	6.24	6.64	1.72	0.00	0.05
10	0.18	4.19	51.9	10.1	586	334	61.6	6.40	10.2	1.62	0.00	0.05
11	0.11	4.32	124	7.24	251	187	53.4	6.37	10.4	1.29	0.00	0.04
12	0.09	3.84	81.5	7.32	124	62.4	47.0	6.40	8.98	1.03	0.00	0.04
13	0.09	3.49	71.1	8.56	69.0	35.7	39.4	9.92	140	0.81	0.26	0.19
14	0.09	3.57	43.0	6.13	39.8	19.8	32.5	12.6	2,690	0.60	0.17	0.90
15	0.10	3.38	70.3	4.50	37.2	14.9	24.5	37.3	795	0.37	0.13	0.25
16	0.22	3.20	48.2	3.51	46.8	9.17	20.7	33.1	251	0.20	0.09	0.12
17	0.22	3.50	32.2	2.54	56.9	7.73	19.1	26.3	145	0.15	0.05	0.06
18	0.18	3.17	21.2	2.18	44.6	7.02	17.2	21.1	96.9	0.12	0.25	0.04
19	0.16	3.67	12.8	1.99	20.0	6.67	15.5	37.3	57.7	0.09	3.88	0.33
20	0.19	5.58	9.79	1.80	10.6	6.32	44.0	83.2	32.0	0.08	3.01	0.45
21	0.20	4.88	7.41	1.62	8.28	6.32	123	99.7	19.8	0.07	4.08	0.26
22	0.23	4.63	6.31	1.54	6.31	6.88	74.0	67.2	13.4	0.05	2.24	0.26
23	3.95	5.03	5.46	1.54	5.76	14.9	42.4	47.4	9.27	0.05	1.36	0.29
24	6.19	5.35	4.85	1.62	5.07	39.9	29.7	37.3	6.77	0.06	0.90	0.17
25	5.67	4.85	4.68	1.70	4.54	60.9	21.6	26.3	5.18	0.04	0.55	0.29
26	5.79	4.90	4.63	1.86	4.01	231	25.6	14.1	4.39	0.54	0.42	0.64
27	4.82	9.33	4.58	1.78	3.77	1,030	25.8	10.9	3.84	0.32	2.79	0.33
28	4.63	13.2	4.63	1.78	3.61	9,950	23.8	9.37	3.15	0.13	1.19	0.51
29	16.4	13.2	4.69	1.94	---	5,720	19.4	9.51	2.65	0.10	2.08	0.97
30	72.9	15.3	4.95	2.11	---	3,180	14.8	10.0	2.61	0.07	1.88	0.71
31	37.7	---	11.2	2.35	---	1,650	---	10.9	---	0.05	1.18	---
TOTAL	160.53	196.85	720.50	755.11	6,539.21	22,626.58	3,027.4	694.99	4,369.38	27.74	26.54	8.60

WTR YR 2005 TOTAL 39,153.43

04072150 DUCK CREEK NEAR HOWARD, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Dis-charge, cfs (00060)	Instan-taneous dis-charge, cfs (00061)	Sam-pling method, code (82398)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)
OCT									
15...	0942	--	.12	10	18	--	.140	--	--
27...	1517	--	4.4	10	<4	.150	.200	--	--
30...	1015	--	36	50	79	--	.540	--	--
NOV									
18...	1540	--	3.3	10	2	--	.170	--	--
DEC									
10...	1530	--	71	50	36	--	.180	--	--
11...	1530	--	139	50	26	--	.210	--	--
12...	1530	--	102	50	13	--	.110	--	--
13...	1245	--	66	10	6	.170	.230	--	--
JAN									
21...	0945	2.0	--	10	4	--	.150	--	--
FEB									
07...	0015	500	--	50	35	--	.270	--	--
07...	1145	500	--	50	32	--	.260	--	--
07...	1146	500	--	10	30	.200	.270	--	--
08...	0145	900	--	50	30	--	.560	74	43
09...	0145	550	--	50	18	--	.560	--	--
10...	1145	240	--	10	7	.350	.470	--	--
MAR									
17...	1615	11	--	10	<2	--	.130	--	--
26...	1315	170	--	50	28	--	.270	--	--
27...	2115	460	--	50	39	--	.490	--	--
28...	0915	1,600	--	50	109	--	.590	80	135
28...	1515	1,600	--	50	198	--	2.79	--	--
29...	0115	1,700	--	50	158	--	.690	--	--
29...	1045	1,700	--	50	276	--	.690	27	963
29...	2245	1,700	--	50	232	.170	.470	--	--
30...	1200	1,100	--	50	199	--	.600	--	--
31...	1745	830	--	50	106	--	.320	--	--
APR									
01...	1100	--	568	50	72	--	.250	--	--
04...	1015	--	208	10	8	.250	.180	--	--
19...	1110	--	22	10	2	--	.120	--	--
MAY									
04...	1120	--	18	10	<2	.040	.080	--	--
18...	0905	--	20	10	2	--	.110	--	--
JUN									
02...	1030	--	9.2	10	6	.140	.180	--	--
13...	1900	--	82	50	400	--	.550	--	--
14...	0130	--	364	50	196	--	.460	98	196
14...	0315	--	568	50	403	.160	.600	--	--
14...	0800	--	1,030	50	228	--	.730	96	494
14...	1215	--	1,230	50	256	.140	.510	--	--
14...	1216	--	1,230	10	252	--	.490	--	--
15...	0015	--	870	50	99	--	.360	90	124
15...	0630	--	586	50	70	--	.310	--	--
15...	1745	--	327	50	43	--	.280	--	--
16...	1240	--	174	10	22	--	.250	--	--
28...	1200	--	2.8	10	9	.180	.210	--	--
JUL									
14...	1030	--	.46	10	6	--	.250	--	--
27...	0810	--	.33	10	7	.180	.220	--	--
AUG									
16...	1225	--	.06	10	4	--	.290	--	--
29...	1130	--	2.8	10	267	.090	.180	--	--
SEP									
13...	0945	--	.08	10	4	--	.070	--	--
30...	1230	--	2.2	10	<5	.060	.060	--	--



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

FOX-WOLF RIVER BASIN

04073365 FOX RIVER AT PRINCETON, WI

LOCATION.--Lat 43°51'04", long 89°08'00", in SE 1/4 NW 1/4 SE 1/4 sec.24, T.16 N., R.11 E., Green Lake County, Hydrologic Unit 04030201, on right bank at upstream side of bridge on State Highway 23 at Princeton, and at mile 105.

DRAINAGE AREA.--962 mi^2.

PERIOD OF RECORD.--July 2001 to September 2005 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 754.57 ft above NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Occasional regulation by dams upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	492	772	794	1,070	e540	888	1,360	915	613	377	543	330
2	485	766	799	1,130	e550	901	1,410	880	595	378	533	310
3	501	787	752	1,110	e570	910	1,450	849	579	384	526	301
4	451	769	769	1,040	e580	884	1,470	825	576	370	494	300
5	476	796	775	980	e600	856	1,480	807	611	366	470	291
6	475	785	766	974	e580	877	1,470	785	599	366	457	291
7	471	746	802	988	e560	892	1,440	740	571	381	441	274
8	492	749	865	1,030	e550	912	1,440	737	549	389	426	272
9	479	752	886	1,080	e560	967	1,420	738	538	393	410	280
10	477	758	901	1,100	e590	1,030	1,400	725	537	390	387	287
11	469	703	962	1,110	e620	1,030	1,360	677	544	376	379	285
12	466	712	1,030	1,120	e650	1,020	1,300	623	534	357	396	280
13	465	712	e930	1,130	e730	1,060	1,270	721	514	351	385	285
14	459	710	e960	e700	e800	1,070	1,260	775	529	337	380	270
15	482	704	e950	e600	e860	1,050	1,240	776	497	336	375	268
16	529	700	e950	e530	e1,000	1,030	1,220	794	478	338	365	266
17	505	697	e950	e520	e1,000	1,020	1,190	804	481	334	362	275
18	487	689	e910	e520	e1,200	998	1,170	700	486	338	361	276
19	477	682	e890	e530	1,340	966	1,140	569	481	312	362	288
20	505	720	e910	e530	1,230	968	1,120	590	471	317	350	293
21	522	728	e910	e530	1,170	956	1,090	659	448	318	345	307
22	631	734	e880	e520	1,150	948	1,070	692	437	335	327	328
23	920	728	e830	e520	1,130	947	1,010	674	434	353	328	334
24	899	696	e800	e520	1,100	968	994	683	421	393	333	358
25	842	717	e820	e520	1,080	973	1,020	696	402	392	337	366
26	796	726	e830	e520	1,050	1,000	1,020	696	397	440	340	366
27	779	744	e840	e530	1,030	1,040	997	684	402	452	351	386
28	803	768	e860	e530	971	1,090	982	662	375	487	343	388
29	824	787	950	e530	---	1,160	959	648	375	504	331	400
30	854	794	966	e530	---	1,230	935	645	417	535	313	424
31	824	---	1,020	e530	---	1,300	---	628	---	552	313	---
TOTAL	18,337	22,131	27,257	23,572	23,791	30,941	36,687	22,397	14,891	11,951	12,063	9,379
MEAN	592	738	879	760	850	998	1,223	722	496	386	389	313
MAX	920	796	1,030	1,130	1,340	1,300	1,480	915	613	552	543	424
MIN	451	682	752	520	540	856	935	569	375	312	313	266
CFSM	0.61	0.77	0.91	0.79	0.88	1.04	1.27	0.75	0.52	0.40	0.40	0.32
IN.	0.71	0.86	1.05	0.91	0.92	1.20	1.42	0.87	0.58	0.46	0.47	0.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2005, BY WATER YEAR (WY)

MEAN	618	698	771	591	654	1,060	1,059	1,079	1,388	858	504	506
MAX	791	768	879	760	850	1,514	1,223	1,401	3,333	1,762	762	793
(WY)	(2002)	(2004)	(2005)	(2005)	(2005)	(2004)	(2005)	(2004)	(2004)	(2004)	(2004)	(2001)
MIN	416	599	523	395	372	598	700	722	496	386	368	313
(WY)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2005)	(2005)	(2005)	(2003)	(2005)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2001 - 2005	
ANNUAL TOTAL	422,895		253,397			
ANNUAL MEAN	1,155		694		804	
HIGHEST ANNUAL MEAN					1,137	2004
LOWEST ANNUAL MEAN					563	2003
HIGHEST DAILY MEAN	(e)4,230	Jun 19	1,480	Apr 5	(e)4,230	Jun 19, 2004
LOWEST DAILY MEAN	449	Sep 28	266	Sep 16	266	Sep 16, 2005
ANNUAL SEVEN-DAY MINIMUM	(e)459	Jan 26	274	Sep 12	274	Sep 12, 2005
MAXIMUM PEAK FLOW			1,480	Apr 4	4,240	Jun 18, 2004
MAXIMUM PEAK STAGE			7.02	Apr 5	11.49	Jun 18, 2004
INSTANTANEOUS LOW FLOW			255	Sep 14	255	Sep 14, 2005
ANNUAL RUNOFF (CFSM)	1.20		0.722		0.836	
ANNUAL RUNOFF (INCHES)	16.35		9.80		11.36	
10 PERCENT EXCEEDS	2,360		1,090		1,280	
50 PERCENT EXCEEDS	840		677		680	
90 PERCENT EXCEEDS	490		337		388	

04073365 FOX RIVER AT PRINCETON, WI—Continued

(e) Estimated

04073462 WHITE CREEK AT SPRING GROVE ROAD NEAR GREEN LAKE, WI

LOCATION.--Lat 43°48'58", long 88°55'42", in SE ¼ SE ¼ NW ¼ 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 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1981 to June 1988, October 1996 to current year. Prior to October 2000, published as "at Forest Glen Beach".

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

REMARKS.--Records fair except those for estimated daily discharges and periods of discharge less than 0.25 cfs, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.47	0.35	0.42	0.73	0.30	0.86	4.2	1.3	0.59	0.43	0.49	0.16
2	0.48	0.42	0.41	3.0	0.30	0.83	3.8	1.2	0.55	0.43	0.44	0.15
3	0.43	0.34	0.43	0.73	0.31	0.80	3.5	1.2	0.56	0.42	0.44	0.14
4	0.41	0.36	0.45	0.65	0.52	0.70	3.2	1.1	0.74	0.47	0.42	0.13
5	0.41	0.37	0.42	0.57	14	1.3	2.8	1.1	0.87	0.45	0.39	0.13
6	0.39	0.38	0.50	0.57	21	24	2.7	1.1	0.67	0.42	0.38	0.13
7	0.36	0.38	0.80	0.56	20	12	2.5	1.1	0.63	0.41	0.36	0.12
8	0.43	0.38	0.53	0.50	3.6	3.1	2.3	1.1	0.66	0.39	0.36	0.12
9	0.40	0.38	0.52	0.45	2.6	2.7	2.2	1.1	0.72	0.37	0.34	0.12
10	0.38	0.38	1.0	0.42	2.2	2.5	2.1	1.1	1.4	0.38	0.33	0.11
11	0.35	0.39	0.73	0.42	1.9	2.2	2.0	1.2	1.1	0.37	0.36	0.10
12	0.35	0.40	0.72	0.56	2.4	1.8	1.9	1.1	0.93	0.36	0.37	0.09
13	0.35	0.38	0.80	e0.60	4.7	1.5	1.8	1.4	0.84	0.35	0.33	0.10
14	0.37	0.38	0.69	e0.60	18	1.4	1.8	1.2	0.79	0.38	0.29	0.10
15	0.36	0.38	0.70	e0.60	5.9	1.4	1.7	1.1	0.76	0.42	0.28	0.09
16	0.49	0.38	0.71	e0.60	3.9	1.9	1.7	0.95	0.67	0.36	0.25	0.09
17	0.49	0.38	0.72	e0.60	3.2	1.6	1.7	0.88	0.67	0.36	0.25	0.08
18	0.45	0.38	0.79	e0.62	2.7	1.3	1.7	0.84	0.62	0.35	0.25	0.08
19	0.45	0.49	e0.74	e1.9	2.3	1.2	1.6	0.94	0.60	0.35	0.24	0.08
20	0.43	0.52	e0.70	0.84	2.1	0.99	1.6	0.83	0.56	0.45	0.23	0.07
21	0.41	0.42	e0.61	0.52	1.9	1.6	1.5	0.75	0.53	0.50	0.22	0.07
22	0.41	0.41	e0.55	0.49	1.6	5.6	1.4	0.71	0.55	0.40	0.22	0.10
23	0.55	0.40	e0.54	0.41	1.5	7.2	1.4	0.70	0.58	0.68	0.21	0.08
24	0.38	0.38	e0.55	0.41	1.3	5.1	1.5	0.70	0.49	0.48	0.21	0.07
25	0.34	0.38	e0.55	0.39	1.2	4.2	1.4	0.70	0.51	0.46	0.20	0.08
26	0.33	0.40	e0.55	0.35	1.1	4.1	1.5	0.67	0.49	1.1	0.19	0.08
27	0.34	0.61	e0.55	0.31	0.99	4.3	1.5	0.66	0.47	0.59	0.21	0.07
28	0.35	0.51	e0.55	0.30	0.98	4.8	1.4	0.63	0.45	0.64	0.18	0.09
29	0.41	0.45	0.71	0.30	---	4.8	1.4	0.65	0.44	0.67	0.18	0.08
30	0.58	0.45	0.86	0.30	---	6.1	1.4	0.63	0.54	0.59	0.17	0.07
31	0.35	---	0.85	0.30	---	5.4	---	0.60	---	0.54	0.16	---
TOTAL	12.70	12.23	19.65	19.60	122.50	117.28	61.2	29.24	19.98	14.57	8.95	2.98
MEAN	0.41	0.41	0.63	0.63	4.38	3.78	2.04	0.94	0.67	0.47	0.29	0.10
MAX	0.58	0.61	1.0	3.0	21	24	4.2	1.4	1.4	1.1	0.49	0.16
MIN	0.33	0.34	0.41	0.30	0.30	0.70	1.4	0.60	0.44	0.35	0.16	0.07
CFSM	0.13	0.13	0.21	0.21	1.43	1.24	0.67	0.31	0.22	0.15	0.09	0.03
IN.	0.15	0.15	0.24	0.24	1.49	1.43	0.75	0.36	0.24	0.18	0.11	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.38	2.57	2.29	1.58	3.02	6.59	6.45	5.30	5.42	3.26	2.15	2.58
MAX	12.9	12.7	7.46	5.28	9.27	16.1	15.7	17.3	23.7	6.95	4.39	18.5
(WY)	(1987)	(1986)	(1986)	(1983)	(1984)	(1986)	(1998)	(2004)	(2004)	(2004)	(1986)	(1986)
MIN	0.25	0.28	0.14	0.04	0.03	0.63	0.21	0.94	0.67	0.47	0.29	0.10
(WY)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2005)	(2005)	(2005)	(2005)	(2005)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1982 - 2005	
ANNUAL TOTAL	2,170.68		440.88			
ANNUAL MEAN	5.93		1.21		3.66	
HIGHEST ANNUAL MEAN					7.94	1986
LOWEST ANNUAL MEAN					0.75	2003
HIGHEST DAILY MEAN	77	Jun 11	24	Mar 6	89	Sep 22, 1986
LOWEST DAILY MEAN	0.33	Oct 26	(a)0.07	Sep 20	(b)0.01	(c)Jan. 13-31, 2003
ANNUAL SEVEN-DAY MINIMUM	0.37	Oct 9	0.08	Sep 24	(b)0.01	(d)Jan 13, 2003
MAXIMUM PEAK FLOW			104	Mar 6	781	Sep 10, 1986
MAXIMUM PEAK STAGE			5.37	Mar 6	10.14	Sep 10, 1986
ANNUAL RUNOFF (CFSM)	1.94		0.396		1.20	
ANNUAL RUNOFF (INCHES)	26.48		5.38		16.29	
10 PERCENT EXCEEDS	18		2.3		8.8	
50 PERCENT EXCEEDS	2.1		0.55		2.2	
90 PERCENT EXCEEDS	0.41		0.21		0.34	

04073462 WHITE CREEK AT SPRING GROVE ROAD NEAR GREEN LAKE, WI—Continued

(a) Also occurred Sept. 21, 24, 27, 30
(b) Ice affected
(c) Also occurred Feb. 5-16 and Feb. 27 to Mar. 10
(d) Also occurred Jan. 20, Feb. 5, 27
(e) Estimated

04073462 WHITE CREEK AT SPRING GROVE ROAD NEAR GREEN LAKE, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1981 to June 1988, October 1996 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: October 1981 to June 1988, October 1996 to current year.
TOTAL AMMONIA-NITROGEN DISCHARGE: October 1981 to June 1988.
TOTAL-PHOSPHORUS DISCHARGE: October 1981 to June 1988, October 1996 to current year.

INSTRUMENTATION.--Automatic pumping sampler since December 1981.

REMARKS.--Records are fair, except those corresponding to estimated daily discharges which are fair to poor (see page 11).

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, Jan. 14, 1987, Aug. 12. 1998, Sept. 2, 1998, and May 10, 2003.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,420 tons, Apr. 3, 1982; minimum daily, 0.00 ton, on many days during 1982, 1987, 1988, 1997, 1998, 1999, 2000, 2003, and 2005 water years.
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, 1,760 lb, May 23, 2004; minimum daily, 0.00 lb, on may days during 2003.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 1,270 mg/L, Mar. 6; minimum observed, 6 mg/L, Mar. 14.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 52 tons, Mar. 6; minimum daily, 0.00 ton, many days during the year.
TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 1.43 mg/L, Mar. 6; minimum observed, 0.073 mg/L, Sept. 20.
TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 166 lb, Mar. 6; minimum daily, 0.03 lb, Sept. 16-21 and 23-30.

SUSPENDED SEDIMENT DISCHARGE, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.01	0.00	0.05	0.69	0.07	0.02	0.01	0.01	0.00
2	0.00	0.00	0.00	0.99	0.00	0.05	0.59	0.06	0.02	0.01	0.01	0.00
3	0.00	0.00	0.00	0.02	0.01	0.05	0.58	0.06	0.02	0.01	0.01	0.00
4	0.00	0.00	0.00	0.02	0.02	0.04	0.45	0.05	0.02	0.01	0.01	0.00
5	0.00	0.00	0.00	0.02	17	0.08	0.32	0.05	0.02	0.01	0.00	0.00
6	0.00	0.00	0.00	0.02	20	52	0.26	0.05	0.02	0.01	0.00	0.00
7	0.00	0.00	0.01	0.02	20	3.5	0.23	0.05	0.02	0.00	0.00	0.00
8	0.00	0.00	0.00	0.01	0.60	0.33	0.20	0.05	0.02	0.00	0.00	0.00
9	0.00	0.00	0.00	0.01	0.22	0.23	0.17	0.05	0.02	0.00	0.00	0.00
10	0.00	0.00	0.02	0.01	0.17	0.17	0.15	0.05	0.04	0.00	0.00	0.00
11	0.00	0.00	0.01	0.01	0.14	0.12	0.13	0.05	0.03	0.00	0.00	0.00
12	0.00	0.00	0.01	0.02	0.16	0.08	0.12	0.05	0.02	0.00	0.00	0.00
13	0.00	0.00	0.01	0.02	1.2	0.05	0.11	0.06	0.02	0.00	0.00	0.00
14	0.00	0.00	0.01	0.02	16	0.03	0.10	0.05	0.02	0.00	0.00	0.00
15	0.00	0.00	0.01	0.02	1.4	0.02	0.08	0.04	0.02	0.01	0.00	0.00
16	0.00	0.00	0.01	0.02	0.28	0.03	0.08	0.04	0.02	0.00	0.00	0.00
17	0.00	0.00	0.01	0.02	0.20	0.03	0.08	0.03	0.02	0.00	0.00	0.00
18	0.00	0.00	0.01	0.02	0.17	0.02	0.08	0.03	0.02	0.00	0.00	0.00
19	0.00	0.00	0.01	0.06	0.14	0.02	0.08	0.04	0.01	0.00	0.00	0.00
20	0.00	0.00	0.01	0.03	0.13	0.02	0.08	0.03	0.01	0.01	0.00	0.00
21	0.00	0.00	0.00	0.02	0.11	0.03	0.07	0.03	0.01	0.01	0.00	0.00
22	0.00	0.00	0.00	0.01	0.10	3.0	0.06	0.03	0.01	0.01	0.00	0.00
23	0.00	0.00	0.00	0.01	0.09	3.7	0.06	0.02	0.01	0.03	0.00	0.00
24	0.00	0.00	0.00	0.01	0.08	1.2	0.11	0.02	0.01	0.02	0.00	0.00
25	0.00	0.00	0.00	0.01	0.08	0.60	0.08	0.02	0.01	0.02	0.00	0.00
26	0.00	0.00	0.00	0.01	0.07	0.57	0.08	0.02	0.01	0.05	0.00	0.00
27	0.00	0.00	0.00	0.00	0.06	0.65	0.08	0.02	0.01	0.01	0.00	0.00
28	0.00	0.00	0.00	0.00	0.06	0.78	0.08	0.02	0.01	0.02	0.00	0.00
29	0.00	0.00	0.01	0.00	---	0.72	0.07	0.02	0.01	0.02	0.00	0.00
30	0.00	0.00	0.01	0.00	---	1.4	0.07	0.02	0.01	0.01	0.00	0.00
31	0.00	---	0.01	0.00	---	1.1	---	0.02	---	0.01	0.00	---
TOTAL	0.00	0.00	0.16	1.44	78.49	70.67	5.34	1.20	0.51	0.29	0.04	0.00

WTR YR 2005 TOTAL 158.14

04073462 WHITE CREEK AT SPRING GROVE ROAD NEAR GREEN LAKE, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.15	0.11	0.14	0.24	0.10	0.28	2.4	0.73	0.34	0.22	0.23	0.07
2	0.15	0.14	0.14	3.2	0.10	0.26	2.0	0.69	0.32	0.22	0.20	0.06
3	0.14	0.11	0.14	0.24	0.10	0.25	2.3	0.65	0.32	0.21	0.20	0.06
4	0.13	0.12	0.15	0.21	0.17	0.21	2.3	0.61	0.43	0.23	0.19	0.06
5	0.13	0.12	0.14	0.19	55	0.54	2.0	0.61	0.50	0.22	0.18	0.05
6	0.12	0.12	0.16	0.19	64	166	1.9	0.62	0.38	0.21	0.17	0.05
7	0.12	0.12	0.26	0.18	82	54	1.7	0.61	0.36	0.20	0.17	0.05
8	0.14	0.12	0.17	0.16	3.4	2.3	1.6	0.61	0.37	0.19	0.16	0.05
9	0.13	0.12	0.17	0.15	1.8	1.8	1.5	0.64	0.40	0.18	0.16	0.05
10	0.12	0.13	0.34	0.14	1.4	1.5	1.4	0.64	0.76	0.18	0.15	0.04
11	0.11	0.13	0.24	0.14	1.1	1.3	1.3	0.68	0.58	0.18	0.16	0.04
12	0.11	0.13	0.24	0.18	1.3	1.0	1.2	0.63	0.51	0.17	0.17	0.04
13	0.11	0.12	0.26	0.20	6.0	0.78	1.2	0.83	0.46	0.17	0.15	0.04
14	0.12	0.12	0.23	0.20	46	0.64	1.1	0.68	0.43	0.18	0.13	0.04
15	0.12	0.12	0.23	0.20	5.3	0.60	1.0	0.61	0.41	0.20	0.13	0.04
16	0.16	0.12	0.23	0.20	2.1	0.86	1.0	0.55	0.36	0.17	0.11	0.03
17	0.16	0.12	0.24	0.20	1.6	0.61	1.0	0.51	0.36	0.17	0.11	0.03
18	0.15	0.12	0.26	0.20	1.3	0.48	1.0	0.49	0.33	0.17	0.11	0.03
19	0.15	0.16	0.24	0.63	1.1	0.40	0.94	0.55	0.32	0.16	0.10	0.03
20	0.14	0.17	0.23	0.27	0.97	0.32	0.94	0.49	0.30	0.21	0.10	0.03
21	0.13	0.14	0.20	0.17	0.81	0.69	0.83	0.44	0.28	0.23	0.10	0.03
22	0.13	0.13	0.18	0.16	0.69	11	0.77	0.42	0.29	0.18	0.09	0.04
23	0.18	0.13	0.18	0.13	0.59	12	0.76	0.42	0.30	0.31	0.09	0.03
24	0.12	0.12	0.18	0.13	0.53	4.6	0.79	0.42	0.25	0.22	0.09	0.03
25	0.11	0.12	0.18	0.13	0.46	2.3	0.76	0.42	0.26	0.21	0.09	0.03
26	0.11	0.13	0.18	0.11	0.40	2.1	0.79	0.41	0.25	0.50	0.08	0.03
27	0.11	0.20	0.18	0.10	0.35	2.4	0.81	0.40	0.24	0.27	0.09	0.03
28	0.11	0.17	0.18	0.10	0.33	3.3	0.79	0.38	0.23	0.29	0.08	0.03
29	0.13	0.15	0.24	0.10	---	2.8	0.76	0.39	0.23	0.31	0.07	0.03
30	0.19	0.15	0.28	0.10	---	6.9	0.76	0.37	0.27	0.27	0.07	0.03
31	0.11	---	0.28	0.10	---	3.6	---	0.35	---	0.25	0.07	---
TOTAL	4.09	3.96	6.47	8.65	279.00	285.82	37.60	16.85	10.84	6.88	4.00	1.20
MEAN	0.13	0.13	0.21	0.28	10	9.2	1.3	0.54	0.36	0.22	0.13	0.04
MAX	0.19	0.20	0.34	3.2	82	166	2.4	0.83	0.76	0.50	0.23	0.07
MIN	0.11	0.11	0.14	0.10	0.10	0.21	0.76	0.35	0.23	0.16	0.07	0.03

CAL YR 2004 TOTAL 7,438.85 MEAN 20 MAX 1,760 MIN 0.10
WTR YR 2005 TOTAL 665.36 MEAN 1.8 MAX 166 MIN 0.03

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)
MAR						
06...	1340	16	50	--	.641	319
06...	1430	69	50	--	1.38	1,140
06...	1505	92	50	--	1.43	1,270
06...	1840	65	50	--	1.26	720
06...	2015	31	50	--	1.02	279
07...	1620	8.5	50	--	.746	48
14...	0923	1.4	50	--	.091	10
14...	0930	1.4	70	--	.079	6
22...	1540	16	50	--	.547	235
23...	2055	7.9	50	--	.613	116
30...	1825	14	50	--	.332	148
MAY						
26...	1813	.63	50	--	.112	74
JUN						
14...	1509	.79	10	--	.100	9
JUL						
28...	0658	.56	10	--	.084	43
AUG						
02...	1527	.41	10	.056	.086	9
SEP						
20...	1642	.07	10	--	.073	56

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

LOCATION.--Lat 43°49'28", 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 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Side-looking velocity meter system. Datum of gage is 790.00 ft above NGVD of 1929 (from Wisconsin Department of Natural Resources benchmark).

REMARKS.--Records fair, except those for estimated periods which are poor (see Introduction). Flows fluctuate due to seiche from Green Lake. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	26	27	25	27	63	95	15	-0.64	17	7.8	5.8
2	12	27	34	55	32	54	85	17	-0.93	7.2	4.7	7.7
3	9.4	31	23	49	30	56	73	17	0.00	4.8	2.6	5.6
4	16	22	29	43	38	52	66	12	10	7.7	7.3	7.1
5	12	24	26	43	45	51	49	12	12	10	6.4	2.7
6	14	24	28	44	86	80	51	15	15	4.2	6.8	2.5
7	10	21	40	50	156	138	40	13	9.9	5.7	5.0	1.7
8	10	16	39	48	112	97	39	7.8	3.1	4.0	6.0	4.2
9	16	16	39	53	98	78	34	8.6	7.0	5.2	5.5	1.4
10	11	28	57	54	88	68	33	15	17	4.0	6.8	2.8
11	11	16	55	51	77	56	25	19	8.6	0.08	4.5	5.6
12	13	20	44	48	63	56	21	2.8	10	0.99	11	0.40
13	13	20	50	45	63	57	23	30	2.2	-1.7	11	-3.4
14	12	20	40	44	101	e57	21	23	5.1	0.83	11	10
15	11	20	37	34	97	e55	15	25	18	-4.2	8.0	7.6
16	15	e22	31	33	84	e53	16	19	10	2.1	6.8	5.5
17	20	22	31	40	65	52	12	15	8.0	4.0	9.2	4.2
18	14	16	25	29	60	36	13	15	4.6	3.2	2.2	5.6
19	12	21	23	34	57	48	e7.3	17	4.2	7.3	11	6.4
20	11	29	18	37	44	46	e17	11	6.2	5.1	5.6	7.3
21	14	25	17	33	50	55	20	9.6	2.7	13	10	3.7
22	11	26	30	31	64	59	24	6.7	0.30	8.4	5.5	7.6
23	13	24	25	35	53	e68	17	12	4.7	-0.84	4.6	13
24	28	23	36	31	58	79	19	6.3	4.9	16	6.0	6.3
25	18	30	26	33	57	83	18	5.1	6.2	2.2	6.4	5.7
26	19	27	27	34	59	72	24	7.1	6.1	20	5.9	7.3
27	14	25	16	21	54	69	21	12	6.2	11	7.0	6.2
28	15	44	28	25	50	73	20	9.1	6.5	12	7.9	8.2
29	17	36	31	38	---	77	18	9.2	1.2	8.7	8.3	11
30	31	37	28	33	---	106	17	8.8	-4.6	3.8	8.8	9.3
31	37	---	30	31	---	135	---	1.9	---	5.7	7.8	---
TOTAL	467.1	738	990	1,204	1,868	2,129	933.3	397.0	183.53	187.46	217.4	169.00
MEAN	15.1	24.6	31.9	38.8	66.7	68.7	31.1	12.8	6.12	6.05	7.01	5.63
MAX	37	44	57	55	156	138	95	30	18	20	11	13
MIN	7.7	16	16	21	27	36	7.3	1.9	-4.6	-4.2	2.2	-3.4
CFSM	0.28	0.46	0.60	0.73	1.25	1.28	0.58	0.24	0.11	0.11	0.13	0.11
IN.	0.32	0.51	0.69	0.84	1.30	1.48	0.65	0.28	0.13	0.13	0.15	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	20.3	26.3	21.4	16.6	26.5	67.6	62.8	49.1	60.9	34.9	23.7	20.1
MAX	64.1	71.3	47.5	46.1	66.7	146	185	153	349	190	67.5	57.4
(WY)	(1996)	(1996)	(1993)	(1996)	(2005)	(2004)	(1993)	(2004)	(2004)	(1993)	(1990)	(2000)
MIN	7.00	12.2	5.73	3.13	4.28	19.1	23.2	12.8	4.57	3.78	5.03	5.63
(WY)	(1989)	(2000)	(1990)	(2003)	(2003)	(2003)	(2003)	(2005)	(1988)	(1988)	(1988)	(2005)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1987 - 2005	
ANNUAL TOTAL	27,896.6		9,483.79			
ANNUAL MEAN	76.2		26.0		36.1	
HIGHEST ANNUAL MEAN					79.9	1993
LOWEST ANNUAL MEAN					17.9	2003
HIGHEST DAILY MEAN	682	Jun 13	156	Feb 7	705	May 31, 1989
LOWEST DAILY MEAN	1.8	Feb 18	-4.6	Jun 30	-7.1	Jan 10, 2003
ANNUAL SEVEN-DAY MINIMUM	4.3	Feb 6	0.30	Jul 10	0.30	Jul 10, 2005
ANNUAL RUNOFF (CFSM)	1.42		0.486		0.675	
ANNUAL RUNOFF (INCHES)	19.40		6.59		9.17	
10 PERCENT EXCEEDS	216		57		76	
50 PERCENT EXCEEDS	31		17		22	
90 PERCENT EXCEEDS	8.9		4.2		7.2	

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

(e) Estimated

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

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 1997; manual samples February 1987 to February 1997.

REMARKS.--Records are fair, except those corresponding to estimated daily discharges which are fair to poor (see Introduction). 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, 1,030 mg/L, May 11, 2003; minimum observed, 0 mg/L, Mar. 25, 1988.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 456 tons, May 31, 1989; minimum daily, -3.1 ton, Apr. 5, 2000.
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, -13 lb, Apr. 5, 2000.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum observed, 121 mg/L, July 28; minimum observed, 7 mg/L, Mar. 30.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 7.6 tons, Feb. 8; minimum daily, -0.31 tons, June 30.
TOTAL-PHOSPHORUS CONCENTRATIONS: Maximum observed, 0.429 mg/L, Aug. 21; minimum observed, 0.023 mg/L, Nov. 9.
TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 117 lb, Feb. 8; minimum daily, -3.3 lb, June 30.

SUSPENDED SEDIMENT DISCHARGE, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.35	2.7	1.0	0.98	1.0	2.1	3.3	1.0	0.09	1.2	0.96	0.72
2	0.46	2.4	0.98	1.5	1.0	2.2	3.0	1.0	-0.12	2.2	0.66	0.69
3	0.50	2.7	0.91	2.1	1.1	2.1	2.8	1.1	-0.07	0.93	0.23	0.68
4	0.59	2.6	0.84	1.9	1.3	2.0	2.6	0.92	0.77	0.86	0.33	0.66
5	0.66	2.3	0.90	1.7	1.6	1.9	2.0	0.74	1.7	1.1	0.49	0.51
6	0.62	2.3	0.88	1.7	2.8	2.7	1.7	0.80	2.0	0.83	0.51	0.27
7	0.57	1.9	1.2	1.9	6.4	5.2	1.6	0.83	1.8	0.53	0.48	0.22
8	0.48	1.5	1.5	2.0	7.6	5.5	1.5	0.61	0.93	0.52	0.48	0.33
9	0.62	1.2	1.6	2.0	5.4	3.7	1.4	0.48	0.72	0.50	0.54	0.31
10	0.64	1.7	2.1	2.2	4.3	2.9	1.3	0.75	1.7	0.48	0.61	0.24
11	0.52	1.6	2.6	2.1	3.5	2.4	1.2	1.2	1.8	0.17	0.60	0.47
12	0.58	1.3	2.3	2.0	2.7	2.1	0.99	0.81	1.3	0.03	0.86	0.34
13	0.63	1.3	2.1	1.8	2.4	2.1	1.0	1.4	0.86	-0.02	1.3	-0.18
14	0.60	1.3	2.0	1.7	3.3	2.1	1.1	2.9	0.50	-0.03	1.4	0.39
15	0.57	1.2	1.6	1.5	4.2	2.1	0.90	3.1	1.5	-0.13	1.3	1.0
16	0.66	1.2	1.4	1.3	3.7	2.0	0.81	2.8	1.8	-0.10	1.1	0.76
17	0.90	1.2	1.2	1.4	2.9	2.0	0.78	2.1	1.1	0.35	1.3	0.56
18	0.91	0.99	1.1	1.3	2.3	1.7	0.71	1.8	0.71	0.47	0.95	0.56
19	0.72	0.91	0.88	1.2	2.1	1.6	0.69	1.7	0.47	0.70	1.2	0.67
20	0.66	1.2	0.73	1.3	1.8	1.8	0.97	1.4	0.53	0.68	1.6	0.83
21	0.75	1.2	0.61	1.3	1.7	1.9	1.4	1.0	0.43	0.73	1.5	0.71
22	0.78	1.1	0.82	1.2	2.1	2.2	1.7	0.74	0.14	0.68	1.5	0.72
23	0.77	1.0	0.97	1.2	2.2	2.3	1.5	0.79	0.22	0.24	0.91	1.3
24	1.3	0.90	1.1	1.2	2.1	2.5	1.4	0.73	0.39	0.52	0.90	1.2
25	1.5	0.96	1.1	1.1	2.2	2.6	1.3	0.43	0.46	0.69	0.99	0.74
26	1.3	0.98	0.94	1.2	2.2	2.3	1.5	0.69	0.59	0.92	0.93	0.79
27	1.2	0.86	0.77	0.97	2.1	1.9	1.6	1.4	0.73	1.4	0.92	0.81
28	1.1	1.1	0.79	0.82	2.0	1.7	1.4	1.6	0.91	1.1	1.0	0.85
29	1.2	1.3	1.0	1.1	---	1.6	1.3	1.4	0.63	1.1	1.0	1.1
30	1.9	1.2	1.0	1.3	---	1.9	1.2	1.4	-0.31	0.74	1.0	1.1
31	2.7	---	1.0	1.1	---	2.8	---	0.80	---	0.62	0.93	---
TOTAL	26.74	44.10	37.92	46.07	78.0	73.9	44.65	38.42	24.28	20.01	28.48	19.35

WTR YR 2005 TOTAL 481.92

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

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	11	17	14	16	35	85	13	0.80	12	7.0	5.7
2	3.0	9.8	16	23	16	36	71	13	-0.98	22	5.8	5.3
3	3.3	11	15	32	18	34	60	14	-0.55	9.7	3.4	5.2
4	3.9	11	14	27	20	34	48	12	5.8	9.3	4.8	5.1
5	4.3	9.1	14	25	25	32	46	9.5	12	13	7.0	4.1
6	4.0	7.7	14	25	46	44	51	10	14	11	7.1	2.2
7	3.7	5.3	18	28	104	84	47	11	12	7.5	6.7	1.8
8	3.1	3.2	22	29	117	91	36	8.1	5.8	7.8	6.5	2.7
9	4.1	2.5	22	30	82	62	27	6.4	4.3	8.1	7.2	2.7
10	4.2	4.6	28	32	69	49	19	10	9.5	7.8	8.2	2.0
11	3.4	5.5	35	31	59	40	14	16	9.6	2.6	7.8	4.2
12	3.8	4.5	30	30	48	35	11	12	6.7	0.43	11	3.1
13	4.1	5.0	28	27	43	35	12	20	4.2	-0.22	17	-1.6
14	3.9	5.0	27	26	58	35	13	32	2.4	-0.30	18	3.6
15	3.7	5.1	22	22	73	35	11	29	7.3	-1.5	16	9.8
16	4.2	5.3	19	19	64	34	9.8	27	8.9	-1.2	13	7.3
17	5.6	5.6	17	20	49	33	8.7	22	5.8	4.4	15	5.5
18	5.5	4.8	15	19	39	27	7.5	20	4.0	6.5	11	5.7
19	4.2	4.8	13	17	35	26	7.4	22	2.8	10	14	7.0
20	3.7	7.1	10	20	30	31	11	20	3.3	11	18	7.1
21	4.1	8.3	8.8	19	29	34	16	15	2.8	13	18	4.9
22	4.2	8.5	12	18	36	39	19	12	0.95	12	16	5.0
23	4.0	9.0	15	18	37	51	18	14	1.6	3.5	9.7	9.2
24	6.7	9.2	17	18	35	69	16	14	3.3	6.0	9.2	8.7
25	7.5	11	17	18	36	81	16	9.2	4.2	7.1	9.9	5.6
26	6.0	13	14	18	36	83	17	10	6.1	11	8.9	6.1
27	5.5	13	11	15	35	75	19	16	8.5	22	8.5	6.5
28	4.8	19	11	12	32	66	17	17	11	19	9.0	7.0
29	5.3	23	15	18	---	56	15	14	7.5	16	8.9	9.6
30	7.9	20	15	20	---	59	14	13	-3.3	8.5	8.5	9.1
31	11	---	15	18	---	80	---	7.5	---	5.6	7.6	---
TOTAL	145.0	261.9	546.8	688	1,287	1,525	762.4	468.7	160.32	263.61	318.7	160.2

WTR YR 2005 TOTAL 6,587.63

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)
OCT						
31...	1200	22	50	--	.062	30
NOV						
05...	1200	-71	50	--	.080	38
09...	1200	-30	50	--	.023	27
10...	1200	61	50	--	.046	29
MAR						
23...	1032	68	50	--	.130	14
23...	1033	68	10	--	.203	15
23...	1040	68	10	--	.161	14
27...	1200	67	50	--	.213	10
30...	1200	65	50	--	.111	7
APR						
02...	1200	81	50	--	.153	13
05...	1246	41	10	--	.115	14
05...	1249	41	50	--	.104	12
05...	1255	40	50	--	.174	49
07...	1400	51	50	--	.204	44
11...	1400	46	50	--	.085	61
15...	1400	-32	50	--	.119	43
19...	1145	7.3	50	--	.108	22
19...	1146	7.3	10	--	.165	30
MAY						
09...	1200	53	50	--	.141	21
13...	1200	22	50	--	.227	31
15...	1200	52	50	--	.222	51
26...	1827	20	10	--	.313	26
26...	1829	15	50	--	.337	57
JUN						
14...	1450	-47	10	--	.117	51
22...	1200	4.3	50	--	.116	98
25...	1200	16	50	--	.132	29
28...	1200	62	50	--	.352	54
JUL						
01...	1200	51	50	--	.377	76
04...	1200	-20	50	--	.266	50
07...	1200	8.3	50	--	.272	38
10...	1200	11	50	--	.356	42
13...	1200	-32	50	--	.094	17
16...	1200	-26	50	--	.216	38
19...	1200	.00	50	--	.412	55
22...	1200	-9.0	50	--	.196	21
25...	1200	-21	50	--	.126	28
28...	0730	1.4	50	--	.340	121
AUG						
02...	1512	24	10	.006	.162	58
02...	1513	23	50	--	.163	22
21...	1200	35	50	--	.429	75
SEP						
02...	1200	5.1	50	--	.140	37
14...	1200	30	50	--	.202	44
20...	1731	9.7	50	--	.222	41
20...	1732	9.4	10	--	.162	48

434928088553601 GREEN LAKE AT COUNTY TRUNK HIGHWAY A NEAR GREEN LAKE, WI

LOCATION.--Lat 43°49'28", 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.--103 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 790.00 ft above sea level.

REMARKS.--Lake level regulated by dam at outlet at Green Lake. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded gage height, 7.64 ft, Jun 17, 2004; minimum recorded, 5.41 ft, Jan. 17, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 6.55 ft, Feb. 17, 17, 20; minimum recorded gage height, 5.52 ft, Sept. 22.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.95	5.96	6.08	6.10	6.20	6.42	6.46	6.27	6.28	6.16	6.10	5.75
2	5.95	5.99	6.07	6.18	6.20	6.40	6.47	6.26	6.26	6.12	6.09	5.71
3	5.92	5.99	6.06	6.19	6.19	6.39	6.47	6.24	6.26	6.11	6.08	5.69
4	5.87	6.02	6.07	6.19	6.19	6.37	6.47	6.24	6.25	6.12	6.08	5.67
5	5.85	6.01	6.05	6.18	6.19	6.36	6.47	6.23	6.30	6.12	6.05	5.66
6	5.83	6.00	6.07	6.21	6.21	6.36	6.46	6.23	6.32	6.10	6.03	5.66
7	5.82	6.00	6.10	6.21	6.30	6.41	6.45	6.22	6.29	6.09	6.02	5.65
8	5.84	5.98	6.13	6.21	6.36	6.44	6.44	6.23	6.28	6.09	6.01	5.65
9	5.85	5.97	6.14	6.21	6.40	6.45	6.42	6.24	6.28	6.09	6.00	5.65
10	5.83	5.98	6.19	6.21	6.42	6.45	6.41	6.26	6.30	6.08	5.98	5.64
11	5.83	5.96	6.23	6.21	6.44	6.45	6.39	6.25	6.31	6.06	5.97	5.64
12	5.83	5.97	6.28	6.22	6.43	6.44	6.36	6.22	6.31	6.05	6.00	5.63
13	5.83	5.97	6.26	6.23	6.44	6.41	6.34	6.28	6.30	6.04	5.97	5.62
14	5.82	5.97	6.22	6.23	6.50	6.40	6.33	6.31	6.32	6.03	5.96	5.63
15	5.83	5.96	6.22	6.21	6.53	6.37	6.32	6.32	6.31	6.02	5.95	5.60
16	5.86	---	6.21	6.19	6.54	6.35	6.31	6.30	6.28	6.01	5.94	5.59
17	5.81	5.97	6.19	6.19	6.54	6.34	6.31	6.30	6.25	6.01	5.91	5.58
18	5.79	5.98	6.19	6.18	6.54	6.33	6.31	6.30	6.24	6.02	5.90	5.56
19	5.79	5.99	6.17	6.18	6.52	6.35	6.31	6.32	6.23	5.96	5.90	5.58
20	5.79	6.04	6.16	6.18	6.54	6.34	6.32	6.33	6.23	5.97	5.90	5.58
21	5.79	6.04	6.19	6.18	6.53	6.33	6.32	6.33	6.22	6.02	5.88	5.57
22	5.79	6.03	6.17	6.23	6.51	6.32	6.31	6.34	6.20	6.03	5.84	5.60
23	5.85	6.04	6.15	6.22	6.50	6.31	6.30	6.32	6.19	6.04	5.81	5.60
24	5.87	6.02	6.13	6.22	6.48	6.32	6.29	6.31	6.18	6.12	5.79	5.59
25	5.87	6.02	6.11	6.22	6.47	6.32	6.28	6.31	6.17	6.10	5.78	5.60
26	5.87	6.01	6.11	6.22	6.45	6.33	6.29	6.32	6.16	6.18	5.77	5.62
27	5.88	6.04	6.10	6.21	6.43	6.33	6.30	6.31	6.17	6.16	5.80	5.61
28	5.88	6.09	6.10	6.21	6.43	6.33	6.28	6.30	6.15	6.16	5.79	5.61
29	5.91	6.07	6.09	6.21	---	6.34	6.27	6.29	6.13	6.13	5.77	5.61
30	6.01	6.08	6.09	6.20	---	6.36	6.27	6.30	6.21	6.11	5.75	5.59
31	5.98	---	6.13	6.20	---	6.44	---	6.29	---	6.11	5.74	---
MEAN	5.86	---	6.14	6.20	6.41	6.37	6.36	6.28	6.25	6.08	5.92	5.62
MAX	6.01	---	6.28	6.23	6.54	6.45	6.47	6.34	6.32	6.18	6.10	5.75
MIN	5.79	---	6.05	6.10	6.19	6.31	6.27	6.22	6.13	5.96	5.74	5.56

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

LOCATION.--Lat 43°51'27", long 88°56'47", in NE ¼ SE ¼ 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 mi^2.

PERIOD OF RECORD.--November 1996 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 777.47 ft above NGVD of 1929.

REMARKS.--Records good (see Introduction). Flow regulated by dams 1.1 mi and 180 ft upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	20	24	31	37	98	144	58	43	19	15	9.8
2	25	21	24	43	37	96	143	56	42	17	14	10
3	24	21	24	33	37	95	149	55	39	17	15	10
4	22	21	25	28	45	93	143	54	38	17	15	10
5	23	22	23	27	55	93	144	52	46	16	14	9.9
6	22	21	25	29	62	102	133	48	46	16	14	9.8
7	22	22	30	30	75	115	127	51	42	13	13	10
8	20	22	31	29	72	140	131	53	40	12	13	10
9	11	23	31	29	76	142	132	56	41	12	13	11
10	8.5	23	36	29	77	142	126	56	38	12	13	12
11	7.9	22	39	32	79	140	122	54	31	11	12	12
12	7.9	22	41	43	79	137	116	53	29	11	12	12
13	7.8	22	36	43	80	133	106	63	30	11	12	13
14	8.5	22	32	39	105	128	94	64	30	12	11	13
15	8.9	22	41	38	113	123	91	62	28	12	11	14
16	13	22	38	38	115	119	88	61	27	11	9.9	14
17	15	22	37	37	114	115	85	62	26	11	9.7	14
18	14	23	36	36	113	112	82	62	26	11	9.4	13
19	15	24	35	37	112	114	78	65	25	11	9.0	13
20	16	26	36	37	113	113	69	64	25	13	8.7	12
21	16	24	36	37	112	110	70	65	24	14	8.5	12
22	18	24	34	41	110	108	72	64	24	13	8.2	13
23	20	24	32	40	109	108	67	60	24	14	7.8	12
24	17	24	31	40	108	108	66	58	24	15	7.9	11
25	18	24	30	38	107	107	67	56	23	14	7.8	11
26	18	24	29	38	104	107	66	54	23	21	8.3	11
27	18	27	29	38	100	104	65	54	22	20	11	11
28	18	27	29	37	99	103	64	49	22	18	12	11
29	19	26	30	37	---	112	63	48	22	16	11	11
30	22	25	31	37	---	121	60	48	24	16	11	11
31	21	---	33	37	---	141	---	46	---	15	9.9	---
TOTAL	522.5	692	988	1,108	2,445	3,579	2,963	1,751	924	441	347.1	346.5
MEAN	16.9	23.1	31.9	35.7	87.3	115	98.8	56.5	30.8	14.2	11.2	11.6
MAX	26	27	41	43	115	142	149	65	46	21	15	14
MIN	7.8	20	23	27	37	93	60	46	22	11	7.8	9.8
CFSM	0.16	0.22	0.30	0.34	0.83	1.10	0.94	0.54	0.29	0.14	0.11	0.11
IN.	0.19	0.25	0.35	0.39	0.87	1.27	1.05	0.62	0.33	0.16	0.12	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	21.7	17.4	21.6	25.2	43.0	90.0	128	140	172	78.6	39.9	35.3
MAX	44.2	30.5	51.0	36.6	87.3	202	256	334	724	195	72.4	103
(WY)	(2001)	(2001)	(2002)	(1997)	(2005)	(2004)	(2001)	(2004)	(2004)	(2004)	(1999)	(2000)
MIN	6.99	6.60	10.4	11.6	15.0	21.0	28.1	56.5	30.8	14.2	11.2	11.6
(WY)	(1999)	(1999)	(1999)	(2000)	(2000)	(2003)	(2003)	(2005)	(2005)	(2005)	(2005)	(2005)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1997 - 2005	
ANNUAL TOTAL	54,590.5		16,107.1			
ANNUAL MEAN	149		44.1		68.1	
HIGHEST ANNUAL MEAN					149	2004
LOWEST ANNUAL MEAN					32.5	2003
HIGHEST DAILY MEAN	976	Jun 11	149	Apr 3	976	Jun 11, 2004
LOWEST DAILY MEAN	7.8	Oct 13	(a)7.8	Oct 13	2.8	Nov 8, 1998
ANNUAL SEVEN-DAY MINIMUM	8.6	Oct 9	8.2	Aug 20	3.3	Nov 3, 1998
MAXIMUM PEAK FLOW			205	Apr 3	1,190	Jun 11, 2004
MAXIMUM PEAK STAGE			4.87	Apr 3	6.61	Jun 11, 2004
ANNUAL RUNOFF (CFSM)	1.42		0.420		0.648	
ANNUAL RUNOFF (INCHES)	19.34		5.71		8.81	
10 PERCENT EXCEEDS	516		111		148	
50 PERCENT EXCEEDS	53		29		38	
90 PERCENT EXCEEDS	22		11		12	

(a) Also occurred Aug. 23, 25

04073500 FOX RIVER AT BERLIN, WI

LOCATION.--Lat 43°57'14", long 88°57'09", in NW $^1/_4$ 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 mi^2.

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.--Records good except those for estimated daily discharges, which are poor (see Introduction). Usually less than about 10 ft^3/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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	629	1,070	1,080	1,330	e690	1,620	2,070	1,260	844	529	781	463
2	636	1,060	1,070	1,400	e700	1,400	2,150	1,230	827	474	756	461
3	637	1,050	1,040	1,440	e710	1,380	2,210	1,190	807	478	714	434
4	642	1,050	999	1,460	e730	1,450	2,230	1,150	777	485	689	432
5	616	1,020	1,000	1,450	e750	1,340	2,250	1,120	805	479	646	428
6	636	1,030	1,010	1,300	e780	1,270	2,240	1,090	835	496	619	417
7	630	1,020	1,040	e1,000	e750	1,450	2,210	1,060	820	520	594	424
8	672	985	1,110	e970	e720	1,460	2,170	1,020	793	511	570	409
9	682	972	1,180	e970	e700	1,450	2,110	1,010	767	511	548	411
10	654	977	1,250	e950	e720	1,460	2,060	1,020	750	507	531	421
11	652	969	1,310	e950	e750	1,470	2,010	995	755	494	510	434
12	637	932	1,360	e900	e800	1,430	1,950	937	747	476	530	430
13	635	923	1,370	e850	e850	1,410	1,890	970	722	456	537	432
14	644	922	1,430	e800	e910	1,420	1,830	1,090	726	439	526	434
15	642	925	1,290	e730	e1,000	1,420	1,780	1,130	746	421	518	408
16	674	922	1,220	e700	e1,100	1,400	1,740	1,130	709	420	507	408
17	700	919	e1,200	e680	e1,400	1,380	1,700	1,130	685	418	494	405
18	678	914	e1,200	e680	e1,600	1,360	1,660	1,120	661	413	488	411
19	660	916	e1,100	e680	e1,800	1,340	1,620	1,010	645	408	498	424
20	664	947	e1,100	e690	1,980	1,310	1,610	928	639	396	496	444
21	685	979	e1,100	e690	2,090	1,310	1,570	930	621	417	483	450
22	709	990	e1,100	e690	2,170	1,310	1,530	977	589	430	468	504
23	924	993	e1,000	e690	2,230	1,340	1,490	985	567	464	462	518
24	1,090	980	e1,000	e680	2,260	1,390	1,440	965	560	507	457	525
25	1,100	947	e1,000	e680	2,320	1,450	1,390	952	552	535	467	568
26	1,070	954	e1,000	e680	2,260	1,470	1,390	947	525	691	467	565
27	1,040	980	e1,000	e690	2,050	1,510	1,370	932	520	688	508	553
28	1,030	1,030	e1,100	e690	1,860	1,590	1,350	913	510	700	501	588
29	1,060	1,060	e1,200	e690	---	1,680	1,320	888	489	732	480	596
30	1,080	1,070	1,230	e690	---	1,800	1,300	875	508	751	478	612
31	1,100	---	1,300	e690	---	1,960	---	865	---	782	467	---
TOTAL	23,908	29,506	35,389	27,490	36,680	45,030	53,640	31,819	20,501	16,028	16,790	14,009
MEAN	771	984	1,142	887	1,310	1,453	1,788	1,026	683	517	542	467
MAX	1,100	1,070	1,430	1,460	2,320	1,960	2,250	1,260	844	782	781	612
MIN	616	914	999	680	690	1,270	1,300	865	489	396	457	405
CFSM	0.58	0.73	0.85	0.66	0.98	1.08	1.33	0.77	0.51	0.39	0.40	0.35
IN.	0.66	0.82	0.98	0.76	1.02	1.25	1.49	0.88	0.57	0.44	0.47	0.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	975	1,070	899	699	772	1,747	2,199	1,479	1,237	941	799	885
MAX	3,819	2,463	1,871	1,631	1,803	4,272	4,225	3,801	4,938	4,072	2,540	3,491
(WY)	(1987)	(1986)	(1986)	(1939)	(1966)	(1973)	(1979)	(1973)	(2004)	(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)

04073500 FOX RIVER AT BERLIN, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1898 - 2005	
ANNUAL TOTAL	606,953		350,790			
ANNUAL MEAN	1,658		961		1,143	
HIGHEST ANNUAL MEAN					2,203	1993
LOWEST ANNUAL MEAN					559	1964
HIGHEST DAILY MEAN	5,670	Jun 18	2,320	Feb 25	6,900	Mar 17, 1946
LOWEST DAILY MEAN	(e)580	Jan 21	396	Jul 20	217	Jun 27, 1988
ANNUAL SEVEN-DAY MINIMUM	(a)589	Jan 26	413	Jul 15	(a)266	Jan 30, 1900
MAXIMUM PEAK FLOW			2,350	Feb 25	(b)6,900	Mar 17, 1946
MAXIMUM PEAK STAGE			11.68	Feb 25	(c)16.23	Jun 18, 2004
INSTANTANEOUS LOW FLOW			378	Jul 20	210	Jun 27, 1988
ANNUAL RUNOFF (CFSM)	1.24		0.717		0.853	
ANNUAL RUNOFF (INCHES)	16.85		9.74		11.59	
10 PERCENT EXCEEDS	3,650		1,580		2,170	
50 PERCENT EXCEEDS	1,100		914		876	
90 PERCENT EXCEEDS	653		467		502	

(a) Ice affected
(b) Gage height 15.50 ft
(c) Discharge 5,680 ft^3/s
(e) Estimated

04074538 SWAMP CREEK ABOVE RICE LAKE AT MOLE LAKE, WI

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

DRAINAGE AREA.--46.3 mi^2.

PERIOD OF RECORD.--August 1977 to September 1983. October 1984 to December 1986. July 2001 to current year.

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

GAGE.--Water-stage recorder, crest-stage gage and prior to Nov. 18, 2003, a concrete control. Datum of gage is 1,532.28 ft above NGVD of 1929 (levels by Wisconsin Department of Transportation).

REMARKS.--Records good except those for periods of ice effect and missing record, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	37	e18	e21	e20	e18	100	31	26	24	18	11
2	28	31	e19	e20	e21	e18	90	31	25	23	18	11
3	25	27	e19	e19	e21	e18	88	29	24	22	17	10
4	23	24	18	e19	e22	e18	89	28	24	23	17	11
5	23	23	17	e19	e23	e20	87	27	29	23	15	11
6	22	22	e16	e18	e23	e21	93	33	29	22	14	10
7	21	21	e15	e18	e25	e22	101	30	28	21	14	10
8	26	19	e15	e18	e27	e20	85	28	35	21	13	11
9	28	18	e15	e18	e26	e20	72	30	31	20	13	11
10	25	20	17	e17	e24	e19	65	54	30	20	16	11
11	23	24	17	e17	e21	e19	61	50	35	19	14	11
12	23	22	17	e19	e19	e19	57	40	48	19	14	10
13	22	21	e17	e21	e20	e19	52	43	50	18	13	13
14	22	20	e16	e19	e19	e17	48	48	94	18	12	15
15	22	19	e16	e18	e16	e17	45	46	93	18	11	13
16	23	19	e16	e17	e16	e18	45	41	69	18	11	12
17	23	20	e16	e18	e15	e19	47	37	48	18	11	12
18	21	21	e16	e18	e15	e20	45	35	39	18	12	11
19	21	20	e16	e17	e16	e21	46	42	34	17	15	13
20	20	27	e16	e17	e17	e22	80	45	32	17	20	14
21	20	27	e16	e16	e17	e21	77	38	30	17	19	13
22	20	23	e16	e16	e17	e19	53	38	28	16	16	14
23	26	19	e16	e16	e17	e17	47	39	27	17	14	13
24	30	16	e16	e15	e17	e15	41	35	26	19	13	12
25	27	18	e16	e15	e17	e16	36	32	26	19	12	17
26	25	17	e16	e15	e17	e16	43	31	25	30	12	24
27	36	20	e16	e17	e17	e16	42	30	24	24	18	21
28	37	24	e16	e17	e18	e21	39	29	26	22	15	22
29	64	21	e17	e18	---	36	36	28	25	24	14	30
30	64	e20	e18	e18	---	58	33	28	25	21	13	25
31	50	---	e23	e19	---	86	---	27	---	19	13	---
TOTAL	859	660	518	550	543	706	1,843	1,103	1,085	627	447	422
MEAN	27.7	22.0	16.7	17.7	19.4	22.8	61.4	35.6	36.2	20.2	14.4	14.1
MAX	64	37	23	21	27	86	101	54	94	30	20	30
MIN	19	16	15	15	15	15	33	27	24	16	11	10
CFSM	0.60	0.48	0.36	0.38	0.42	0.49	1.33	0.77	0.78	0.44	0.31	0.30
IN.	0.69	0.53	0.42	0.44	0.44	0.57	1.48	0.89	0.87	0.50	0.36	0.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	31.8	27.8	23.3	20.3	19.7	30.1	61.7	45.8	40.8	30.0	22.7	25.8
MAX	52.9	52.9	39.2	31.3	28.1	48.4	79.8	64.0	57.8	48.6	40.1	40.3
(WY)	(1987)	(1986)	(1986)	(1986)	(1986)	(1983)	(1979)	(1983)	(1981)	(1978)	(1978)	(1977)
MIN	18.5	14.5	13.5	10.5	11.8	18.3	47.3	31.0	22.6	18.2	14.3	13.2
(WY)	(2002)	(1982)	(2004)	(2004)	(2004)	(1978)	(1980)	(1980)	(1982)	(2001)	(1981)	(1981)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1977 - 2005	
ANNUAL TOTAL	11,062.6		9,363			
ANNUAL MEAN	30.2		25.7		31.6	
HIGHEST ANNUAL MEAN					38.5	1986
LOWEST ANNUAL MEAN					24.8	1982
HIGHEST DAILY MEAN	125	Jun 14	101	Apr 7	212	Jun 15, 1981
LOWEST DAILY MEAN	(a)9.2	(b)Jan 28	10	(b)Sep 3	8.3	Aug 25, 1977
ANNUAL SEVEN-DAY MINIMUM	(a)9.4	Jan 22	11	(b)Sep 1	9.2	Aug 13, 1982
MAXIMUM PEAK FLOW			106	Apr 1	228	Jun 15, 1981
MAXIMUM PEAK STAGE			2.28	Apr 1	3.82	Jun 15, 1981
INSTANTANEOUS LOW FLOW			9.2	Sep 7	6.8	Aug 25, 1977
ANNUAL RUNOFF (CFSM)	0.653		0.554		0.682	
ANNUAL RUNOFF (INCHES)	8.89		7.52		9.27	
10 PERCENT EXCEEDS	62		45		55	
50 PERCENT EXCEEDS	21		20		26	
90 PERCENT EXCEEDS	11		14		15	

04074538 SWAMP CREEK ABOVE RICE LAKE AT MOLE LAKE, WI—Continued

(a) Ice affected
(b) Also occurred additional days
(e) Estimated

04074548 SWAMP CREEK BELOW RICE LAKE AT MOLE LAKE, WI

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

DRAINAGE AREA.--56.8 mi^2.

PERIOD OF RECORD.--August 1977 to September 1979. April 1982 to June 1985. July 2001 to current year.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,529.66 ft above National Geodetic Vertical Datum of 1929 (levels by Wisconsin Department of Transportation). Prior to July 1985, water-stage recorder at same site and approximately 1.0 ft higher datum.

REMARKS.--Records fair except for periods of estimated record, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	97	19	e27	e26	e28	e140	44	36	36	33	17
2	28	77	21	e26	e27	e27	e140	43	36	36	32	15
3	30	63	e21	e25	e28	e27	132	41	35	35	30	16
4	30	54	19	e24	e28	e27	127	39	35	36	29	16
5	27	47	19	e24	e28	e29	122	37	39	36	28	16
6	26	45	e19	e24	e28	e31	124	41	43	36	26	16
7	26	43	16	e23	e32	e31	133	42	42	36	24	15
8	28	40	16	e23	e34	e31	128	39	45	34	22	15
9	33	38	16	e22	e31	e30	110	39	45	33	22	14
10	37	38	23	e22	e29	e30	95	59	41	32	24	14
11	33	48	25	e22	e26	e29	82	78	43	31	23	15
12	31	51	e25	e24	e26	e29	74	65	53	30	23	15
13	29	44	e24	e28	e28	e28	66	59	63	30	22	17
14	27	39	e23	e26	e29	e27	60	68	117	29	20	17
15	27	35	e22	e26	e26	e27	55	70	140	29	18	17
16	30	34	e22	e25	e25	e26	54	64	129	30	18	17
17	32	35	e21	e25	e25	e26	57	56	104	31	18	16
18	31	36	e21	e24	e25	e26	56	51	75	31	20	17
19	29	37	e21	e24	e26	e28	58	57	55	31	24	17
20	28	46	e21	e23	e27	e30	101	63	46	30	31	19
21	27	57	e21	e23	e27	e30	118	56	42	28	34	20
22	27	78	e21	e23	e27	e30	103	50	38	28	32	22
23	33	68	e21	e23	e27	e29	74	53	34	27	29	21
24	45	26	e21	e23	e27	e26	60	49	33	28	26	20
25	48	19	e21	e23	e28	e24	51	45	32	30	24	22
26	44	18	e21	e23	e28	e24	55	42	32	40	23	25
27	56	22	e21	e23	e28	e27	57	41	31	42	29	25
28	68	26	e21	e23	e28	e31	54	41	33	40	28	27
29	103	24	e22	e23	---	e48	51	39	34	40	25	31
30	127	23	e25	e24	---	e74	47	39	34	37	23	31
31	119	---	e29	e25	---	e110	---	37	---	34	21	---
TOTAL	1,282	1,308	658	743	774	1,020	2,584	1,547	1,565	1,026	781	565
MEAN	41.4	43.6	21.2	24.0	27.6	32.9	86.1	49.9	52.2	33.1	25.2	18.8
MAX	127	97	29	28	34	110	140	78	140	42	34	31
MIN	23	18	16	22	25	24	47	37	31	27	18	14
CFSM	0.73	0.77	0.37	0.42	0.49	0.58	1.52	0.88	0.92	0.58	0.44	0.33
IN.	0.84	0.86	0.43	0.49	0.51	0.67	1.69	1.01	1.02	0.67	0.51	0.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	48.2	41.4	35.0	31.0	31.9	44.4	87.5	64.5	52.7	40.5	36.8	39.1
MAX	70.7	53.4	45.5	38.2	50.7	66.5	120	88.2	84.7	68.8	60.5	59.2
(WY)	(2003)	(1983)	(1985)	(1983)	(1984)	(1979)	(1979)	(1979)	(1979)	(1978)	(1978)	(1977)
MIN	27.1	27.8	18.3	16.3	17.7	29.5	59.8	45.9	32.1	26.5	21.1	18.8
(WY)	(2002)	(2004)	(2004)	(2004)	(2004)	(1978)	(1984)	(2004)	(1982)	(2001)	(1982)	(2005)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1977 - 2005	
ANNUAL TOTAL	15,075		13,853			
ANNUAL MEAN	41.2		38.0		46.7	
HIGHEST ANNUAL MEAN					57.1	1979
LOWEST ANNUAL MEAN					38.0	2005
HIGHEST DAILY MEAN	166	Apr 1	(a)140	(b)Apr 1-2	209	Apr 22, 1979
LOWEST DAILY MEAN	(a)16	(b)Jan 5-28	14	Sep 9-10	14	Sep 9, 10 2005
ANNUAL SEVEN-DAY MINIMUM	(a)16	(b)Jan 5	15	Sep 6	15	Sep 6, 2005
MAXIMUM PEAK FLOW			(c)144	Jun 15	210	Apr 21, 1979
MAXIMUM PEAK STAGE			(a)3.67	Apr 2	(a)4.43	Apr 16, 2002
INSTANTANEOUS LOW FLOW			13	Sep 1	13	Sep 1, 2005
ANNUAL RUNOFF (CFSM)	0.725		0.668		0.822	
ANNUAL RUNOFF (INCHES)	9.87		9.07		11.17	
10 PERCENT EXCEEDS	79		64		77	
50 PERCENT EXCEEDS	33		29		39	
90 PERCENT EXCEEDS	16		21		25	

04074548 SWAMP CREEK BELOW RICE LAKE AT MOLE LAKE, WI—Continued

(a)Ice affected
(b)Also occurred additional days
(c)Gage height, 3.32 ft
(e)Estimated

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 mi^2.

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 1,250 ft above NGVD of 1929, from topographic map. Prior to Oct. 1, 1976, nonrecording gage 50 ft downstream at same elevation.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235	716	e330	e270	e270	e290	e860	412	379	254	186	207
2	319	655	e320	e280	e280	e290	886	397	342	223	179	198
3	310	611	e310	e280	e280	e290	970	374	285	209	171	193
4	277	585	e300	e280	e280	e290	1,040	343	286	208	172	180
5	259	557	e300	e270	e280	e290	1,070	339	301	209	179	173
6	248	481	e310	e270	e290	e290	1,080	343	320	203	170	170
7	245	427	e310	e260	e290	e300	1,070	324	330	199	165	172
8	264	395	e310	e260	e300	e300	1,040	305	369	197	159	174
9	293	358	e310	e250	e300	e300	1,000	302	375	191	171	172
10	281	359	e300	e250	e300	e300	970	346	397	186	252	168
11	270	361	e300	e250	e300	e300	919	409	378	180	208	164
12	267	364	e290	e270	e300	e300	853	423	367	176	191	172
13	271	390	e280	e280	e300	e290	801	489	378	173	179	192
14	293	434	e270	e270	e300	e290	731	527	554	169	172	226
15	293	437	e260	e260	e300	e310	622	531	633	167	163	208
16	305	431	e260	e240	e300	e310	547	509	629	164	157	194
17	280	423	e250	e240	e300	e300	534	487	608	161	154	184
18	266	405	e250	e240	e290	e290	521	468	549	162	162	178
19	259	396	e240	e240	e290	e290	482	518	485	165	222	186
20	260	421	e240	e240	e290	e300	596	557	432	164	245	204
21	265	422	e240	e240	e290	e300	708	531	384	166	249	201
22	257	403	e240	e240	e290	e300	722	501	397	163	243	205
23	320	392	e240	e240	e290	e290	730	499	377	171	224	215
24	397	392	e240	e250	e290	e300	709	475	304	171	209	206
25	385	372	e240	e260	e290	e300	639	469	281	174	200	241
26	368	362	e240	e260	e290	e330	622	413	271	214	196	296
27	488	378	e240	e270	e290	e350	592	348	266	211	207	281
28	531	e380	e240	e260	e290	e390	568	346	268	206	221	268
29	679	e360	e250	e260	---	e580	536	340	268	209	227	322
30	756	e340	e250	e260	---	e750	483	365	264	199	216	313
31	791	---	e260	e270	---	e920	---	395	---	193	212	---
TOTAL	10,732	13,007	8,420	8,010	8,160	10,730	22,901	13,085	11,477	5,837	6,061	6,263
MEAN	346	434	272	258	291	346	763	422	383	188	196	209
MAX	791	716	330	280	300	920	1,080	557	633	254	252	322
MIN	235	340	240	240	270	290	482	302	264	161	154	164
CFSM	0.75	0.94	0.59	0.56	0.63	0.75	1.65	0.91	0.83	0.41	0.42	0.45
IN.	0.86	1.05	0.68	0.64	0.66	0.86	1.84	1.05	0.92	0.47	0.49	0.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	429	434	359	307	309	460	819	610	483	361	322	391
MAX	813	788	578	548	482	1,227	1,330	1,312	1,013	874	632	813
(WY)	(1986)	(1986)	(1986)	(1969)	(1984)	(1973)	(1976)	(1973)	(1991)	(1968)	(1972)	(1968)
MIN	196	204	226	191	213	278	263	289	173	183	188	171
(WY)	(1977)	(1977)	(1977)	(1999)	(1982)	(1982)	(1990)	(1998)	(1988)	(1989)	(1989)	(1989)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1966 - 2005	
ANNUAL TOTAL	158,093		124,683			
ANNUAL MEAN	432		342		441	
HIGHEST ANNUAL MEAN					666	1973
LOWEST ANNUAL MEAN					326	1988
HIGHEST DAILY MEAN	(a)1,300	Mar 29	1,080	Apr 6	2,420	Apr 26, 1996
LOWEST DAILY MEAN	(a)200	Feb 15-16	154	Aug 17	137	Jul 7, 1988
ANNUAL SEVEN-DAY MINIMUM	(a)210	Feb 12	164	Jul 16	142	Sep 28, 1989
MAXIMUM PEAK FLOW			1,090	Apr 5	2,440	Apr 26, 1996
MAXIMUM PEAK STAGE			9.10	Apr 5	10.40	Apr 26, 1996
INSTANTANEOUS LOW FLOW			151	Aug 9, 17-18	(b)102	Dec 17, 1999
ANNUAL RUNOFF (CFSM)	0.933		0.738		0.953	
ANNUAL RUNOFF (INCHES)	12.70		10.02		12.95	
10 PERCENT EXCEEDS	876		573		750	
50 PERCENT EXCEEDS	313		290		361	
90 PERCENT EXCEEDS	230		179		238	

04074950 WOLF RIVER AT LANGLADE, WI—Continued

(a) Ice affected
(b) Result of freezeup
(e) Estimated

04075365 EVERGREEN RIVER BELOW EVERGREEN FALLS NEAR LANGLADE, WI

LOCATION.--Lat 45°03'57", long 88°40'34", in NE 1/4 SE 1/4 sec.21, T.30 N., R.15 E., Menominee County, Hydrologic Unit 04030202, on right bank 200 ft upstream from bridge on Evergreen Falls road below Evergreen Falls.

DRAINAGE AREA.--64.5 mi^2.

PERIOD OF RECORD.--December 2002 to current water year.

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

GAGE.--Water-stage recorder. Elevation of gage is 990 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	100	e62	e49	e50	e48	168	68	57	50	41	40
2	82	84	e59	e49	e52	e48	123	66	55	49	41	39
3	76	75	e58	e48	e54	e47	117	65	58	49	41	39
4	88	71	e59	e47	e56	e46	118	63	55	49	41	43
5	66	68	e62	e46	e59	e46	119	63	62	49	39	44
6	58	66	e64	e45	e61	e47	124	66	63	48	39	41
7	55	64	e67	e45	e64	e49	116	64	59	48	38	40
8	60	62	67	e46	e60	e46	102	62	93	47	38	40
9	59	60	64	e46	e57	e46	94	64	76	46	42	41
10	54	61	78	e46	e54	e46	88	65	68	46	75	40
11	52	63	83	e47	e58	e46	85	63	90	45	60	39
12	51	60	73	e48	e58	e45	80	61	83	45	49	39
13	50	59	e58	e48	e54	e45	75	78	69	45	46	45
14	53	58	e47	e47	e54	e45	72	80	85	44	44	61
15	51	59	e57	e46	e54	e46	70	73	85	44	43	53
16	52	59	e67	e45	e53	e47	70	68	68	44	42	45
17	50	61	e56	e44	e50	e46	73	64	60	44	45	43
18	51	60	e50	e44	e49	e46	72	63	57	45	50	42
19	51	59	e46	e44	e48	e46	72	87	55	44	91	45
20	55	75	e51	e44	e50	e47	104	96	54	45	67	50
21	52	73	e50	e44	e50	e46	98	76	52	47	53	46
22	51	65	e49	e44	e49	e46	81	70	50	45	47	48
23	79	62	e48	e44	e48	e46	73	67	50	45	45	47
24	101	e59	e46	e44	e48	e47	70	64	50	46	45	45
25	77	e60	e46	e46	e48	e48	69	62	50	47	45	57
26	65	e61	e46	e46	e48	e50	90	61	50	69	45	76
27	84	73	e46	e44	e48	e51	85	59	50	59	47	58
28	91	90	e47	e44	e48	e53	76	61	50	48	51	59
29	156	74	e47	e45	---	e69	72	60	50	46	47	71
30	171	e67	e48	e47	---	e110	69	61	51	45	41	56
31	135	---	e49	e48	---	185	---	59	---	44	41	---
TOTAL	2,232	2,008	1,750	1,420	1,482	1,679	2,725	2,079	1,855	1,467	1,479	1,432
MEAN	72.0	66.9	56.5	45.8	52.9	54.2	90.8	67.1	61.8	47.3	47.7	47.7
MAX	171	100	83	49	64	185	168	96	93	69	91	76
MIN	50	58	46	44	48	45	69	59	50	44	38	39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	66.1	61.6	53.8	47.2	49.9	65.1	89.1	80.7	77.1	59.8	54.9	55.1
MAX	72.0	66.9	56.6	53.1	52.9	75.2	91.6	88.8	92.8	68.9	61.4	62.4
(WY)	(2005)	(2005)	(2003)	(2003)	(2005)	(2004)	(2004)	(2003)	(2004)	(2004)	(2003)	(2003)
MIN	60.1	56.3	48.3	42.8	46.7	54.2	84.8	67.1	61.8	47.3	47.7	47.7
(WY)	(2004)	(2004)	(2004)	(2004)	(2003)	(2005)	(2003)	(2005)	(2005)	(2005)	(2005)	(2005)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2003 - 2005	
ANNUAL TOTAL	24,823		21,608			
ANNUAL MEAN	67.8		59.2		62.2	
HIGHEST ANNUAL MEAN					65.3	2004
LOWEST ANNUAL MEAN					59.2	2005
HIGHEST DAILY MEAN	258	Mar 29	185	Mar 31	258	Mar 29, 2004
LOWEST DAILY MEAN	(a)23	Jan 4	38	Aug 7, 8	(a)23	Jan 4, 2004
ANNUAL SEVEN-DAY MINIMUM	(a)38	Jan 4	40	Aug 2	(a)38	Jan 4, 2004
MAXIMUM PEAK FLOW			199	Mar 31	274	Mar 29, 2004
MAXIMUM PEAK STAGE			4.06	Mar 31	4.87	Mar 29, 2004
10 PERCENT EXCEEDS	97		82		89	
50 PERCENT EXCEEDS	60		52		56	
90 PERCENT EXCEEDS	47		44		44	

(a) Ice affected
(e) Estimated

04075365 EVERGREEN RIVER BELOW EVERGREEN FALLS NEAR LANGLADE, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--November 2002 to current year.

REMARKS.--Chemical analysis of some constituents done by the National Water-Quality Laboratory, and Wisconsin District Mercury Lab.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	UV absorbance, 254 nm, wat flt units /cm (50624)	SUVA, 254 nm, abs L/ (mgDOC* meter) (63162)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
FEB													
03...	1100	53	70	.042	2.5	749	13.8	7.7	296	-.2	38.8	19.0	1.38
APR													
18...	1400	70	70	.127	3.1	747	10.7	8.4	306	11.5	37.9	18.7	1.48
JUN													
01...	1600	57	70	.080	2.7	751	9.2	8.4	303	15.8	37.9	20.5	1.45
AUG													
11...	1510	54	70	.102	2.9	750	9.1	8.1	325	17.0	37.8	19.3	1.64

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unf by anal ysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)
FEB													
03...	2.07	158	153	184	1	3.15	8.9	<.04	.98	<.008	1.04	E.003	.006
APR													
18...	2.28	148	144	E169	E3	3.29	8.5	<.04	.79	<.008	1.10	E.004	.023
JUN													
01...	2.43	165	158	186	4	3.22	8.1	<.04	.64	<.008	.83	<.006	.012
AUG													
11...	2.43	157	138	164	2	3.31	8.4	<.04	.55	<.008	.85	.010	.025

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Organic carbon, water, fltrd, mg/L (00681)	Iron, water, fltrd, ug/L (01046)	Mercury water fltrd, ng/L (50287)	Mercury suspnd sedimnt total, ng/L (62976)	Methylmercury water fltrd, ng/L (50285)	Methylmercury suspnd sedimnt total, ng/L (62977)	Suspended sediment concentration mg/L (80154)
FEB							
03...	1.7	11	.26	.700	<.04	.037	11
APR							
18...	4.1	16	.78	.556	.04	.063	9
JUN							
01...	3.0	9	.45	.430	.06	.040	5
AUG							
11...	3.6	23	.63	.357	.22	.057	2

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 dowmstream of the confluence with the West Branch of the Red River, and 2.2 mi upstream of Smith Creek.

DRAINAGE AREA.--114 mi^2.

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

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 990 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	273	e110	e110	e94	e92	e398	139	103	75	79	71
2	96	222	e120	e110	e94	e90	e374	133	100	79	73	68
3	100	169	e120	e110	e97	e90	348	130	98	81	71	68
4	97	150	e120	e110	e100	e94	303	126	98	80	70	69
5	91	135	e120	e110	e100	e95	288	122	110	81	68	68
6	90	128	105	e110	e100	e98	286	122	116	67	67	69
7	90	123	118	e110	e110	e98	281	125	114	84	67	69
8	96	118	120	e110	e110	e95	251	122	171	82	66	73
9	101	114	119	e110	e100	e96	224	120	155	78	69	74
10	96	115	138	e110	e98	e94	201	123	141	76	87	73
11	93	117	e140	e110	e95	e92	190	131	203	76	82	71
12	91	118	e110	e110	e96	e90	174	123	205	74	79	70
13	90	108	e93	e110	e98	e90	163	148	171	74	76	80
14	89	107	e93	e100	e100	e90	155	180	189	73	73	109
15	90	111	e90	e100	e100	e90	149	169	215	69	72	95
16	97	108	e86	e100	e97	e90	145	149	186	68	70	88
17	91	112	e84	e96	e93	e91	148	137	142	70	69	82
18	92	111	e84	e93	e98	e94	148	132	115	71	73	79
19	92	110	e81	e92	e98	e97	146	163	105	75	97	81
20	92	126	e78	e90	e96	e99	230	183	102	74	104	84
21	92	135	e76	e90	e95	e99	244	163	99	77	92	e81
22	94	126	e79	e89	e93	e98	209	144	95	76	83	e87
23	115	119	e79	e85	e92	e98	173	134	90	73	79	e93
24	158	114	e79	e86	e92	e98	155	126	72	81	77	e83
25	140	98	e79	e88	e92	e96	145	119	87	e81	77	95
26	119	121	e79	e89	e92	e96	163	115	88	e98	78	127
27	132	123	e80	e88	e92	e100	179	111	87	94	80	117
28	163	152	e83	e87	e92	e130	168	112	87	86	76	111
29	239	145	e85	e89	---	e170	155	111	86	84	74	127
30	315	98	e93	e89	---	e350	145	109	86	81	73	110
31	307	---	e100	e91	---	e450	---	106	---	78	73	---
TOTAL	3,737	3,906	3,041	3,072	2,714	3,650	6,338	4,127	3,716	2,416	2,374	2,572
MEAN	121	130	98.1	99.1	96.9	118	211	133	124	77.9	76.6	85.7
MAX	315	273	140	110	110	450	398	183	215	98	104	127
MIN	89	98	76	85	92	90	145	106	72	67	66	68
CFSM	1.06	1.14	0.86	0.87	0.85	1.03	1.85	1.17	1.09	0.68	0.67	0.75
IN.	1.22	1.27	0.99	1.00	0.89	1.19	2.07	1.35	1.21	0.79	0.77	0.84

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	124	127	105	92.5	95.5	133	211	163	164	123	118	111
MAX	175	221	164	126	124	216	331	254	313	217	209	160
(WY)	(1996)	(1993)	(1993)	(1993)	(1998)	(2004)	(1996)	(1993)	(1996)	(1996)	(1995)	(1993)
MIN	79.6	84.6	73.7	63.5	65.4	97.7	111	106	97.0	77.9	76.6	72.7
(WY)	(2000)	(2000)	(1999)	(1999)	(2003)	(2001)	(2000)	(2000)	(1999)	(2005)	(2005)	(1999)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1993 - 2005	
ANNUAL TOTAL	51,317		41,663			
ANNUAL MEAN	140		114		131	
HIGHEST ANNUAL MEAN					184	1996
LOWEST ANNUAL MEAN					104	1999
HIGHEST DAILY MEAN	835	Mar 29	(a)450	Mar 31	952	Jun 18, 1996
LOWEST DAILY MEAN	(a)72	Feb 15-16	66	Aug 8	(a)56	(b)Jan 11, 1999
ANNUAL SEVEN-DAY MINIMUM	(a)73	Feb 11	68	Aug 3	(a)57	Jan 21, 2003
MAXIMUM PEAK FLOW			(c)		1,060	Jun 18, 1996
MAXIMUM PEAK STAGE			(a)7.99	Dec 23	8.88	Jun 18, 1996
INSTANTANEOUS LOW FLOW			47	Dec 13	(d)31	Dec 13, 1997
ANNUAL RUNOFF (CFSM)	1.23		1.00		1.15	
ANNUAL RUNOFF (INCHES)	16.75		13.60		15.56	
10 PERCENT EXCEEDS	237		168		204	
50 PERCENT EXCEEDS	114		98		110	
90 PERCENT EXCEEDS	79		74		79	

04077630 RED RIVER AT MORGAN ROAD NEAR MORGAN, WI—Continued

(a) Ice affected
(b) Also occurred Jan. 26, 2003
(c) Unknown
(d) Result of freezeup
(e) Estimated

04077630 RED RIVER AT MORGAN ROAD NEAR MORGAN, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: March 2004 to current year.
SUSPENDED-SOLIDS DISCHARGE: June to September 2005.

INSTRUMENTATION.--Continuous water temperature recorder since March 2004. Sensor located 15 ft stream-ward from left edge of water. Refrigerated automatic pumping sampler since April 2004.

REMARKS.--All samples are point samples unless otherwise indicated. Water quality analyses done by Pace Analytical Services, Inc. and Stockbridge/Munsee Water Laboratory.

COOPERATION.--Observer furnished by Stockbridge/Munsee Indian Tribe.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--
SUSPENDED SOLIDS, TOTAL RESIDUE AT 105°C CONCENTRATION: Maximum observed, 34 mg/L, May 2, 2004; minimum observed, 6 mg/L, April 16, May 18, 22, 2004.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 27.2°C, July 14, 17, 2005; minimum, 0.0°C, many days in 2005 water year.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 27.2°C, July 14, 17; minimum, 0.0°C, many days.
SUSPENDED SOLIDS, TOTAL RESIDUE AT 105°C CONCENTRATION: Maximum observed, 14 mg/L, July 10; minimum, 0.1 mg/L, Aug. 14.
SUSPENDED-SOLIDS DISCHARGE: Maximum, 2.66 tons/day, July 10; minimum, 0.000 tons/day, July 23-26 and Aug. 11-20.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	12.4	11.1	11.9	8.1	7.3	7.6	0.2	0.0	0.1	0.1	0.0	0.1
2	11.7	9.0	10.1	7.5	6.8	7.2	0.1	0.0	0.1	0.1	0.0	0.1
3	10.2	7.2	8.9	7.4	6.2	6.7	0.1	0.0	0.1	0.1	0.0	0.1
4	10.1	8.1	9.1	6.2	5.0	5.6	0.3	0.0	0.1	0.1	0.0	0.1
5	8.4	5.8	7.3	5.2	3.7	4.5	0.1	0.0	0.1	0.1	0.0	0.1
6	10.8	6.6	8.7	5.8	3.9	4.9	0.1	0.0	0.1	0.1	0.0	0.1
7	12.2	9.7	11.0	5.9	3.9	5.1	0.1	0.0	0.1	0.1	0.0	0.1
8	13.4	12.2	12.6	3.9	2.5	3.0	0.2	0.0	0.1	0.1	0.0	0.1
9	12.9	10.8	11.8	3.6	2.2	2.9	0.6	0.0	0.2	0.1	0.0	0.1
10	11.1	8.6	9.9	5.4	3.4	4.4	1.8	0.6	1.6	0.1	0.0	0.1
11	10.1	7.4	8.9	5.0	2.2	3.6	1.6	1.1	1.4	0.1	0.0	0.1
12	10.0	7.4	8.9	2.2	0.6	1.2	1.1	0.1	0.8	0.1	0.0	0.1
13	9.5	7.6	8.8	0.9	0.0	0.3	0.1	0.0	0.1	0.1	0.0	0.1
14	9.5	8.6	8.8	0.9	0.0	0.5	0.1	0.0	0.1	0.1	0.0	0.1
15	8.8	8.1	8.4	2.3	0.6	1.3	0.1	0.0	0.1	0.1	0.0	0.1
16	8.1	5.7	6.8	4.4	2.3	3.3	0.1	0.0	0.1	0.1	0.0	0.1
17	6.9	4.8	5.8	6.1	4.4	5.3	0.1	0.0	0.1	0.1	0.0	0.1
18	6.5	5.7	5.9	6.6	5.4	6.0	0.1	0.0	0.1	0.1	0.0	0.1
19	7.2	5.6	6.3	6.1	5.3	5.6	0.1	0.0	0.1	0.1	0.0	0.1
20	8.7	7.0	7.8	6.1	5.3	5.8	0.1	0.1	0.1	0.1	0.0	0.1
21	8.5	6.4	7.5	5.3	2.6	3.9	0.1	0.0	0.1	0.1	0.0	0.1
22	8.9	7.6	8.1	2.6	1.3	2.1	0.1	0.0	0.1	0.1	0.1	0.1
23	10.7	8.9	9.9	3.6	2.0	2.7	0.1	0.0	0.1	0.1	0.1	0.1
24	11.1	9.8	10.3	2.0	0.0	1.0	0.1	0.0	0.1	0.1	0.1	0.1
25	10.0	8.2	9.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1
26	8.5	6.8	7.1	0.2	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1
27	7.1	6.6	6.8	2.0	0.1	1.2	0.1	0.0	0.1	0.1	0.1	0.1
28	8.2	7.1	7.5	1.9	0.6	1.4	0.1	0.1	0.1	0.1	0.0	0.1
29	10.0	8.2	8.9	0.6	0.1	0.3	0.1	0.0	0.1	0.1	0.1	0.1
30	10.5	9.8	10.3	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1
31	9.8	8.1	8.6	---	---	---	0.1	0.0	0.1	0.1	0.1	0.1
MONTH	13.4	4.8	8.8	8.1	0.0	3.3	1.8	0.0	0.2	0.1	0.0	0.1

04077630 RED RIVER AT MORGAN ROAD NEAR MORGAN, WI—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	7.9	5.3	6.6
2	0.1	0.0	0.1	0.1	0.1	0.1	1.4	0.0	0.5	7.0	5.2	6.3
3	0.1	0.1	0.1	0.1	0.0	0.1	5.5	1.1	3.0	9.9	4.6	7.1
4	0.1	0.0	0.1	0.1	0.1	0.1	6.3	2.8	4.6	12.5	6.0	9.2
5	0.1	0.0	0.1	0.1	0.0	0.1	7.9	3.8	5.9	13.8	8.2	11.1
6	0.1	0.0	0.1	0.1	0.0	0.1	8.7	6.1	7.4	15.8	10.6	13.1
7	0.1	0.0	0.1	0.1	0.0	0.1	9.6	5.9	7.7	14.3	11.3	13.1
8	0.1	0.0	0.1	0.1	0.0	0.1	9.8	5.8	7.9	15.8	11.5	13.7
9	0.1	0.0	0.1	0.1	0.0	0.1	10.2	6.0	8.2	17.1	14.0	15.4
10	0.1	0.0	0.1	0.1	0.0	0.1	11.1	7.3	9.2	16.3	14.8	15.6
11	0.1	0.0	0.1	0.1	0.0	0.1	10.6	8.4	9.5	15.3	12.7	14.2
12	0.1	0.0	0.1	0.1	0.0	0.1	11.0	7.1	9.0	12.7	8.8	10.1
13	0.1	0.0	0.1	0.1	0.0	0.1	11.4	6.5	9.0	8.8	7.4	7.9
14	0.1	0.0	0.1	0.1	0.0	0.1	12.5	7.2	9.8	10.2	7.7	8.9
15	0.1	0.0	0.1	0.1	0.0	0.1	12.8	7.8	10.4	12.1	8.1	9.9
16	0.1	0.0	0.1	0.1	0.0	0.1	11.3	8.8	9.7	12.0	9.1	10.6
17	0.1	0.0	0.1	0.1	0.0	0.1	13.6	8.1	10.8	13.1	9.7	11.4
18	0.1	0.0	0.1	0.1	0.0	0.1	15.8	10.5	13.1	13.9	11.3	12.7
19	0.1	0.0	0.1	0.1	0.0	0.1	15.2	12.6	14.2	13.5	11.2	12.1
20	0.1	0.1	0.1	0.1	0.0	0.1	14.1	12.3	13.2	16.5	10.5	13.3
21	0.1	0.0	0.1	0.1	0.0	0.1	12.8	9.4	11.2	16.8	12.5	14.8
22	0.1	0.0	0.1	0.1	0.0	0.1	11.6	8.8	10.3	17.6	14.3	16.1
23	0.1	0.0	0.1	0.1	0.0	0.1	10.6	6.7	8.7	15.8	13.7	14.8
24	0.1	0.0	0.1	0.1	0.0	0.1	10.9	5.9	8.3	16.8	12.7	14.7
25	0.1	0.0	0.1	0.1	0.0	0.1	9.9	6.8	8.7	17.8	13.2	15.6
26	0.1	0.1	0.1	0.1	0.0	0.1	9.2	7.5	8.5	18.4	14.7	16.6
27	0.1	0.0	0.1	0.1	0.0	0.1	8.0	6.4	7.3	16.6	13.9	14.9
28	0.1	0.1	0.1	0.1	0.0	0.1	7.0	4.6	6.0	16.0	12.5	14.2
29	---	---	---	0.1	0.0	0.1	8.2	5.4	6.7	16.1	12.3	14.4
30	---	---	---	0.1	0.0	0.1	7.6	5.3	6.6	17.7	13.0	15.5
31	---	---	---	0.1	0.0	0.1	---	---	---	20.2	14.6	17.5
MONTH	0.1	0.0	0.1	0.1	0.0	0.1	15.8	0.0	8.2	20.2	4.6	12.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	20.0	15.6	18.1	22.1	18.6	20.1	25.8	22.0	23.9	20.3	17.4	18.9
2	21.8	16.0	18.9	21.4	16.4	18.9	26.3	22.5	24.5	19.6	16.7	18.2
3	20.1	17.0	19.1	21.0	17.7	19.5	26.1	23.4	25.0	19.2	16.2	17.9
4	19.7	17.6	18.9	22.1	19.5	20.8	26.6	23.8	25.1	20.0	17.3	18.7
5	22.2	17.7	20.0	21.7	19.1	20.6	24.3	20.8	22.7	20.3	16.9	18.7
6	22.9	18.8	20.8	20.9	18.1	19.7	23.4	19.5	21.6	20.6	18.7	19.6
7	22.8	19.1	20.9	21.8	17.6	19.8	23.8	19.6	21.7	20.0	18.8	19.4
8	21.2	18.6	20.1	23.3	18.4	20.9	24.6	20.6	22.6	18.8	17.2	17.8
9	22.4	18.8	20.8	24.2	19.4	21.9	24.7	22.5	23.4	18.7	15.5	17.3
10	23.6	19.5	21.4	25.5	20.8	23.3	24.5	21.1	22.9	20.9	17.4	19.2
11	23.1	19.2	21.0	25.6	21.8	23.9	22.8	19.9	20.8	22.5	19.5	21.0
12	23.8	20.1	21.9	25.9	21.2	23.7	21.7	19.5	20.5	21.9	19.7	21.0
13	22.9	20.2	21.6	26.4	22.0	24.4	20.9	18.7	20.0	22.4	20.1	21.2
14	21.0	19.5	20.3	27.2	22.9	25.1	21.2	17.9	19.6	21.0	17.8	19.2
15	20.5	18.0	19.2	26.7	22.3	24.7	21.3	17.5	19.5	17.8	15.2	16.5
16	21.0	16.7	18.9	26.5	22.3	24.6	21.3	17.8	19.7	17.4	14.3	16.0
17	20.9	17.0	18.9	27.2	23.1	25.2	21.6	18.7	20.3	17.5	14.7	16.3
18	20.8	16.2	18.5	25.9	23.4	24.7	20.7	19.5	20.1	18.3	15.8	17.1
19	22.0	16.2	19.2	25.2	20.9	23.1	21.7	19.3	20.5	17.5	16.0	16.9
20	23.6	18.1	21.0	23.1	20.6	21.5	22.4	19.7	21.1	18.0	14.7	16.3
21	25.2	20.2	22.7	22.6	20.2	21.2	21.1	18.5	19.5	---	---	---
22	24.4	20.0	22.4	24.5	20.4	22.3	18.7	16.5	17.6	---	---	---
23	25.2	19.6	22.5	22.8	20.7	21.3	18.0	15.4	16.9	---	---	---
24	25.4	22.0	23.9	24.5	20.2	22.2	17.4	15.3	16.6	14.7	12.6	13.8
25	23.9	20.5	21.9	---	---	---	17.6	15.7	16.7	15.1	14.6	14.8
26	21.9	19.1	20.5	---	---	---	18.6	16.6	17.7	16.3	14.3	15.2
27	25.1	19.9	22.5	21.2	17.2	19.2	21.2	17.6	19.4	15.0	12.6	14.0
28	24.8	21.9	23.5	21.0	17.2	19.2	19.9	17.9	19.1	14.3	11.9	13.0
29	23.6	21.1	22.4	21.8	18.1	20.0	20.0	17.0	18.7	12.0	10.1	11.1
30	24.7	21.0	22.7	21.8	17.7	19.8	19.3	17.7	18.6	12.8	9.9	11.4
31	---	---	---	24.2	19.7	22.0	19.8	16.3	18.1	---	---	---
MONTH	25.4	15.6	20.8	27.2	16.4	21.8	26.6	15.3	20.5	22.5	9.9	17.1
YEAR	27.2	0.0	9.4									

04077630 RED RIVER AT MORGAN ROAD NEAR MORGAN, WI—Continued

SUSPENDED SOLIDS, DRIED AT 105 DEGREES CELSIUS, WATER, UNFILTERED, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	1.04	0.59	0.19
2	---	---	---	---	---	---	---	---	---	0.89	0.45	0.18
3	---	---	---	---	---	---	---	---	---	0.78	0.41	0.18
4	---	---	---	---	---	---	---	---	---	0.68	0.45	0.19
5	---	---	---	---	---	---	---	---	---	0.81	0.50	0.18
6	---	---	---	---	---	---	---	---	---	0.86	0.55	0.19
7	---	---	---	---	---	---	---	---	---	1.37	0.54	0.19
8	---	---	---	---	---	---	---	---	---	1.70	0.57	0.20
9	---	---	---	---	---	---	---	---	---	2.11	0.69	0.23
10	---	---	---	---	---	---	---	---	---	2.66	0.24	0.32
11	---	---	---	---	---	---	---	---	---	2.60	0.000	0.42
12	---	---	---	---	---	---	---	---	---	2.25	0.000	0.50
13	---	---	---	---	---	---	---	---	---	1.94	0.000	0.65
14	---	---	---	---	---	---	---	---	---	1.65	0.000	0.88
15	---	---	---	---	---	---	---	---	---	1.35	0.000	0.81
16	---	---	---	---	---	---	---	---	1.60	1.14	0.000	0.87
17	---	---	---	---	---	---	---	---	4.62	0.94	0.000	0.88
18	---	---	---	---	---	---	---	---	3.64	0.79	0.000	0.86
19	---	---	---	---	---	---	---	---	2.24	0.81	0.000	0.68
20	---	---	---	---	---	---	---	---	1.29	0.70	0.000	0.36
21	---	---	---	---	---	---	---	---	1.34	0.52	0.030	e0.22
22	---	---	---	---	---	---	---	---	1.67	0.11	0.43	e0.23
23	---	---	---	---	---	---	---	---	1.70	0.000	0.43	e0.25
24	---	---	---	---	---	---	---	---	1.36	0.000	0.42	e0.22
25	---	---	---	---	---	---	---	---	1.74	e0.000	0.41	0.41
26	---	---	---	---	---	---	---	---	1.86	e0.000	0.42	1.48
27	---	---	---	---	---	---	---	---	1.78	0.010	0.43	1.50
28	---	---	---	---	---	---	---	---	1.67	0.26	0.41	1.35
29	---	---	---	---	---	---	---	---	1.53	0.37	0.40	1.48
30	---	---	---	---	---	---	---	---	1.41	0.47	0.34	1.21
31	---	---	---	---	---	---	---	---	---	0.56	0.24	---
TOTAL	---	---	---	---	---	---	---	---	---	29.370	8.950	17.31

e Estimated

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Residue total at 105 deg. C, suspended, mg/L (00530)
APR				
16...	1215	171	50	6
19...	1215	230	50	10
22...	1215	245	50	16
26...	1200	201	70	28
28...	1415	183	50	26
30...	1415	162	50	30
MAY				
02...	1415	147	50	34
04...	1415	142	50	9
06...	1415	136	50	24
08...	1415	160	50	14
10...	1415	199	50	7
12...	1415	174	50	7
14...	1415	214	50	23
16...	1415	188	50	15
18...	1415	154	50	6
20...	1415	154	50	8
22...	1415	144	50	6
24...	1415	310	50	18
26...	1415	234	50	18
28...	1415	186	50	15
30...	1415	172	50	13

04077630 RED RIVER AT MORGAN ROAD NEAR MORGAN, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Dis-charge, cfs (00060)	Instan-taneous dis-charge, cfs (00061)	Sam-pling method, code (82398)	Residue total at 105 deg. C, sus-pended, mg/L (00530)
JUN					
16...	1700	--	169	50	12
18...	1700	--	107	50	12
20...	1700	--	101	50	4
22...	1700	--	93	50	7
24...	1700	--	65	50	7
26...	1700	--	85	50	8
28...	1700	--	88	50	7
30...	1700	--	86	50	6
JUL					
02...	1700	--	84	50	4
04...	1700	--	80	50	3
06...	1700	--	62	50	5
08...	1700	--	81	50	8
10...	1700	--	76	50	14
12...	1700	--	75	50	11
16...	1700	--	69	50	6
18...	1200	--	72	70	4
18...	1700	--	71	50	12
20...	0300	--	74	50	4
22...	0300	--	77	50	2
24...	0300	--	72	50	.9
26...	0300	98	--	50	.9
28...	0300	--	88	50	1
30...	0300	--	82	50	2
AUG					
01...	0300	--	76	50	3
03...	0300	--	72	50	2
06...	0300	--	68	50	3
08...	0300	--	66	50	3
10...	0300	--	86	50	4
12...	0300	--	81	50	.8
14...	0300	--	74	50	.1
16...	0300	--	70	50	.4
18...	0300	--	69	50	.7
20...	0300	--	99	50	.4
22...	0300	--	85	50	2
24...	0300	--	79	50	2
26...	0300	--	79	50	2
28...	0300	--	77	50	2
30...	0300	--	72	50	2
SEP					
01...	0300	--	72	50	1
03...	0300	--	69	50	1
05...	0300	--	69	50	1
07...	0300	--	69	50	1
09...	0300	--	74	50	1
11...	0300	--	72	50	2
13...	0300	--	75	50	3
15...	0300	--	97	50	3
17...	0300	--	84	50	4
19...	0300	--	79	50	4
21...	0300	81	--	50	1

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 mi^2.

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 NGVD of 1929 (levels by Wisconsin Department of Transportation).

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Flow affected by pumping for irrigation many times during summer months. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	195	e45	e31	e27	e28	370	61	42	30	21	19
2	29	131	e45	e33	e29	e27	317	59	41	30	21	20
3	29	86	e43	e32	e29	e27	254	57	39	30	20	19
4	31	71	39	e29	e31	e28	217	55	39	30	20	19
5	31	61	e41	e28	e33	e30	204	53	40	29	19	19
6	31	56	e39	e28	e34	e31	197	52	42	30	19	19
7	30	52	40	e28	e36	e33	185	54	42	31	19	19
8	32	48	43	e27	e35	e32	161	53	44	29	19	19
9	32	46	45	e27	e32	e32	131	53	49	27	19	19
10	32	45	52	e27	e30	e30	112	58	57	25	19	19
11	31	46	64	e27	e29	e29	101	68	95	25	19	19
12	31	45	e60	e28	e30	e28	93	61	102	25	20	19
13	31	41	e54	e27	e30	e27	84	71	97	24	21	20
14	31	39	e48	e28	e30	e27	76	101	117	23	21	20
15	30	41	e44	e28	e31	e27	71	93	104	23	21	20
16	32	41	e40	e28	e31	e27	67	79	73	22	21	20
17	32	42	e36	e27	e30	e28	68	69	57	22	26	21
18	31	42	e31	e27	e31	e28	69	63	50	21	31	21
19	31	42	e29	e25	e31	e31	69	75	45	21	25	24
20	32	51	e27	e26	e31	e32	127	93	42	21	22	29
21	32	58	e26	e25	e30	e33	160	82	40	21	21	28
22	31	54	e25	e25	e30	e33	137	71	38	20	21	29
23	41	49	e25	e24	e29	e31	96	65	37	21	20	29
24	56	46	e25	e24	e29	e31	79	59	37	21	20	29
25	54	38	e25	e24	e29	e30	70	54	37	21	21	31
26	45	42	e25	e24	e28	e30	74	51	37	21	21	38
27	51	46	e25	e25	e29	e34	82	48	36	20	21	48
28	74	62	e26	e25	e28	e48	75	47	35	22	20	42
29	122	64	e26	e25	---	e95	68	47	29	23	20	40
30	181	e47	e27	e25	---	255	64	46	28	23	20	39
31	212	---	e29	e25	---	385	---	44	---	22	20	---
TOTAL	1,517	1,727	1,149	832	852	1,587	3,878	1,942	1,571	753	648	757
MEAN	48.9	57.6	37.1	26.8	30.4	51.2	129	62.6	52.4	24.3	20.9	25.2
MAX	212	195	64	33	36	385	370	101	117	31	31	48
MIN	29	38	25	24	27	27	64	44	28	20	19	19
CFSM	0.64	0.75	0.49	0.35	0.40	0.67	1.69	0.82	0.69	0.32	0.27	0.33
IN.	0.74	0.84	0.56	0.41	0.42	0.77	1.89	0.95	0.77	0.37	0.32	0.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	51.7	52.8	36.2	27.4	30.4	68.3	139	93.1	91.3	47.6	43.6	47.4
MAX	107	128	73.3	45.7	44.1	124	241	167	222	96.3	100	97.9
(WY)	(2003)	(1993)	(1993)	(1996)	(1998)	(2004)	(1996)	(1993)	(1993)	(1996)	(1995)	(1992)
MIN	23.2	27.2	13.5	15.4	17.3	35.9	40.4	46.7	31.6	21.9	20.9	23.4
(WY)	(1990)	(1990)	(1990)	(2000)	(2003)	(2001)	(1990)	(1998)	(1995)	(1995)	(2005)	(1999)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1990 - 2005	
ANNUAL TOTAL	25,137		17,213			
ANNUAL MEAN	68.7		47.2		60.7	
HIGHEST ANNUAL MEAN					100	1993
LOWEST ANNUAL MEAN					43.0	1999
HIGHEST DAILY MEAN	773	Mar 29	385	Mar 31	773	Mar 29, 2004
LOWEST DAILY MEAN	(a)18	Feb 16	19	(b)Aug 5	(a)11	Dec 22, 23 1989
ANNUAL SEVEN-DAY MINIMUM	(a)19	(b)Feb 11	19	(b)Aug 5	(a)12	Dec 17, 1989
MAXIMUM PEAK FLOW			436	Mar 31	905	Jun 19, 1996
MAXIMUM PEAK STAGE			3.53	Mar 31	(c)5.20	Mar 29, 2004
ANNUAL RUNOFF (CFSM)	0.900		0.618		0.795	
ANNUAL RUNOFF (INCHES)	12.26		8.39		10.81	
10 PERCENT EXCEEDS	155		80		120	
50 PERCENT EXCEEDS	37		31		40	
90 PERCENT EXCEEDS	22		21		21	

0407809265 MIDDLE BRANCH EMBARRASS RIVER NEAR WITTENBERG, WI—Continued

(a) Ice affected
(b) Also occurred additional days
(c) Recorded gage height 5.20 ft, result of drawdown; outside crest-gage peak 5.40 ft
(e) Estimated

0407809265 MIDDLE BRANCH EMBARRASS RIVER NEAR WITTENBERG, WI—Continued

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, 31.0°C, Aug. 7, 8, 2001; minimum, 0.0°C, on many days during winter.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 30.3°C, July 16; minimum, 0.0°C, many days in winter.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.6	11.1	13.0	8.4	7.3	7.9	1.6	0.0	0.7	0.0	0.0	0.0
2	12.4	9.1	10.7	7.8	6.3	7.2	1.6	0.0	0.5	0.6	0.0	0.0
3	12.8	8.6	10.7	7.8	5.8	6.6	0.8	0.0	0.1	0.6	0.0	0.0
4	11.3	7.9	9.6	7.3	4.9	6.1	2.2	0.0	1.0	0.6	0.0	0.0
5	10.8	6.4	8.7	6.1	4.2	5.1	1.2	0.0	0.4	0.0	0.0	0.0
6	12.8	8.0	10.3	6.3	4.1	5.3	1.2	0.0	0.6	0.2	0.0	0.0
7	13.0	9.4	11.3	6.0	3.6	5.0	1.6	1.2	1.3	0.6	0.0	0.1
8	14.0	11.5	12.5	4.9	3.1	3.7	1.8	0.6	1.1	0.2	0.0	0.0
9	13.5	10.6	11.9	4.8	3.1	3.9	1.9	1.1	1.5	0.0	0.0	0.0
10	13.0	8.9	10.9	5.5	4.0	4.8	1.7	1.0	1.4	0.4	0.0	0.0
11	12.6	8.1	10.3	4.5	2.3	3.4	2.0	1.2	1.5	0.2	0.0	0.0
12	12.3	7.8	10.1	4.0	1.8	2.7	2.0	0.0	1.2	0.0	0.0	0.0
13	11.9	7.8	9.9	4.1	1.5	2.6	1.1	0.0	0.1	0.2	0.0	0.0
14	10.4	9.2	9.7	4.1	1.4	2.6	0.5	0.0	0.1	0.5	0.0	0.0
15	9.7	8.5	9.1	3.9	2.1	2.9	0.7	0.0	0.1	0.5	0.0	0.0
16	8.5	5.6	7.0	4.2	3.1	3.6	0.7	0.0	0.1	0.7	0.0	0.1
17	7.7	4.9	6.2	5.0	3.3	4.0	0.7	0.0	0.1	0.5	0.0	0.1
18	6.9	5.7	6.3	5.8	3.3	4.5	0.0	0.0	0.0	0.5	0.0	0.0
19	8.0	5.9	6.7	5.6	4.7	5.1	0.4	0.0	0.1	0.0	0.0	0.0
20	9.1	6.2	7.4	6.1	4.9	5.6	0.0	0.0	0.0	0.0	0.0	0.0
21	9.3	5.4	7.2	5.2	3.2	4.3	0.0	0.0	0.0	0.7	0.0	0.0
22	9.0	7.5	8.4	4.4	2.6	3.5	0.4	0.0	0.1	0.5	0.0	0.0
23	10.9	8.9	9.8	4.7	1.9	3.5	0.6	0.0	0.1	0.9	0.0	0.1
24	11.3	9.1	9.9	2.9	1.3	1.9	0.6	0.0	0.0	0.8	0.0	0.1
25	11.4	8.5	9.7	2.7	0.5	1.5	0.0	0.0	0.0	0.8	0.0	0.1
26	8.8	7.9	8.3	2.9	1.6	2.2	0.8	0.0	0.1	0.7	0.0	0.1
27	7.9	7.4	7.7	2.7	1.5	2.2	0.2	0.0	0.0	0.9	0.0	0.1
28	7.9	7.2	7.6	2.1	0.9	1.4	0.6	0.0	0.1	0.7	0.0	0.1
29	9.3	7.9	8.5	2.2	0.1	1.1	0.0	0.0	0.0	0.8	0.0	0.0
30	10.6	9.3	10	1.5	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0
31	9.9	8.4	9.2	---	---	---	0.4	0.0	0.0	0.0	0.0	0.0
MONTH	14.6	4.9	9.3	8.4	0.0	3.8	2.2	0.0	0.4	0.9	0.0	0.0

0407809265 MIDDLE BRANCH EMBARRASS RIVER NEAR WITTENBERG, WI—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	0.2	0.0	0.0	0.3	0.0	0.0	1.4	0.0	0.6	9.1	5.6	7.0
2	0.5	0.0	0.0	0.5	0.0	0.1	2.0	0.0	1.1	7.9	5.6	6.5
3	0.6	0.0	0.0	0.7	0.0	0.1	3.0	1.3	2.1	11.4	4.8	7.6
4	0.7	0.0	0.1	0.1	0.0	0.0	4.4	2.6	3.4	13.7	5.7	9.2
5	0.7	0.0	0.1	0.6	0.0	0.1	5.7	3.5	4.5	15.3	7.5	10.9
6	0.3	0.0	0.0	0.5	0.0	0.1	6.7	4.8	5.7	17.1	10.5	13.4
7	0.1	0.0	0.0	0.4	0.0	0.0	8.2	5.3	6.6	16.0	11.4	13.6
8	0.6	0.0	0.0	0.4	0.0	0.1	8.6	6.0	7.2	17.2	12.6	14.6
9	0.1	0.0	0.0	0.4	0.0	0.1	9.7	6.8	8.2	17.4	14.0	15.3
10	0.5	0.0	0.1	0.0	0.0	0.0	10.6	7.8	9.1	16.8	14.9	15.7
11	0.5	0.0	0.1	0.3	0.0	0.0	11.0	8.8	9.6	16.3	12.2	14.7
12	0.6	0.0	0.1	0.4	0.0	0.1	11.2	8.1	9.3	13.2	9.8	11.4
13	0.1	0.0	0.0	0.6	0.0	0.1	12.0	7.5	9.3	9.8	8.8	9.1
14	0.3	0.0	0.0	0.6	0.0	0.1	13.1	7.7	9.9	9.8	8.2	9.0
15	0.3	0.0	0.0	0.5	0.0	0.1	13.7	8.0	10.5	10.5	8.0	9.2
16	0.6	0.0	0.1	0.3	0.0	0.0	11.4	9.4	10.5	12.2	8.9	10.3
17	0.3	0.0	0.0	0.7	0.0	0.1	14.2	8.9	11.0	13.9	9.5	11.4
18	0.5	0.0	0.1	0.0	0.0	0.0	15.8	9.8	12.4	14.8	11.7	12.9
19	0.5	0.0	0.1	0.3	0.0	0.0	16.0	12.3	14.0	13.0	12.0	12.7
20	0.0	0.0	0.0	0.5	0.0	0.1	14.8	12.3	13.8	15.4	11.3	13.1
21	0.5	0.0	0.0	0.7	0.0	0.1	12.6	10.6	11.5	16.8	12.5	14.5
22	0.5	0.0	0.1	0.6	0.0	0.1	12.0	9.2	10.8	18.4	14.6	16.2
23	0.6	0.0	0.1	0.5	0.0	0.1	11.1	7.4	8.9	16.9	14.5	15.7
24	0.6	0.0	0.1	0.5	0.0	0.1	11.2	6.6	8.3	18.0	13.3	15.4
25	0.5	0.0	0.0	0.6	0.0	0.1	11.3	6.9	8.9	18.8	13.2	15.7
26	0.6	0.0	0.1	0.7	0.0	0.1	10.3	7.9	8.9	20.2	14.6	17.0
27	0.1	0.0	0.0	0.7	0.0	0.1	8.7	6.2	7.7	18.0	14.6	16.1
28	0.0	0.0	0.0	0.7	0.0	0.1	8.3	5.5	6.7	18.1	13.4	15.4
29	---	---	---	1.1	0.0	0.4	8.8	5.5	6.9	18.5	13.1	15.4
30	---	---	---	1.7	0.1	0.7	8.7	5.2	6.9	20.9	13.1	16.6
31	---	---	---	1.0	0.0	0.5	---	---	---	22.1	14.3	17.8
MONTH	0.7	0.0	0.0	1.7	0.0	0.1	16.0	0.0	8.1	22.1	4.8	13.0
	JUNE			JULY			AUGUST			SEPTEMBER		
1	22.9	15.3	18.6	22.7	19.3	20.7	28.2	21.2	24.5	22.5	17.6	19.8
2	24.2	16.8	19.9	24.9	16.7	20.5	29.1	21.5	25.2	22.2	17.0	19.4
3	23.3	17.0	19.9	23.2	17.3	20.3	28.5	22.9	25.7	22.1	15.8	19.1
4	22.0	18.7	20.1	24.5	19.8	22.0	28.8	23.9	25.8	22.6	17.6	19.9
5	24.6	18.9	21.2	23.5	19.0	21.0	27.6	20.6	23.9	23.7	17.1	20.3
6	25.1	19.1	21.7	23.1	18.8	20.8	27.2	19.3	23.1	23.4	18.8	20.9
7	24.8	19.6	21.9	25.5	18.0	21.4	27.4	19.2	23.2	21.8	19.0	20.3
8	24.2	19.7	21.7	26.3	18.4	22.1	27.9	20.4	23.9	19.7	17.4	18.7
9	24.6	20.1	22.1	27.1	19.3	22.9	27.5	22.3	24.3	21.6	15.8	18.7
10	26.1	19.0	21.6	28.5	20.6	24.3	27.9	21.9	24.3	23.7	17.8	20.6
11	23.5	20.1	21.3	28.3	21.1	24.7	22.9	20.8	21.6	24.4	18.9	21.6
12	24.1	20.7	22.1	29.4	20.9	25.0	23.6	20.5	21.9	24.0	19.5	21.7
13	23.3	20.8	21.5	30.0	22.1	25.8	23.3	19.1	21.1	24.4	20.5	21.9
14	21.6	20.3	20.9	30.2	23.0	26.2	24.7	17.6	20.8	22.0	17.9	19.9
15	20.6	18.4	19.6	30.2	22.1	25.9	24.5	16.7	20.4	19.8	15.3	17.6
16	21.9	17.1	19.1	30.3	22.3	26.0	24.8	17.1	20.8	20.3	14.3	17.2
17	22.3	16.9	19.1	29.6	23.1	26.3	24.2	18.6	21.4	20.1	14.5	17.5
18	22.7	16.1	18.9	28.2	23.9	25.5	22.8	20.9	21.6	20.6	16.0	18.2
19	24.3	16.3	19.8	28.1	21.6	24.5	24.2	20.8	22.1	19.1	16.6	17.5
20	25.6	17.6	21.1	25.0	20.5	22.6	25.4	20.2	22.3	20.4	15.8	18.0
21	27.1	19.7	22.8	25.4	20.7	22.8	23.2	18.5	20.6	21.3	16.4	18.6
22	26.8	19.5	22.7	27.3	20.4	23.6	21.7	17.4	19.1	19.7	16.3	18.4
23	28.2	20.1	23.7	23.6	20.7	22.0	21.7	15.3	18.4	18.4	14.3	16.1
24	27.0	21.7	24.2	27.5	21.5	24.1	20.5	14.9	17.7	16.6	14.0	15.4
25	23.7	21.7	22.8	25.0	21.1	22.9	20.4	15.9	17.9	16.2	15.5	15.8
26	24.4	20.4	22.1	23.1	19.8	21.7	20.5	16.8	18.7	17.2	14.6	15.8
27	27.2	20.8	23.7	24.5	17.7	20.8	23.2	17.6	20.1	16.8	13.8	15.1
28	26.7	21.1	23.8	24.4	16.9	20.4	22.2	16.8	19.6	14.7	12.7	14.1
29	26.0	21.3	23.4	24.8	18.0	21.1	23.3	17.5	20.2	13.7	11.0	12.4
30	27.0	21.3	23.5	25.1	17.7	21.2	21.0	17.4	19.3	14.4	10.9	12.4
31	---	---	---	27.0	19.6	23.1	22.8	16.2	19.3	---	---	---
MONTH	28.2	15.3	21.5	30.3	16.7	23.0	29.1	14.9	21.6	24.4	10.9	18.1
YEAR	30.3	0.0	10.0									

04078500 EMBARRASS RIVER NEAR EMBARRASS, WI

LOCATION.--Lat 44°43'29", long 88°44'10", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ 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 mi^2.

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 and crest-stage gage. Datum of gage is 803.95 ft above NGVD of 1929. 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.--Records good except those for estimated daily discharges, which are poor (see Introduction). Slight diurnal fluctuation caused by powerplants above station. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	658	e210	e160	e137	e152	e1,720	280	189	126	94	86
2	133	534	e210	e163	e146	e151	e1,510	275	176	121	89	80
3	136	423	e190	e163	e153	e146	e1,270	262	163	118	84	77
4	136	325	201	e153	e160	e146	e1,120	249	154	118	81	76
5	134	288	197	e150	e168	e156	e1,050	237	174	116	76	76
6	129	259	192	e150	e176	e163	e1,020	228	199	110	74	76
7	128	239	197	e150	e184	e167	e979	224	195	121	73	78
8	130	222	221	e142	e179	e167	859	224	200	121	71	81
9	129	209	236	e141	e179	e164	747	223	242	115	74	83
10	137	210	271	e144	e176	e160	639	228	240	109	82	87
11	132	200	376	e146	e170	e155	517	233	335	105	101	85
12	130	199	392	e146	e173	e150	482	248	670	101	113	82
13	127	192	e260	e146	e176	e142	430	276	545	98	105	89
14	125	183	e210	e146	e173	e142	363	423	942	96	101	101
15	124	178	e210	e146	e180	e142	342	457	1,050	94	94	133
16	123	178	e200	e146	e178	e142	321	391	694	91	87	124
17	127	190	e190	e145	e175	e146	309	320	449	89	84	102
18	125	187	e180	e139	e175	e146	308	291	292	86	95	94
19	126	189	e160	e139	e170	e151	298	352	256	83	130	91
20	126	218	e140	e134	e170	e158	572	491	223	84	133	89
21	127	265	e130	e132	e170	e158	984	473	197	86	130	92
22	128	271	e130	e132	e170	e153	895	374	179	89	123	110
23	151	250	e130	e130	e170	e149	647	330	162	90	108	121
24	194	229	e130	e128	e166	e163	461	302	151	92	100	126
25	252	205	e130	e128	e160	e167	353	269	142	96	96	124
26	225	192	e130	e128	e158	e170	368	237	139	119	97	149
27	207	212	e130	e128	e158	e191	437	222	140	134	107	196
28	221	285	e130	e132	e156	337	400	211	139	124	104	202
29	416	341	e130	e134	---	588	346	215	136	109	97	201
30	642	278	e140	e134	---	1,090	314	220	135	102	91	231
31	699	---	e151	e134	---	e1,440	---	204	---	98	88	---
TOTAL	5,838	7,809	5,904	4,389	4,706	7,652	20,061	8,969	8,908	3,241	2,982	3,342
MEAN	188	260	190	142	168	247	669	289	297	105	96.2	111
MAX	699	658	392	163	184	1,440	1,720	491	1,050	134	133	231
MIN	119	178	130	128	137	142	298	204	135	83	71	76
CFSM	0.49	0.68	0.50	0.37	0.44	0.64	1.74	0.75	0.77	0.27	0.25	0.29
IN.	0.57	0.76	0.57	0.43	0.46	0.74	1.94	0.87	0.86	0.31	0.29	0.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	261	283	205	161	157	388	749	439	361	219	186	243
MAX	1,323	932	1,088	664	517	1,386	1,892	1,324	1,105	826	579	1,520
(WY)	(1987)	(1986)	(1986)	(1987)	(1986)	(1973)	(1922)	(1973)	(1943)	(1978)	(1928)	(1986)
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)

04078500 EMBARRASS RIVER NEAR EMBARRASS, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1919 - 2005	
ANNUAL TOTAL	117,094		83,801			
ANNUAL MEAN	320		230		304	
HIGHEST ANNUAL MEAN					930	1987
LOWEST ANNUAL MEAN					126	1931
HIGHEST DAILY MEAN	3,740	Mar 30	(a)1,720	Apr 1	6,280	Apr 10, 1922
LOWEST DAILY MEAN	(b)96	Jan 27	71	Aug 8	24	Aug 3, 1931
ANNUAL SEVEN-DAY MINIMUM	(b)98	Jan 25	76	Aug 4	27	Aug 2, 1931
MAXIMUM PEAK FLOW			(c)		(d)7,080	Apr 12, 1965
MAXIMUM PEAK STAGE			(c)		(d)12.13	Apr 12, 1965
ANNUAL RUNOFF (CFSM)	0.833		0.598		0.791	
ANNUAL RUNOFF (INCHES)	11.34		8.12		10.75	
10 PERCENT EXCEEDS	650		423		647	
50 PERCENT EXCEEDS	179		158		190	
90 PERCENT EXCEEDS	117		92		96	

(a) Estimated due to missing record
(b) Ice affected
(c) Unknown
(d) Affected by failure of dam near Pella, 9.2 mi above station
(e) Estimated

04079000 WOLF RIVER AT NEW LONDON, WI

LOCATION.--Lat 44°23'32", long 88°44'25", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ 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 mi^2.

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 NGVD of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 4, 1951, nonrecording gage.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	719	1,790	1,490	e796	e803	e1,070	4,380	2,610	1,440	1,020	683	709
2	737	1,910	1,410	e834	e803	e1,050	5,110	2,500	1,380	953	606	696
3	742	1,960	1,370	e857	e841	e1,040	5,760	2,380	1,310	911	587	670
4	753	2,010	1,340	e881	e865	e1,040	6,190	2,230	1,240	931	583	607
5	746	2,040	1,280	e906	e881	e1,040	6,260	2,060	1,230	921	544	580
6	752	2,000	1,370	e906	e906	e1,050	6,080	1,900	1,230	922	519	565
7	750	1,960	1,350	e898	e949	e1,070	5,810	1,760	1,240	900	492	563
8	767	1,910	1,370	e898	e994	e1,100	5,530	1,650	1,210	864	486	595
9	765	1,820	1,410	e889	e1,070	e1,110	5,270	1,610	1,190	854	492	669
10	751	1,710	1,540	e881	e1,170	e1,110	5,000	1,730	1,260	834	491	648
11	753	1,570	1,750	e881	e1,190	e1,110	4,770	1,780	1,410	798	496	651
12	766	1,430	e1,810	e881	e1,200	e1,110	4,550	1,770	1,590	748	550	646
13	773	1,330	e1,830	e881	e1,180	e1,080	4,320	1,780	1,750	710	628	621
14	771	1,280	e1,670	e873	e1,180	e1,050	4,070	1,890	1,910	691	671	669
15	772	1,240	e1,480	e841	e1,200	e1,040	3,810	2,000	2,010	678	621	839
16	773	1,210	e1,380	e803	e1,190	e1,040	3,560	2,050	2,100	669	594	860
17	752	1,180	e1,280	e781	e1,140	e1,050	3,330	2,070	2,160	656	560	870
18	741	1,170	e1,180	e760	e1,130	e1,050	3,130	2,040	2,210	647	560	874
19	764	1,170	e1,090	e732	e1,110	e1,060	2,970	2,050	2,240	608	631	828
20	774	1,240	e1,000	e719	e1,110	e1,070	3,000	2,110	2,210	593	912	805
21	777	1,310	e899	e732	e1,090	e1,090	3,050	2,190	2,110	589	1,190	784
22	782	1,380	e820	e739	e1,090	e1,120	3,110	2,220	1,990	581	1,120	789
23	831	1,440	e798	e739	e1,090	e1,150	3,130	2,230	1,850	582	975	731
24	880	1,450	e761	e739	e1,060	e1,220	3,110	2,180	1,660	614	917	765
25	927	1,420	e753	e739	e1,060	e1,330	3,060	2,130	1,460	599	854	844
26	967	1,360	e732	e760	e1,070	e1,490	3,040	2,050	1,320	647	826	900
27	1,050	1,340	e732	e767	e1,070	e1,760	3,000	1,930	1,230	685	841	928
28	1,140	1,410	e739	e767	e1,070	e2,150	2,920	1,770	1,150	736	850	966
29	1,250	1,440	e739	e774	---	e2,650	2,820	1,650	1,090	772	837	1,030
30	1,450	1,510	e739	e774	---	e3,210	2,720	1,560	1,080	752	774	1,080
31	1,640	---	e767	e796	---	3,760	---	1,500	---	726	745	---
TOTAL	26,815	45,990	36,879	25,224	29,512	42,270	122,860	61,380	47,260	23,191	21,635	22,782
MEAN	865	1,533	1,190	814	1,054	1,364	4,095	1,980	1,575	748	698	759
MAX	1,640	2,040	1,830	906	1,200	3,760	6,260	2,610	2,240	1,020	1,190	1,080
MIN	719	1,170	732	719	803	1,040	2,720	1,500	1,080	581	486	563
CFSM	0.38	0.68	0.53	0.36	0.47	0.60	1.81	0.88	0.70	0.33	0.31	0.34
IN.	0.44	0.76	0.61	0.42	0.49	0.70	2.02	1.01	0.78	0.38	0.36	0.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1896 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1,467	1,608	1,222	948	929	2,123	3,945	2,779	2,181	1,472	1,139	1,320
MAX	4,761	4,738	3,258	2,149	2,003	7,566	9,169	7,452	5,764	5,005	4,485	4,544
(WY)	(1987)	(1986)	(1912)	(1960)	(1984)	(1973)	(1922)	(1960)	(1993)	(1993)	(1912)	(1938)
MIN	533	617	429	301	388	486	1,157	901	595	427	443	429
(WY)	(1949)	(1934)	(1899)	(1911)	(1900)	(1896)	(1931)	(1931)	(1988)	(1910)	(1933)	(1933)

04079000 WOLF RIVER AT NEW LONDON, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1896 - 2005	
ANNUAL TOTAL	733,030		505,798			
ANNUAL MEAN	2,003		1,386		1,767	
HIGHEST ANNUAL MEAN					3,200	1973
LOWEST ANNUAL MEAN					866	1931
HIGHEST DAILY MEAN	8,800	Apr 3	6,260	Apr 5	15,500	Apr 13, 1922
LOWEST DAILY MEAN	(a)670	Feb 16-17	486	Aug 8	216	Aug 27, 1931
ANNUAL SEVEN-DAY MINIMUM	(a)677	Feb 16	503	Aug 5	337	Sep 3, 1933
MAXIMUM PEAK FLOW			6,290	Apr 4	(b)15,500	Apr 13, 1922
MAXIMUM PEAK STAGE			8.58	Apr 4	(c)11.83	Apr 3, 1979
ANNUAL RUNOFF (CFSM)	0.886		0.613		0.780	
ANNUAL RUNOFF (INCHES)	12.07		8.33		10.62	
10 PERCENT EXCEEDS	4,170		2,300		3,500	
50 PERCENT EXCEEDS	1,340		1,070		1,280	
90 PERCENT EXCEEDS	745		664		710	

(a) Ice affected
(b) Gage-height, 11.4 ft
(c) Backwater from ice
(e) Estimated

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 mi^2.

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

GAGE.--Water-stage recorder and an acoustical velocity meter (AVM) system. Single-path transducer installation.

REMARKS.--Records fair, except those for estimated daily discharges and days with negative mean daily flow, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,230	1,580	5,510	e2,020	1,880	2,880	e6,050	4,880	e1,220	291	e3,120	3,880
2	3,250	5,950	2,880	2,770	1,850	1,970	e6,620	5,040	982	-623	e2,340	223
3	639	2,600	1,460	2,740	2,010	2,090	6,870	2,330	2,160	e1,150	e1,520	e-1,030
4	2,500	7,650	3,190	2,790	1,840	2,210	5,790	2,220	e809	e2,700	e4,370	-672
5	311	1,730	525	3,020	1,910	2,390	7,920	2,180	e3,930	-248	e-573	2,000
6	1,560	2,870	3,920	2,620	2,310	2,350	7,880	4,250	3,890	1,560	e1,500	1,800
7	-89	5,790	5,220	2,440	2,930	3,860	8,090	2,010	e-273	e748	e807	e1,360
8	4,710	2,840	1,270	2,560	2,810	2,690	7,430	3,310	1,980	1,690	e1,040	298
9	843	509	3,340	2,580	2,980	3,050	6,730	2,090	e2,140	e1,430	e2,410	e-205
10	-360	5,900	3,410	2,620	2,900	2,750	7,030	5,360	e187	e1,180	e1,760	e1,070
11	1,280	2,580	5,890	2,520	3,240	3,130	5,290	-1,220	1,340	985	e-1,440	e2,470
12	1,720	3,170	10,700	2,480	2,760	2,810	6,630	2,180	3,020	e925	e4,040	e485
13	2,200	2,980	3,420	3,540	1,730	2,090	8,420	4,950	1,040	e1,820	e583	e2,650
14	2,080	2,680	-1,220	e3,300	4,060	2,380	7,390	6,580	4,360	e312	e603	1,400
15	4,430	2,700	2,240	e2,800	3,510	2,710	6,170	3,860	2,920	e1,200	e1,540	-144
16	8,140	2,820	3,340	e2,400	3,130	2,630	6,950	e-229	2,130	e469	e1,820	1,540
17	-2,940	3,010	2,760	e2,200	2,890	2,120	5,360	3,050	e564	e918	-552	e-87
18	-4,340	2,660	3,590	e2,000	2,300	1,710	5,790	1,510	e2,830	3,920	201	2,270
19	2,830	952	2,880	e1,900	2,540	3,400	5,390	2,530	e2,320	-2,470	e2,820	e1,780
20	3,000	7,090	2,540	1,810	2,430	2,880	5,020	5,230	e4,000	e2,190	e2,690	e1,300
21	-555	753	2,640	1,700	3,060	2,230	5,230	3,470	e1,120	1,490	2,230	627
22	-223	1,440	2,420	2,120	2,590	2,110	5,650	4,920	2,230	e-160	e100	1,840
23	5,040	5,260	2,360	1,520	2,300	2,720	8,080	1,290	e3,310	1,010	e203	-818
24	2,850	1,490	e1,900	1,880	2,490	2,990	6,840	2,690	2,920	e3,310	e128	2,140
25	3,460	3,030	e2,480	1,830	2,740	e2,760	3,220	1,090	353	e-332	1,400	1,400
26	524	1,270	2,370	1,910	2,360	3,140	4,830	5,580	1,830	e3,960	3,050	3,060
27	4,660	5,680	2,150	1,770	2,520	3,150	6,320	2,860	1,820	e832	e1,800	397
28	1,530	3,180	2,330	1,800	3,140	3,660	3,310	3,260	2,650	e2,210	1,240	4,250
29	4,690	2,260	2,250	1,920	---	3,180	4,070	704	e-1,400	e-200	e1,400	-52
30	7,080	2,850	2,000	1,840	---	e5,070	5,250	2,170	6,510	e1,770	830	1,160
31	1,300	---	2,990	1,910	---	7,260	---	e2,060	---	e3,190	e789	---
TOTAL	65,350	95,274	92,755	71,310	73,210	90,370	185,620	92,205	62,892	37,227	43,769	36,392
MEAN	2,108	3,176	2,992	2,300	2,615	2,915	6,187	2,974	2,096	1,201	1,412	1,213
MAX	8,140	7,650	10,700	3,540	4,060	7,260	8,420	6,580	6,510	3,960	4,370	4,250
MIN	-4,340	509	-1,220	1,520	1,730	1,710	3,220	-1,220	-1,400	-2,470	-1,440	-1,030
CFSM	0.40	0.60	0.56	0.43	0.49	0.55	1.17	0.56	0.39	0.23	0.27	0.23
IN.	0.46	0.67	0.65	0.50	0.51	0.63	1.30	0.65	0.44	0.26	0.31	0.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3,037	3,781	3,259	2,527	2,763	4,984	7,765	6,206	5,942	4,342	3,025	2,808
MAX	6,411	6,201	6,811	3,673	3,930	8,132	12,870	11,050	13,360	13,440	5,915	5,541
(WY)	(1996)	(1996)	(1993)	(1992)	(1999)	(2004)	(1993)	(1993)	(2004)	(1993)	(1993)	(2000)
MIN	1,875	2,520	2,031	1,855	1,597	2,915	3,928	2,974	2,096	1,201	1,412	1,213
(WY)	(1999)	(1998)	(1999)	(2003)	(2003)	(2005)	(2000)	(2005)	(2005)	(2005)	(2005)	(2005)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1992 - 2005	
ANNUAL TOTAL	1,827,664		946,374			
ANNUAL MEAN	4,994		2,593		4,204	
HIGHEST ANNUAL MEAN					7,221	1993
LOWEST ANNUAL MEAN					2,593	2005
HIGHEST DAILY MEAN	17,200	Jun 18	10,700	Dec 12	18,600	Jun 25, 1993
LOWEST DAILY MEAN	-4,340	Oct 18	-4,340	Oct 18	-6,270	Nov 1, 1992
ANNUAL SEVEN-DAY MINIMUM	402	Oct 17	402	Oct 17	402	Oct 17, 2004
ANNUAL RUNOFF (CFSM)	0.940		0.488		0.792	
ANNUAL RUNOFF (INCHES)	12.80		6.63		10.76	
10 PERCENT EXCEEDS	10,800		5,370		8,310	
50 PERCENT EXCEEDS	3,340		2,390		3,330	
90 PERCENT EXCEEDS	1,340		312		1,300	

(e) Estimated

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 mi^2, at lake outlet at Menasha Dam. Area of Lake Winnebago, 215 mi^2.

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

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

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

REMARKS.--Lake elevations controlled by dams at Menasha and Neenah, which are operated in the interest of navigation. Crests of both dams are at elevation 746.73 ft. Present limits of regulation are from 21 1/4 in. above the crest of Menasha dam to crest during navigation season, plus additional 18 in. below crest during winter. Oshkosh staff gage gives true level of lake, while Deuchman gage readings are affected by loss of head in the channel between lake and dam. Data-collection platform and gage-height telemeter 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 daily mean gage height, 3.03 ft, June 25; minimum recorded, 1.54 ft, Mar. 25, 26, 27 and 28.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.70	2.53	2.53	2.37	2.10	1.82	1.75	2.33	2.77	2.96	2.81	2.64
2	2.71	2.50	2.52	2.43	2.07	1.79	1.81	2.34	2.77	2.93	2.80	2.65
3	2.69	2.52	2.52	2.44	2.05	1.77	1.87	2.38	2.77	2.88	2.77	2.65
4	2.69	2.47	2.48	2.44	2.02	1.75	1.94	2.38	2.79	2.90	2.75	2.62
5	2.67	2.48	2.56	2.44	2.00	1.73	1.99	2.37	2.79	2.92	2.77	2.60
6	2.66	2.49	2.54	2.46	2.00	1.71	2.08	2.37	2.82	2.92	2.74	2.59
7	2.67	2.47	2.53	2.46	2.02	1.72	2.14	2.41	2.87	2.90	2.72	2.62
8	2.69	2.48	2.56	2.44	2.03	1.72	2.21	2.40	2.87	2.89	2.70	2.66
9	2.72	2.46	2.56	2.43	2.03	1.71	2.27	2.41	2.88	2.87	2.68	2.64
10	2.74	2.42	2.63	2.43	2.02	1.71	2.30	2.39	2.94	2.86	2.69	2.63
11	2.73	2.47	2.61	2.41	2.01	1.70	2.35	2.49	2.97	2.84	2.69	2.61
12	2.73	2.46	2.49	2.41	2.00	1.71	2.37	2.46	2.96	2.84	2.65	2.62
13	2.73	2.45	2.62	2.42	1.98	1.69	2.37	2.41	3.00	2.83	2.67	2.59
14	2.73	2.44	2.61	2.41	2.00	1.67	2.39	2.40	2.97	2.83	2.66	2.63
15	2.68	2.43	2.55	2.40	2.02	1.65	2.41	2.45	3.02	2.81	2.65	2.62
16	2.61	2.44	2.50	2.38	2.01	1.63	2.41	2.49	3.02	2.79	2.64	2.61
17	2.69	2.44	2.51	2.36	2.00	1.62	2.43	2.47	3.01	2.76	2.63	2.60
18	2.68	2.44	2.48	2.34	1.98	1.60	2.43	2.50	2.99	2.71	2.61	2.58
19	2.62	2.46	2.47	2.33	1.96	1.60	2.43	2.58	2.97	2.73	2.62	2.58
20	2.60	2.44	2.44	2.32	1.96	1.60	2.51	2.59	2.96	2.68	2.62	2.61
21	2.61	2.50	2.45	2.30	1.96	1.58	2.48	2.63	3.00	2.71	2.62	2.59
22	2.59	2.48	2.44	2.30	1.94	1.57	2.48	2.65	2.99	2.72	2.63	2.64
23	2.57	2.46	2.42	2.29	1.93	1.55	2.44	2.72	2.96	2.68	2.62	2.68
24	2.63	2.52	2.42	2.27	1.90	1.55	2.41	2.73	2.98	2.67	2.61	2.62
25	2.63	2.47	2.40	2.24	1.88	1.54	2.42	2.74	3.03	2.71	2.59	2.68
26	2.62	2.49	2.38	2.22	1.86	1.54	2.41	2.72	3.01	2.89	2.58	2.71
27	2.55	2.51	2.37	2.20	1.84	1.54	2.36	2.74	2.99	2.89	2.71	2.70
28	2.49	2.55	2.36	2.18	1.83	1.54	2.39	2.75	2.99	2.85	2.71	2.66
29	2.48	2.57	2.35	2.16	---	1.56	2.37	2.76	3.00	2.87	2.71	2.71
30	2.43	2.57	2.36	2.13	---	1.59	2.36	2.77	2.89	2.82	2.72	2.66
31	2.51	---	2.37	2.11	---	1.67	---	2.77	---	2.79	2.70	---
MEAN	2.64	2.48	2.48	2.34	1.98	1.65	2.29	2.54	2.93	2.82	2.68	2.63
MAX	2.74	2.57	2.63	2.46	2.10	1.82	2.51	2.77	3.03	2.96	2.81	2.71
MIN	2.43	2.42	2.35	2.11	1.83	1.54	1.75	2.33	2.77	2.67	2.58	2.58

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 mi^2, at lake outlet at Menasha Dam. Area of Lake Winnebago, 215 mi^2.

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.--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 and gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily mean gage height, 3.85 ft, July 9, 11, 1993; minimum observed, 0.30 ft, Mar. 1, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum daily mean gage height, 3.03 ft, June 14, 30; minimum recorded, 1.47 ft, Mar. 27.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.76	2.42	2.58	2.34	2.05	1.77	1.73	2.39	2.69	2.99	2.79	2.70
2	2.80	2.45	2.57	2.40	2.02	1.74	1.79	2.38	2.69	2.89	2.77	2.67
3	2.77	2.47	2.55	2.41	2.00	1.71	1.85	2.35	2.70	2.86	2.78	2.59
4	2.70	2.50	2.54	2.41	1.97	1.69	1.91	2.32	2.71	2.88	2.80	2.55
5	2.70	2.58	2.43	2.41	1.95	1.67	1.95	2.31	2.81	2.87	2.74	2.55
6	2.66	2.49	2.45	2.44	1.95	1.65	2.02	2.31	2.87	2.82	2.71	2.57
7	2.63	2.49	2.52	2.43	1.98	1.67	2.10	2.33	2.81	2.83	2.69	2.55
8	2.72	2.49	2.55	2.42	1.99	1.68	2.17	2.33	2.82	2.84	2.68	2.60
9	2.77	2.47	2.51	2.40	1.99	1.68	2.21	2.34	2.85	2.83	2.66	2.58
10	2.69	2.46	2.51	2.40	1.98	1.67	2.23	2.38	2.87	2.82	2.66	2.58
11	2.68	2.40	2.60	2.38	1.97	1.67	2.24	2.25	2.93	2.80	2.62	2.58
12	2.68	2.42	2.74	2.38	1.95	1.68	2.21	2.20	2.94	2.78	2.68	2.59
13	2.68	2.43	2.68	2.40	1.93	1.65	2.26	2.31	2.95	2.78	2.63	2.62
14	2.64	2.42	2.64	2.39	1.96	1.63	2.32	2.43	3.03	2.75	2.62	2.62
15	2.70	2.41	2.60	2.37	1.98	1.62	2.34	2.47	3.01	2.75	2.61	2.57
16	2.84	2.41	2.52	2.35	1.98	1.60	2.36	2.41	2.99	2.74	2.60	2.55
17	2.77	2.41	2.48	2.34	1.97	1.59	2.37	2.41	2.93	2.73	2.57	2.55
18	2.56	2.41	2.43	2.30	1.94	1.57	2.37	2.42	2.92	2.78	2.55	2.54
19	2.53	2.39	2.44	2.30	1.91	1.57	2.38	2.45	2.93	2.69	2.60	2.58
20	2.56	2.50	2.41	2.28	1.91	1.57	2.39	2.50	2.94	2.66	2.62	2.59
21	2.56	2.51	2.43	2.27	1.91	1.55	2.39	2.57	2.96	2.67	2.62	2.59
22	2.52	2.49	2.42	2.28	1.89	1.53	2.32	2.64	2.94	2.64	2.56	2.57
23	2.58	2.49	2.40	2.26	1.87	1.52	2.27	2.65	2.96	2.64	2.53	2.55
24	2.64	2.40	2.39	2.23	1.84	1.52	2.36	2.66	2.99	2.68	2.51	2.55
25	2.60	2.50	2.37	2.21	1.83	1.51	2.40	2.68	2.97	2.67	2.51	2.61
26	2.49	2.45	2.36	2.19	1.81	1.51	2.39	2.72	2.96	2.85	2.53	2.65
27	2.44	2.52	2.34	2.17	1.78	1.50	2.40	2.75	2.96	2.83	2.71	2.66
28	2.43	2.63	2.32	2.14	1.78	1.51	2.36	2.74	2.97	2.85	2.71	2.68
29	2.45	2.56	2.32	2.12	---	1.52	2.33	2.71	2.92	2.78	2.67	2.74
30	2.61	2.55	2.32	2.10	---	1.55	2.34	2.71	3.03	2.77	2.62	2.72
31	2.52	---	2.34	2.07	---	1.66	---	2.69	---	2.80	2.64	---
MEAN	2.63	2.47	2.48	2.31	1.93	1.61	2.23	2.48	2.90	2.78	2.64	2.60
MAX	2.84	2.63	2.74	2.44	2.05	1.77	2.40	2.75	3.03	2.99	2.80	2.74
MIN	2.43	2.39	2.32	2.07	1.78	1.50	1.73	2.20	2.69	2.64	2.51	2.54

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 mi^2.

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

GAGE.--Water-stage recorder. Side-looking velocity meter system.

REMARKS.--Records good (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,420	4,220	3,980	2,790	4,120	4,940	5,020	5,510	2,110	2,010	1,790	1,420
2	1,520	3,980	4,020	2,890	4,200	4,850	5,070	4,840	1,810	2,000	1,760	1,420
3	1,710	4,000	4,030	2,890	4,180	4,760	5,180	4,350	1,400	2,020	1,770	1,390
4	1,480	3,950	4,150	2,920	4,140	4,760	5,170	4,100	1,460	2,000	1,760	1,400
5	1,480	4,020	3,900	3,210	4,140	4,770	5,250	3,640	1,850	1,910	1,600	1,360
6	1,510	4,040	3,920	3,520	4,240	4,780	5,300	3,660	1,800	1,810	1,600	1,370
7	1,420	3,940	3,990	3,690	4,620	4,940	5,420	3,640	1,750	1,800	1,630	1,300
8	1,480	3,920	4,070	3,650	4,680	4,880	6,320	3,650	1,660	1,850	1,590	1,360
9	1,470	3,990	4,030	3,630	4,880	4,720	7,010	3,720	1,710	1,910	1,560	1,360
10	1,470	4,080	4,420	3,600	5,040	4,560	7,030	3,750	1,830	1,860	1,510	1,400
11	1,440	3,860	4,690	3,580	5,050	4,520	7,170	3,570	1,940	1,860	1,440	1,400
12	1,440	3,460	4,820	3,610	4,990	4,600	7,100	3,460	2,000	1,730	1,520	1,410
13	1,830	3,290	4,760	3,670	5,010	4,530	7,050	3,780	1,970	1,710	1,460	1,430
14	2,790	3,350	5,260	3,550	5,140	4,480	7,180	3,770	2,150	1,550	1,440	1,450
15	2,810	3,370	5,550	3,550	5,060	4,500	7,380	3,740	2,040	1,520	1,460	1,320
16	2,770	3,370	5,520	3,530	5,030	4,500	7,380	3,270	2,130	1,740	1,420	1,260
17	2,750	3,360	5,350	3,490	4,990	4,430	7,360	2,700	2,590	1,700	1,360	1,300
18	2,720	3,190	5,350	3,620	4,920	4,520	7,380	2,330	2,710	1,650	1,420	1,330
19	2,650	2,790	4,630	3,560	4,930	4,560	7,400	2,130	2,730	1,550	1,630	1,380
20	2,660	2,830	4,370	3,900	5,170	4,470	7,510	1,930	2,570	1,550	1,400	1,360
21	2,650	2,810	3,740	4,180	4,960	4,430	7,410	2,000	2,090	1,490	1,330	1,360
22	2,710	2,860	3,680	4,270	4,920	4,430	7,310	2,080	2,080	1,470	1,260	1,390
23	2,900	2,850	3,650	4,160	4,880	4,460	6,730	2,100	2,150	1,500	1,230	1,230
24	2,790	2,670	3,610	4,090	4,920	4,510	6,930	2,130	2,170	1,550	1,260	1,250
25	4,830	2,710	3,570	4,070	5,060	4,520	7,380	2,390	2,140	1,530	1,290	1,340
26	7,720	2,770	3,570	4,030	4,930	4,540	7,410	2,710	2,090	2,080	1,280	1,370
27	7,710	2,870	3,550	3,990	5,000	4,610	6,880	3,250	2,140	1,820	1,940	1,490
28	6,280	2,890	3,290	3,980	5,020	4,670	6,510	3,030	2,120	1,850	1,720	1,570
29	4,480	3,490	2,850	4,060	---	4,740	6,070	2,970	2,020	1,780	1,510	1,430
30	4,530	4,010	2,730	4,050	---	4,980	5,580	2,960	2,160	1,760	1,370	1,700
31	4,400	---	2,810	4,050	---	5,090	---	2,810	---	1,790	1,400	---
TOTAL	89,820	102,940	127,860	113,780	134,220	144,050	197,890	99,970	61,370	54,350	46,710	41,550
MEAN	2,897	3,431	4,125	3,670	4,794	4,647	6,596	3,225	2,046	1,753	1,507	1,385
MAX	7,720	4,220	5,550	4,270	5,170	5,090	7,510	5,510	2,730	2,080	1,940	1,700
MIN	1,420	2,670	2,730	2,790	4,120	4,430	5,020	1,930	1,400	1,470	1,230	1,230
CFSM	0.49	0.58	0.69	0.62	0.81	0.78	1.11	0.54	0.34	0.29	0.25	0.23
IN.	0.56	0.64	0.80	0.71	0.84	0.90	1.24	0.63	0.38	0.34	0.29	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3,703	4,535	4,060	3,685	3,756	5,050	6,498	5,830	5,954	3,925	2,773	3,037
MAX	13,510	7,863	7,509	5,575	5,422	9,731	11,920	11,900	15,630	15,110	6,259	8,899
(WY)	(1987)	(1996)	(1993)	(1987)	(1987)	(2004)	(1993)	(1993)	(2004)	(1993)	(1993)	(1986)
MIN	1,413	2,312	2,541	2,535	1,862	2,445	2,688	2,682	1,243	944	971	1,226
(WY)	(2000)	(2000)	(1990)	(1990)	(2003)	(2000)	(1990)	(1988)	(1988)	(1988)	(1988)	(1988)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1986 - 2005	
ANNUAL TOTAL	2,196,820		1,214,510			
ANNUAL MEAN	6,002		3,327		4,365	
HIGHEST ANNUAL MEAN					8,107	1993
LOWEST ANNUAL MEAN					2,995	1988
HIGHEST DAILY MEAN	16,600	Jun 17, 18, 21	7,720	Oct 26	18,000	Jul 6, 1993
LOWEST DAILY MEAN	1,190	Sep 30	1,230	(a)Aug 23	840	Aug 17, 1988
ANNUAL SEVEN-DAY MINIMUM	1,450	Sep 28	1,290	Aug 20	899	Jul 9, 1988
ANNUAL RUNOFF (CFSM)	1.01		0.559		0.734	
ANNUAL RUNOFF (INCHES)	13.73		7.59		9.97	
10 PERCENT EXCEEDS	14,200		5,170		8,460	
50 PERCENT EXCEEDS	3,760		3,290		3,620	
90 PERCENT EXCEEDS	1,890		1,420		1,690	

(a) Also occurred Sept. 23

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 mi^2.

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 24 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 ft^3/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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,256	4,204	4,281	2,899	4,455	5,365	5,299	5,563	1,876	2,212	1,561	1,597
2	1,463	3,871	4,242	3,445	4,501	5,368	5,314	5,219	1,806	1,995	1,547	1,246
3	1,693	3,741	4,260	2,862	4,491	5,204	5,273	4,385	1,145	2,009	1,572	1,473
4	1,413	3,997	4,411	2,938	4,497	5,215	5,307	4,330	1,519	2,162	1,780	1,313
5	1,374	3,877	4,210	3,249	4,540	5,322	5,528	3,626	1,830	1,754	1,390	1,415
6	1,346	4,133	4,110	3,461	4,623	5,208	5,732	3,911	1,682	1,773	1,476	1,469
7	1,475	4,062	4,258	3,708	5,124	5,526	5,919	3,522	1,802	1,660	1,525	1,438
8	1,619	3,754	4,306	3,729	4,936	5,762	6,276	3,808	1,599	1,809	1,512	1,478
9	1,410	3,738	4,254	3,769	5,202	5,420	7,685	3,791	1,677	1,623	1,474	1,403
10	1,307	4,371	4,885	3,821	5,608	4,953	7,699	3,871	1,872	1,859	1,250	1,504
11	1,404	3,862	5,173	3,847	5,586	4,675	9,662	3,662	1,998	1,542	1,424	1,508
12	1,578	3,209	5,264	4,051	5,595	5,092	6,923	3,463	2,193	1,453	1,422	1,502
13	1,553	3,278	5,040	3,892	5,544	5,095	7,187	3,899	2,170	1,735	1,410	1,602
14	2,738	3,348	5,292	4,074	5,621	5,067	7,102	4,102	2,344	1,457	1,323	1,631
15	3,029	3,350	4,925	3,624	5,690	5,057	7,823	3,729	2,027	1,319	1,458	1,381
16	2,833	3,411	5,894	4,014	5,639	5,053	7,997	3,425	2,057	1,500	1,351	1,270
17	2,524	3,448	5,686	3,889	5,537	4,891	8,064	2,653	2,432	1,525	1,232	1,282
18	2,891	3,267	5,384	3,546	5,315	4,995	7,963	2,410	2,894	1,459	1,334	1,382
19	2,621	2,803	4,164	3,599	5,559	4,995	7,908	2,256	2,653	1,430	1,753	1,566
20	2,620	2,752	4,503	4,067	5,472	4,987	7,980	1,850	2,737	1,420	1,300	1,493
21	2,711	2,609	3,711	4,327	5,489	4,953	7,761	2,062	2,078	1,418	1,324	1,490
22	2,700	2,612	3,804	4,491	5,419	4,987	7,721	2,153	2,110	1,303	1,234	1,610
23	3,168	2,855	3,634	4,538	5,345	5,120	6,136	1,994	2,153	1,494	1,116	1,325
24	2,787	2,529	3,649	4,493	5,453	5,120	6,646	2,062	2,196	1,455	1,302	1,365
25	3,929	2,535	3,895	4,484	5,487	5,137	7,686	2,488	2,069	1,579	1,199	1,749
26	7,621	2,606	3,616	4,370	5,474	5,145	7,642	2,450	2,033	2,727	1,367	1,556
27	8,747	3,035	3,637	4,330	5,495	5,154	7,057	3,449	2,219	1,662	2,737	1,553
28	6,525	2,946	3,473	4,363	5,466	5,124	6,684	3,153	1,986	1,697	1,850	1,800
29	4,685	3,499	3,115	4,423	---	5,213	6,272	3,075	2,025	1,583	1,533	1,548
30	4,416	5,171	2,898	4,462	---	5,238	5,686	3,076	2,233	1,607	1,533	1,959
31	4,366	---	3,002	4,415	---	5,352	---	3,006	---	1,649	1,305	---
TOTAL	89,802	102,873	132,976	121,180	147,163	159,793	207,932	102,443	61,415	51,870	45,594	44,908
MEAN	2,897	3,429	4,290	3,909	5,256	5,155	6,931	3,305	2,047	1,673	1,471	1,497
MAX	8,750	5,170	5,890	4,540	5,690	5,760	9,660	5,560	2,890	2,730	2,740	1,960
MIN	1,260	2,530	2,900	2,860	4,460	4,680	5,270	1,850	1,140	1,300	1,120	1,250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS1896 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3,293	3,977	3,986	3,974	4,049	4,976	7,179	6,103	5,171	3,472	2,654	2,807
MAX	14,230	12,740	9,879	7,831	7,831	12,440	19,360	20,160	15,000	15,600	9,623	11,020
(WY)	(1987)	(1985)	(1983)	(1960)	(1939)	(1973)	(1929)	(1960)	(2004)	(1993)	(1924)	(1938)
MIN	728	1,242	1,562	1,432	1,768	1,596	1,590	1,260	1,098	983	761	709
(WY)	(1933)	(1931)	(1959)	(1977)	(1977)	(1964)	(1954)	(1931)	(1931)	(1931)	(1936)	(1933)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1896 - 2005	
ANNUAL TOTAL	2,220,111		1,267,949			
ANNUAL MEAN	6,066		3,474		4,311	
HIGHEST ANNUAL MEAN					8,427	1993
LOWEST ANNUAL MEAN					1,626	1931
HIGHEST DAILY MEAN	16,400	Jun 18	9,660	Apr 11	24,000	Apr 18, 1952
LOWEST DAILY MEAN	1,120	Sep 30	1,120	Aug 23	138	Aug 2, 1936
ANNUAL SEVEN-DAY MINIMUM	1,360	Sep 28	1,260	Aug 20	499	Sep 20, 1933
10 PERCENT EXCEEDS	13,800		5,590		7,860	
50 PERCENT EXCEEDS	3,870		3,410		3,590	
90 PERCENT EXCEEDS	1,810		1,420		1,670	

04085046 APPLE CREEK AT SNIDERVILLE, WI

LOCATION.--Lat 44°21'18", long 88°11'28", in NW 1/4 NW 1/4 sec.27, T.22 N., R.19 E., Brown County, Hydrologic Unit 04030204, on left bank 500 ft downstream of County Trunk Highway U, 2.0 mi upstream from Christy Brook and 2.0 mi north of Plum Creek on County Trunk Highway U.

DRAINAGE AREA.--45.8 mi^2.

PERIOD OF RECORD.--October 2003 to September 2004.

GAGE.--Water-stage recorder. Elevation of gage is 640 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges and those rated under 0.5 cfs, which are poor (see Introduction).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.04	14	e7.4	e42	e1.0	e4.0	107	6.4	5.2	1.2	1.2	3.7
2	0.07	8.3	e5.1	e74	e1.2	e3.8	71	5.6	4.2	1.1	0.88	2.4
3	0.05	7.4	e4.0	e80	e1.5	e3.9	48	4.9	3.1	1.1	0.64	1.8
4	0.04	6.7	e3.4	e37	e2.5	e4.3	35	4.4	2.7	4.1	0.41	1.2
5	0.04	5.1	3.0	e17	e9.3	e5.1	28	4.0	3.1	10	0.31	0.91
6	0.04	4.3	3.1	e9.3	e142	e20	24	3.8	3.5	5.4	0.35	0.75
7	0.02	3.1	6.5	e6.9	e280	e67	20	3.9	4.1	3.4	0.35	1.1
8	0.10	2.3	32	e5.4	e196	e267	17	3.8	3.3	2.5	0.17	1.4
9	0.04	1.9	23	e4.4	e122	e200	14	4.0	4.6	1.9	0.11	3.7
10	0.03	1.6	85	e4.2	e80	e147	11	4.1	4.0	1.3	0.18	3.8
11	1.5	1.6	170	e4.2	e72	e108	9.9	4.9	6.5	1.1	0.32	2.1
12	1.6	1.5	70	e4.9	e62	e73	8.4	4.0	14	0.82	1.7	1.4
13	1.5	1.4	31	e13	e64	e48	7.1	6.0	61	0.62	3.7	1.1
14	1.2	1.4	e19	e22	e71	e21	5.6	18	274	0.51	2.8	1.4
15	1.4	1.3	e12	e13	e83	e12	4.9	13	119	0.46	1.7	6.1
16	1.6	1.2	e8.0	e7.1	e94	e7.8	4.1	8.5	47	0.36	1.1	4.0
17	1.4	1.3	e6.2	e4.6	e80	e6.6	4.0	6.9	20	0.30	0.79	2.8
18	1.1	e1.4	e5.1	e3.1	e62	e7.3	3.5	6.2	12	0.25	1.4	1.9
19	3.3	1.8	e4.2	e2.2	e41	e9.1	3.8	14	8.5	0.16	9.5	1.5
20	3.1	2.8	e3.5	e1.4	e25	e13	47	44	6.2	0.14	24	1.2
21	1.4	8.3	e2.9	e0.97	e18	e30	42	e26	4.6	0.14	11	1.3
22	0.84	6.5	e2.4	e0.84	e12	e73	21	e18	3.8	0.14	5.5	1.7
23	2.4	4.6	e2.3	e0.75	e7.8	e134	13	e14	3.2	0.33	3.2	1.6
24	9.2	3.6	e2.2	e0.69	e6.0	e267	9.4	11	3.2	0.84	2.2	2.1
25	11	2.8	e2.1	e0.75	e5.3	e415	7.5	8.9	3.1	0.84	1.5	2.6
26	5.2	2.5	e1.9	e0.84	e4.4	e553	11	7.5	3.3	4.3	1.2	4.2
27	3.1	3.5	e1.9	e0.84	e4.2	e627	16	6.2	3.8	15	30	8.1
28	3.4	21	e1.7	e0.82	e4.2	e540	12	6.9	2.6	6.4	57	6.3
29	38	23	e1.6	e0.84	---	e331	9.2	9.2	1.9	3.6	23	8.4
30	56	e11	e2.0	e0.89	---	187	7.5	6.8	1.6	2.3	10	12
31	33	---	e20	e0.96	---	239	---	6.1	---	1.7	5.6	---
TOTAL	181.71	157.2	542.5	364.89	1,551.4	4,423.9	621.9	291.0	637.1	72.31	201.81	92.56
MEAN	5.86	5.24	17.5	11.8	55.4	143	20.7	9.39	21.2	2.33	6.51	3.09
MAX	56	23	170	80	280	627	107	44	274	15	57	12
MIN	0.02	1.2	1.6	0.69	1.0	3.8	3.5	3.8	1.6	0.14	0.11	0.75
CFSM	0.13	0.11	0.38	0.26	1.21	3.12	0.45	0.20	0.46	0.05	0.14	0.07
IN.	0.15	0.13	0.44	0.30	1.26	3.59	0.51	0.24	0.52	0.06	0.16	0.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2004 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.35	29.7	17.4	9.88	44.4	157	15.5	61.0	54.5	3.35	3.83	1.73
MAX	5.86	54.2	17.5	11.8	55.4	172	20.7	113	87.7	4.37	6.51	3.09
(WY)	(2005)	(2004)	(2005)	(2005)	(2005)	(2004)	(2005)	(2004)	(2004)	(2004)	(2005)	(2005)
MIN	2.84	5.24	17.4	7.99	33.7	143	10.3	9.39	21.2	2.33	1.15	0.38
(WY)	(2004)	(2005)	(2004)	(2004)	(2004)	(2005)	(2004)	(2005)	(2005)	(2005)	(2004)	(2004)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2004 - 2005	
ANNUAL TOTAL	14,043.89		9,138.28			
ANNUAL MEAN	38.4		25.0		33.6	
HIGHEST ANNUAL MEAN					42.1	2004
LOWEST ANNUAL MEAN					25.0	2005
HIGHEST DAILY MEAN	967	Mar 6	(a)627	Mar 27	967	Mar 6, 2004
LOWEST DAILY MEAN	0.02	Oct 7	0.02	Oct 7	0.02	Oct 7, 2004
ANNUAL SEVEN-DAY MINIMUM	0.04	Oct 1	0.04	Oct 1	0.04	Oct 1, 2004
MAXIMUM PEAK FLOW			(a)		1,820	Mar 6, 2004
MAXIMUM PEAK STAGE			(a)6.83	Mar 25	8.34	Mar 6, 2004
ANNUAL RUNOFF (CFSM)	0.838		0.547		0.733	
ANNUAL RUNOFF (INCHES)	11.41		7.42		9.96	
10 PERCENT EXCEEDS	106		63		74	
50 PERCENT EXCEEDS	4.6		4.2		5.1	
90 PERCENT EXCEEDS	0.42		0.82		0.64	

(a) Ice affected
(e) Estimated

04085046 APPLE CREEK AT SNIDERVILLE, WI—Continued

PRECIPITATION QUANTITY

PERIOD OF RECORD.--November 2003 to current year (non-frozen precipitation).

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

REMARKS.--Rainfall values lost from Nov. 17 to Mar. 24.

EXTREMES FOR CURRENT YEAR.-- Maximum daily rainfall, 1.90 in., June 13.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.16	0.04	---	---	---	---	0.02	0.00	0.00	0.00	0.00	0.00
2	0.00	0.14	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.01	---	---	---	---	0.00	0.00	0.11	1.13	0.00	0.00
5	0.00	0.00	---	---	---	---	0.00	0.00	0.34	0.00	0.00	0.00
6	0.00	0.00	---	---	---	---	0.00	0.10	0.00	0.00	0.00	0.00
7	0.00	0.00	---	---	---	---	0.00	0.00	0.09	0.00	0.00	0.85
8	0.35	0.00	---	---	---	---	0.00	0.00	0.01	0.00	0.00	0.01
9	0.00	0.00	---	---	---	---	0.00	0.10	0.14	0.00	0.18	0.00
10	0.00	0.12	---	---	---	---	0.00	0.00	0.14	0.00	0.01	0.00
11	0.00	0.00	---	---	---	---	0.02	0.00	0.04	0.00	0.58	0.00
12	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.08	0.00
13	0.00	0.00	---	---	---	---	0.00	0.74	1.90	0.00	0.00	0.36
14	0.00	0.00	---	---	---	---	0.00	0.03	0.00	0.00	0.00	0.00
15	0.10	0.01	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
16	0.02	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	---	---	---	---	---	0.00	0.06	0.00	0.00	0.00	0.00
18	0.00	---	---	---	---	---	0.00	0.06	0.00	0.00	1.57	0.00
19	0.00	---	---	---	---	---	1.14	0.66	0.00	0.00	0.04	0.14
20	0.00	---	---	---	---	---	0.05	0.00	0.00	0.05	0.06	0.00
21	0.01	---	---	---	---	---	0.00	0.00	0.00	0.02	0.00	0.00
22	0.00	---	---	---	---	---	0.00	0.15	0.00	0.00	0.00	0.27
23	1.16	---	---	---	---	---	0.00	0.00	0.00	0.41	0.00	0.00
24	0.00	---	---	---	---	---	0.00	0.00	0.28	0.00	0.00	0.00
25	0.00	---	---	---	---	0.00	0.26	0.00	0.00	0.73	0.00	0.42
26	0.02	---	---	---	---	0.00	0.16	0.02	0.00	0.26	0.85	0.05
27	0.00	---	---	---	---	0.00	0.02	0.21	0.00	0.00	0.57	0.00
28	1.80	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.64
29	0.03	---	---	---	---	0.00	0.00	0.07	0.00	0.00	0.00	0.00
30	0.19	---	---	---	---	0.40	0.00	0.00	0.08	0.00	0.00	0.00
31	0.00	---	---	---	---	0.00	---	0.00	---	0.01	0.00	---
TOTAL	3.84	---	---	---	---	---	1.67	2.20	3.13	2.61	3.94	2.74

04085046 APPLE CREEK AT SNIDERVILLE, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2003 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SOLIDS DISCHARGE: October 2003 to current year.
TOTAL-PHOSPHORUS DISCHARGE: October 2003 to current year.

INSTRUMENTATION.--Water-quality sampler October 2003 to current year.

REMARKS.--Chemical analyses by the Green Bay Metropolitan Sewerage District Laboratory. Samples are point samples unless otherwise indicated.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 2,600 tons, Nov. 23, 2003; minimum daily, 0.0 tons, Oct. 7, 10, 2004.
TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 8,840 lbs, Nov. 23, 2003; minimum daily, 0.01 lbs, Oct. 7, 10, 2004.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 338 tons, June 14; minimum daily, 0.0 tons, Oct. 7, 10.
TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 2,140 lbs, Mar. 27; minimum daily, 0.01 lbs, Oct. 7, 10.

SUSPENDED SOLIDS, DRIED AT 105 DEGREES CELSIUS, WATER, UNFILTERED, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.001	0.51	0.23	3.47	0.006	0.050	13.5	0.040	0.040	0.040	0.060	0.14
2	0.001	0.23	0.12	9.45	0.006	0.050	5.48	0.030	0.030	0.040	0.040	0.090
3	0.001	0.16	0.030	10.8	0.008	0.050	2.40	0.030	0.030	0.040	0.030	0.060
4	0.001	0.13	0.030	2.78	0.010	0.050	1.17	0.020	0.020	0.36	0.020	0.040
5	0.001	0.080	0.020	0.70	0.43	0.060	0.83	0.020	0.020	1.13	0.010	0.030
6	0.001	0.060	0.030	0.24	17.7	0.22	0.66	0.020	0.030	0.51	0.020	0.030
7	0.000	0.040	0.13	0.14	36.1	1.57	0.53	0.020	0.030	0.28	0.020	0.040
8	0.001	0.020	2.15	0.090	14.1	30.0	0.40	0.020	0.030	0.10	0.007	0.050
9	0.001	0.020	1.20	0.020	3.87	16.2	0.32	0.020	0.040	0.080	0.005	0.23
10	0.000	0.020	21.5	0.020	1.70	8.40	0.24	0.020	0.030	0.060	0.008	0.24
11	0.020	0.020	45.9	0.020	1.41	4.36	0.19	0.030	0.12	0.050	0.010	0.090
12	0.020	0.010	5.74	0.030	1.19	1.89	0.15	0.020	0.57	0.040	0.070	0.040
13	0.020	0.010	1.26	0.44	1.19	0.77	0.12	0.040	138	0.030	0.23	0.030
14	0.020	0.010	0.62	1.11	1.78	0.19	0.090	0.39	338	0.030	0.15	0.040
15	0.020	0.010	0.33	0.44	2.48	0.11	0.070	0.20	21.2	0.030	0.070	0.50
16	0.020	0.010	0.19	0.15	3.24	0.070	0.060	0.080	4.24	0.020	0.050	0.26
17	0.020	0.010	0.13	0.070	2.30	0.050	0.050	0.040	1.27	0.020	0.030	0.15
18	0.010	0.010	0.090	0.020	1.33	0.060	0.040	0.030	0.60	0.010	0.080	0.080
19	0.050	0.010	0.060	0.010	0.65	0.070	0.040	0.23	0.40	0.008	2.27	0.030
20	0.050	0.020	0.050	0.008	0.39	0.10	3.00	2.48	0.27	0.007	5.94	0.020
21	0.020	0.20	0.030	0.005	0.27	0.36	2.36	0.85	0.19	0.007	1.23	0.020
22	0.010	0.13	0.020	0.005	0.17	1.73	0.54	0.39	0.15	0.006	0.40	0.020
23	0.030	0.070	0.020	0.004	0.11	6.43	0.20	0.23	0.12	0.010	0.16	0.020
24	0.31	0.030	0.020	0.004	0.080	25.8	0.10	0.070	0.12	0.040	0.090	0.030
25	0.42	0.020	0.020	0.004	0.070	79.4	0.060	0.060	0.12	0.040	0.060	0.13
26	0.12	0.020	0.010	0.005	0.060	150	0.14	0.050	0.12	0.54	0.040	0.28
27	0.030	0.030	0.010	0.005	0.050	144	0.30	0.040	0.13	3.26	7.91	0.78
28	0.090	1.02	0.010	0.004	0.050	132	0.17	0.050	0.090	0.67	12.9	0.53
29	9.08	1.20	0.010	0.005	---	147	0.090	0.070	0.070	0.25	2.65	0.83
30	5.90	0.44	0.010	0.005	---	127	0.060	0.050	0.050	0.12	0.62	3.04
31	1.56	---	0.94	0.005	---	151	---	0.050	---	0.090	0.24	---
TOTAL	17.828	4.550	80.910	30.059	90.750	1,029.040	33.360	5.690	506.130	7.918	35.420	7.870

WTR YR 2005 TOTAL 1,849.525

04085046 APPLE CREEK AT SNIDERVILLE, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.02	16.7	8.14	69.4	0.79	3.57	138	5.39	5.46	2.62	1.69	3.33
2	0.03	8.56	5.14	140	0.90	3.39	80.7	4.74	4.56	2.40	1.17	2.11
3	0.02	7.10	3.44	154	1.12	3.44	48.8	4.21	3.34	2.51	0.84	1.56
4	0.02	6.17	2.95	59.4	1.87	3.79	32.1	3.76	2.91	9.72	0.54	1.09
5	0.02	4.65	2.57	22.7	17.1	4.46	24.9	3.22	3.30	25.2	0.40	0.80
6	0.02	3.89	2.69	10.8	403	17.5	21.2	2.91	3.76	13.4	0.44	0.66
7	0.01	2.77	6.94	7.47	804	90.4	17.9	2.79	4.46	8.61	0.44	1.01
8	0.05	2.05	49.6	5.52	460	694	14.4	2.56	3.53	6.60	0.21	1.29
9	0.02	1.67	33.0	3.65	204	453	12.1	2.50	5.00	5.02	0.13	4.65
10	0.01	1.42	207	3.44	115	288	9.72	2.41	4.27	3.74	0.22	4.80
11	0.84	1.39	399	3.42	93.7	183	8.29	2.71	9.68	3.05	0.41	2.41
12	1.24	1.31	106	3.97	75.1	103	6.93	2.07	26.1	2.43	3.37	1.24
13	1.55	1.24	47.5	16.3	72.8	55.3	5.78	8.72	384	1.86	6.78	1.00
14	1.84	1.19	26.2	31.2	98.4	18.4	4.52	36.2	1,110	1.59	5.28	1.22
15	2.73	1.15	14.1	16.3	124	10.8	3.94	23.8	222	1.46	3.37	8.32
16	2.67	1.09	8.13	7.73	149	6.79	3.27	13.7	90.7	1.13	1.53	5.09
17	2.04	1.14	5.97	4.53	117	5.70	3.10	3.37	40.7	0.91	1.07	3.36
18	1.41	1.21	4.89	2.41	80.6	6.28	2.72	3.63	23.5	0.74	2.02	2.14
19	3.54	1.54	3.97	1.66	43.8	7.90	2.89	26.1	16.9	0.46	17.3	1.17
20	3.39	2.38	3.36	1.10	24.1	10.9	53.8	112	12.4	0.39	49.3	0.95
21	1.51	9.38	2.76	0.73	16.7	30.0	46.2	49.7	9.28	0.37	17.2	1.01
22	0.90	6.94	2.21	0.63	11.0	95.8	18.0	28.6	7.67	0.36	7.80	1.25
23	2.60	4.53	2.10	0.57	7.30	234	10.5	23.8	6.39	0.86	4.19	1.18
24	12.7	3.10	2.05	0.53	5.54	628	7.41	8.12	6.37	2.13	2.71	1.51
25	16.2	2.46	1.94	0.57	4.84	1,320	6.01	7.01	6.25	2.06	1.88	3.08
26	5.82	2.14	1.74	0.63	4.06	2,090	9.00	6.15	6.54	11.2	1.44	5.39
27	3.39	2.98	1.69	0.63	3.78	2,140	13.2	5.30	7.49	37.0	64.3	11.6
28	3.71	29.5	1.54	0.62	3.75	1,450	9.65	6.14	5.14	11.7	111	8.63
29	181	33.0	1.45	0.63	---	835	7.57	8.49	3.89	5.59	31.6	12.1
30	150	13.3	1.80	0.67	---	523	6.29	6.52	3.36	3.48	10.7	12.4
31	48.4	---	27.8	0.73	---	647	---	6.10	---	2.47	5.17	---
TOTAL	447.70	175.95	987.67	571.94	2,943.25	11,962.42	628.89	422.72	2,038.95	171.06	354.50	106.35

WTR YR 2005 TOTAL 20,811.40

04085046 APPLE CREEK AT SNIDERVILLE, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Dis-charge, cfs (00060)	Instan-taneous dis-charge, cfs (00061)	Sam-pling method, code (82398)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sedi-ment concen-tration mg/L (80154)
OCT									
15...	1015	--	1.4	10	<5	--	.370	--	--
27...	1302	--	2.8	10	<4	.110	.200	--	--
29...	1245	--	40	50	128	--	.990	--	--
29...	2030	--	79	50	104	--	1.26	--	--
30...	2030	--	47	50	23	--	.360	--	--
NOV									
18...	1340	--	1.5	10	3	--	.160	--	--
DEC									
10...	0745	--	39	50	20	--	.380	--	--
10...	1750	--	134	50	126	--	.560	--	--
11...	0050	--	203	50	168	--	.590	--	--
12...	1250	--	66	50	26	--	.280	--	--
13...	1130	--	33	10	14	.130	.300	--	--
JAN									
21...	1205	.97	--	10	<2	--	.140	--	--
FEB									
05...	2105	9.3	--	50	47	.500	.650	--	--
06...	1525	142	--	50	51	--	.570	--	--
07...	0140	280	--	50	49	--	.570	--	--
07...	1020	280	--	50	45	--	.640	--	--
07...	1021	280	--	10	56	.480	.530	--	--
08...	0240	196	--	50	47	--	.600	87	52
08...	1855	196	--	50	17	--	.410	--	--
09...	1855	122	--	50	11	--	.320	--	--
10...	1100	80	--	50	8	.210	.300	--	--
MAR									
17...	1420	6.6	--	10	3	--	.160	--	--
25...	1810	415	--	50	91	--	.720	--	--
26...	1810	553	--	50	117	--	.820	86	117
28...	0610	540	--	50	70	--	.610	86	74
28...	1810	540	--	50	122	--	.500	--	--
29...	2250	331	--	50	217	--	.540	--	--
30...	2250	--	223	50	324	--	.620	94	341
31...	0520	--	351	50	398	.170	.730	--	--
APR									
01...	0430	--	126	50	53	--	.270	--	--
04...	1125	--	34	10	12	.130	.170	--	--
19...	1515	--	3.4	10	4	--	.140	--	--
MAY									
04...	1030	--	4.3	10	<2	.100	.160	--	--
18...	0953	--	6.2	10	<2	--	.110	--	--
JUN									
02...	0935	--	4.2	10	3	.140	.200	--	--
13...	1645	--	24	50	124	--	.510	--	--
13...	1810	--	107	50	847	--	1.38	--	--
13...	2230	--	255	50	1,180	--	1.55	97	1,220
14...	0435	--	317	50	845	.260	1.23	--	--
14...	1110	--	317	50	384	.230	.720	--	--
14...	1111	--	317	10	364	--	.670	--	--
14...	1715	--	229	50	186	--	.500	97	226
15...	0315	--	157	50	94	--	.420	--	--
15...	1515	--	103	50	50	--	.350	--	--
16...	1150	--	44	10	32	--	.370	--	--
28...	1115	--	2.6	10	13	.320	.370	--	--
JUL									
15...	0825	--	.51	10	23	--	.590	--	--
26...	0955	--	3.8	50	44	--	.500	--	--
26...	2305	--	7.4	50	68	--	.600	--	--
27...	0710	--	20	10	99	.290	.470	--	--
AUG									
16...	1016	--	1.2	10	15	--	.250	--	--
19...	0400	--	3.6	50	92	--	.360	--	--
19...	1610	--	8.1	50	70	--	.300	--	--
19...	2330	--	28	50	149	.150	.480	--	--
21...	2330	--	7.4	50	34	.220	.310	--	--
27...	1115	--	18	50	58	--	.340	--	--
27...	1710	--	46	50	126	--	.490	--	--
28...	0510	--	72	50	108	.240	.440	--	--
29...	0510	--	28	50	52	.180	.300	--	--
29...	1045	--	23	10	43	.160	.270	--	--
SEP									
13...	1100	--	1.0	10	11	--	.170	--	--
27...	0130	--	8.8	50	<4	--	.140	--	--
29...	2250	--	15	50	25	.120	.190	--	--
30...	1145	--	12	10	101	.070	.190	--	--

04085046 APPLE CREEK AT SNIDERVILLE, WI—Continued

04085068 ASHWAUBENON CREEK NEAR LITTLE RAPIDS, WI

LOCATION.--Lat 44°24'51", long 88°07'37" in NW 1/4 NW 1/4 sec.6, T.22 N., R.20 E., Brown County, Hydrologic Unit 04030204, on left bank 10 ft downstream from Creamery Road bridge and 2 mi north of Little Rapids.

DRAINAGE AREA.--19.9 mi^2.

PERIOD OF RECORD.--November 1976 to November 1977 (fragmentary, instantaneous discharge only, discontinued), October 2003 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 620 ft above NGVD of 1929.

REMARKS.--Records good, except those that are estimated and those under 0.5 cfs, which are poor (see Introduction).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.04	1.6	1.6	e18	e0.16	e0.93	30	1.4	0.64	0.21	0.04	0.15
2	0.11	1.0	1.2	e23	e0.20	e0.88	20	1.3	0.55	0.21	0.03	0.11
3	0.11	0.82	0.97	e25	e0.25	e0.88	14	1.2	0.48	0.19	0.03	0.07
4	0.08	0.68	0.83	e7.6	e0.32	e0.86	9.7	1.1	0.44	0.59	0.02	0.06
5	0.08	0.56	0.76	e3.4	e2.8	e0.91	7.4	1.0	0.55	0.60	0.02	0.06
6	0.08	0.47	0.79	e1.9	e99	e4.9	6.5	1.0	0.68	0.42	0.02	0.06
7	0.10	0.44	1.8	e1.3	e150	e16	5.6	1.0	0.56	0.33	0.02	0.25
8	0.19	0.67	9.5	e1.1	e50	e38	4.9	0.98	0.65	0.24	0.02	0.37
9	0.12	0.42	6.4	e1.0	e25	e32	4.0	0.96	0.60	0.25	0.02	0.24
10	0.12	0.35	30	e0.98	e18	e24	3.8	0.98	5.7	0.19	0.06	0.13
11	0.14	0.38	54	e0.93	e18	e18	3.5	0.93	13	0.14	0.05	0.08
12	0.18	0.35	20	e1.2	e17	e12	3.1	0.81	3.7	0.13	0.19	0.06
13	0.17	0.47	e8.2	e1.5	e17	e6.8	2.7	1.4	61	0.13	0.08	0.12
14	0.16	0.26	e3.5	e1.0	e19	e3.4	2.4	2.1	187	0.12	0.05	0.24
15	0.20	0.29	e2.1	e0.68	e25	e1.8	2.1	1.8	31	0.12	0.03	0.10
16	0.23	0.29	e1.6	e0.41	e29	e1.3	1.9	1.5	8.1	0.11	0.03	0.12
17	0.25	0.36	e1.4	e0.31	e21	e1.3	1.8	1.3	3.2	0.07	0.03	0.09
18	0.26	0.35	e1.1	e0.19	e15	e1.5	1.9	1.1	2.0	0.06	6.6	0.08
19	0.27	0.46	e0.94	e0.14	e9.9	e1.9	1.9	2.8	1.5	0.05	34	0.08
20	0.27	0.88	e0.72	e0.12	e5.5	e3.1	12	7.7	1.2	0.07	11	0.08
21	0.26	0.91	e0.59	e0.10	e3.7	e7.9	8.1	3.3	0.92	0.08	1.7	0.06
22	0.24	0.77	e0.50	e0.10	e2.6	e24	3.6	2.2	0.81	0.07	0.58	0.08
23	0.61	0.69	e0.50	e0.11	e1.7	e49	2.2	2.0	0.64	0.07	0.33	0.08
24	0.70	0.63	e0.48	e0.10	e1.2	e92	1.6	1.5	0.46	0.11	0.23	0.07
25	0.47	0.58	e0.46	e0.12	e1.1	e146	1.4	1.3	0.38	0.07	0.17	0.20
26	0.28	0.55	e0.43	e0.13	e1.1	e184	2.0	1.1	0.35	0.29	0.16	0.30
27	0.23	1.2	e0.39	e0.13	e0.98	e189	2.3	0.93	0.33	0.10	1.3	0.24
28	1.6	3.6	e0.39	e0.13	e0.98	e154	1.9	0.92	0.34	0.06	3.3	0.55
29	5.4	4.9	e0.40	e0.13	---	e85	1.6	0.95	0.31	0.05	0.91	0.73
30	6.9	2.5	e0.48	e0.13	---	e53	1.5	0.95	0.28	0.05	0.39	0.79
31	3.2	---	e9.8	e0.14	---	88	---	0.75	---	0.05	0.22	---
TOTAL	23.05	27.43	161.83	91.08	535.49	1,242.36	165.4	48.26	327.37	5.23	61.63	5.65
MEAN	0.74	0.91	5.22	2.94	19.1	40.1	5.51	1.56	10.9	0.17	1.99	0.19
MAX	6.9	4.9	54	25	150	189	30	7.7	187	0.60	34	0.79
MIN	0.04	0.26	0.39	0.10	0.16	0.86	1.4	0.75	0.28	0.05	0.02	0.06
CFSM	0.04	0.05	0.26	0.15	0.96	2.01	0.28	0.08	0.55	0.01	0.10	0.01
IN.	0.04	0.05	0.30	0.17	1.00	2.32	0.31	0.09	0.61	0.01	0.12	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.62	5.95	3.65	2.63	9.64	36.1	4.09	23.9	24.5	0.37	1.11	0.13
MAX	0.74	11.0	5.65	2.94	19.1	58.0	5.51	46.2	38.1	0.85	1.99	0.19
(WY)	(2005)	(2004)	(2004)	(2005)	(2005)	(2004)	(2005)	(2004)	(2004)	(2004)	(2005)	(2005)
MIN	0.50	0.91	0.09	2.32	1.05	10.2	2.67	1.56	10.9	0.09	0.24	0.08
(WY)	(2004)	(2005)	(1977)	(2004)	(1977)	(1977)	(2004)	(2005)	(2005)	(1977)	(2004)	(2004)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2004 - 2005	
ANNUAL TOTAL	5,028.79		2,694.78			
ANNUAL MEAN	13.7		7.38		11.0	
HIGHEST ANNUAL MEAN					14.6	2004
LOWEST ANNUAL MEAN					7.38	2005
HIGHEST DAILY MEAN	305	May 23	(a)189	Mar 27	305	May 23, 2004
LOWEST DAILY MEAN	0.04	(b)Sep 23	0.02	Aug 4-9	0.02	Aug 4-9, 2005
ANNUAL SEVEN-DAY MINIMUM	0.05	Sep 25	0.02	Aug 3	0.02	Aug 3, 2005
MAXIMUM PEAK FLOW			323	Jun 14	560	Mar 5, 2004
MAXIMUM PEAK STAGE			8.29	Jun 14	9.44	Mar 5, 2004
ANNUAL RUNOFF (CFSM)	0.690		0.371		0.552	
ANNUAL RUNOFF (INCHES)	9.40		5.04		7.50	
10 PERCENT EXCEEDS	30		17		22	
50 PERCENT EXCEEDS	0.87		0.77		0.93	
90 PERCENT EXCEEDS	0.12		0.08		0.10	

04085068 ASHWAUBENON CREEK NEAR LITTLE RAPIDS, WI—Continued

(a) Ice affected
(b) Also occurred Sept. 28, 30, and Oct. 1
(e) Estimated

04085068 ASHWAUBENON CREEK NEAR LITTLE RAPIDS, WI—Continued

PRECIPITATION QUANTITY

PERIOD OF RECORD.--November 2003 to current year (non-frozen precipitation).

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

REMARKS.--Rainfall estimated to be 0.00 for Dec. 6, 28-30, Jan. 8, 11, 19, 21, 24, 25, Feb. 9, 13, 14, 20-22, 25, Mar. 2, 4, 5, 7, 10-13, 17, 19 and 20 because recorded precipitation interpreted as collector snowmelt.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 3.15 in., Aug. 18, 2005.

EXTREMES FOR CURRENT YEAR.-- Maximum daily rainfall, 3.15 in., Aug. 18.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.21	0.05	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
2	0.01	0.14	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.13	0.76	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.02	0.00	0.00	0.00	0.00
7	0.00	0.00	0.42	0.00	0.18	0.00	0.00	0.00	0.23	0.00	0.00	0.87
8	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
9	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.03	0.28	0.00	0.57	0.00
10	0.00	0.17	0.75	0.00	0.00	0.00	0.00	0.00	1.31	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.24	0.00	0.72	0.00
12	0.00	0.00	0.05	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	1.63	0.00	0.00	0.64
14	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
15	0.13	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.06	0.00	0.00	3.15	0.00
19	0.00	0.40	0.00	0.00	0.00	0.00	0.83	0.64	0.00	0.00	0.05	0.15
20	0.00	0.09	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06	0.07	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.30
23	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.59	0.00	0.52
26	0.03	0.20	0.00	0.00	0.00	0.00	0.11	0.04	0.00	0.21	0.56	0.11
27	0.01	0.69	0.00	0.00	0.00	0.00	0.01	0.18	0.00	0.00	0.56	0.00
28	1.61	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69
29	0.06	0.00	0.00	0.00	---	0.00	0.00	0.25	0.00	0.01	0.00	0.00
30	0.19	0.00	0.00	0.00	---	0.46	0.00	0.00	0.12	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.01	0.00	---
TOTAL	3.95	1.93	1.35	0.34	0.31	0.46	1.49	2.35	4.23	1.97	5.77	3.28

WTR YR 2005 TOTAL 27.43

04085068 ASHWAUBENON CREEK NEAR LITTLE RAPIDS, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2003 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SOLIDS DISCHARGE: October 2003 to current year.
TOTAL-PHOSPHORUS DISCHARGE: October 2003 to current year.

INSTRUMENTATION.--Water-quality sampler October 2003 to current year.

REMARKS.--Chemical analyses by the Green Bay Metropolitan Sewerage District Laboratory. Samples are point samples unless otherwise indicated.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 544 tons, May 23, 2004; minimum daily, 0.001 tons, Oct. 1-2, 2003, and many days during 2005 water year.
TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 1,860 lbs, May 23, 2004; minimum daily, 0.03 lbs, Sept. 23, 27-28, 30, Oct. 1, 2004.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 354 tons, June 13; minimum daily, 0.001 tons, many days.
TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 1,290 lbs, June 14; minimum daily, 0.03 lbs, Oct. 1.

SUSPENDED SOLIDS, DRIED AT 105 DEGREES CELSIUS, WATER, UNFILTERED, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.003	0.060	0.060	2.45	0.001	0.020	2.89	0.020	0.020	0.010	0.002	0.007
2	0.007	0.040	0.040	3.57	0.002	0.010	1.05	0.010	0.010	0.010	0.002	0.005
3	0.007	0.030	0.030	4.05	0.002	0.010	0.48	0.010	0.010	0.010	0.001	0.003
4	0.005	0.030	0.020	0.65	0.003	0.010	0.22	0.010	0.010	0.030	0.001	0.003
5	0.005	0.020	0.020	0.19	0.24	0.010	0.16	0.010	0.010	0.030	0.001	0.003
6	0.005	0.020	0.020	0.030	12.4	0.11	0.14	0.010	0.020	0.020	0.001	0.003
7	0.006	0.020	0.060	0.020	17.2	0.60	0.12	0.010	0.010	0.020	0.001	0.010
8	0.010	0.020	1.69	0.020	3.51	2.02	0.10	0.010	0.020	0.010	0.001	0.020
9	0.008	0.010	0.55	0.010	1.05	1.58	0.080	0.010	0.010	0.010	0.001	0.010
10	0.008	0.010	11.1	0.010	0.52	1.06	0.080	0.010	57.2	0.010	0.003	0.005
11	0.009	0.010	10.5	0.010	0.47	0.71	0.070	0.010	42.5	0.007	0.003	0.003
12	0.010	0.010	1.18	0.010	0.44	0.40	0.060	0.010	0.69	0.007	0.010	0.002
13	0.010	0.020	0.34	0.020	0.43	0.18	0.050	0.15	354	0.007	0.007	0.004
14	0.010	0.008	0.13	0.010	0.76	0.070	0.050	0.30	288	0.007	0.005	0.009
15	0.010	0.009	0.080	0.007	1.12	0.020	0.040	0.23	8.18	0.006	0.004	0.004
16	0.010	0.009	0.060	0.004	1.38	0.010	0.040	0.17	0.88	0.006	0.005	0.004
17	0.010	0.010	0.050	0.003	0.88	0.010	0.040	0.020	0.31	0.004	0.005	0.003
18	0.010	0.010	0.040	0.002	0.55	0.020	0.040	0.020	0.18	0.003	22.3	0.002
19	0.010	0.010	0.030	0.001	0.31	0.020	0.040	0.48	0.13	0.003	22.4	0.003
20	0.010	0.030	0.020	0.001	0.13	0.030	0.37	2.64	0.10	0.004	1.36	0.002
21	0.010	0.030	0.020	0.001	0.070	0.080	0.16	0.64	0.070	0.004	0.12	0.002
22	0.010	0.020	0.010	0.001	0.050	0.37	0.060	0.32	0.060	0.004	0.030	0.002
23	0.030	0.020	0.010	0.001	0.030	1.44	0.040	0.27	0.050	0.004	0.020	0.002
24	0.030	0.020	0.010	0.001	0.020	5.12	0.030	0.030	0.030	0.006	0.010	0.002
25	0.020	0.020	0.010	0.001	0.020	14.9	0.020	0.030	0.020	0.004	0.009	0.005
26	0.010	0.020	0.010	0.001	0.020	28.5	0.030	0.020	0.020	0.020	0.009	0.007
27	0.009	0.040	0.009	0.001	0.020	53.7	0.030	0.020	0.020	0.010	0.090	0.005
28	0.22	0.21	0.009	0.001	0.020	68.2	0.030	0.020	0.020	0.004	0.22	0.010
29	0.39	0.33	0.008	0.001	---	25.0	0.020	0.020	0.020	0.003	0.050	0.010
30	0.56	0.12	0.010	0.001	---	8.92	0.020	0.020	0.010	0.003	0.020	0.010
31	0.16	---	0.96	0.001	---	42.6	---	0.020	---	0.003	0.010	---
TOTAL	1.612	1.216	27.086	11.079	41.648	255.730	6.560	5.550	752.610	0.279	46.701	0.160

WTR YR 2005 TOTAL 1,150.231

04085068 ASHWAUBENON CREEK NEAR LITTLE RAPIDS, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.03	2.67	2.37	52.6	0.06	1.50	76.4	1.25	3.09	0.46	0.09	0.40
2	0.07	1.66	1.64	72.1	0.08	1.43	45.2	1.10	2.72	0.44	0.07	0.27
3	0.07	1.26	1.20	80.2	0.09	1.43	30.8	0.98	1.94	0.41	0.06	0.18
4	0.05	1.00	1.04	17.4	0.12	1.39	20.3	0.91	1.44	1.29	0.05	0.15
5	0.05	0.78	0.94	6.22	3.18	1.47	14.8	0.85	1.43	1.32	0.04	0.13
6	0.05	0.62	0.98	0.71	307	7.85	12.4	0.83	1.44	0.93	0.04	0.13
7	0.06	0.56	2.56	0.49	407	31.7	10.0	0.82	0.95	0.73	0.04	0.50
8	0.12	0.83	16.6	0.43	84.0	102	8.34	0.80	0.89	0.55	0.04	0.74
9	0.08	0.53	9.39	0.39	39.6	80.6	6.55	0.78	0.65	0.55	0.06	0.45
10	0.08	0.44	100	0.37	55.1	54.7	5.79	0.80	105	0.42	0.14	0.23
11	0.09	0.47	207	0.35	55.5	37.1	5.26	0.75	92.2	0.31	0.12	0.14
12	0.11	0.43	76.2	0.44	50.2	21.5	4.68	0.66	33.5	0.31	0.45	0.09
13	0.11	0.58	25.7	0.58	46.9	11.0	3.98	3.28	737	0.31	0.19	0.20
14	0.10	0.32	7.44	0.39	48.2	5.51	3.49	5.46	1,290	0.29	0.11	0.39
15	0.13	0.35	3.03	0.26	60.2	2.99	3.00	4.50	105	0.27	0.08	0.17
16	0.15	0.36	1.92	0.16	70.6	2.15	2.81	3.57	22.0	0.24	0.07	0.20
17	0.16	0.44	1.49	0.12	45.7	2.11	2.64	1.64	8.06	0.17	0.06	0.15
18	0.17	0.44	1.16	0.07	29.0	2.50	2.64	1.56	4.56	0.14	54.8	0.13
19	0.17	0.58	0.88	0.05	17.8	3.14	2.64	7.85	3.46	0.12	131	0.15
20	0.18	1.10	0.62	0.05	9.26	4.99	24.3	28.1	2.67	0.15	48.3	0.15
21	0.17	1.13	0.47	0.04	5.95	12.7	14.6	9.66	2.04	0.17	7.93	0.11
22	0.16	0.95	0.37	0.04	4.16	47.5	5.14	5.79	1.80	0.15	2.49	0.16
23	0.44	0.86	0.34	0.04	2.70	142	2.75	5.14	1.41	0.15	1.30	0.16
24	0.65	0.79	0.30	0.04	1.99	390	1.96	3.48	1.00	0.25	0.85	0.13
25	0.57	0.72	0.27	0.05	1.84	853	1.66	3.23	0.83	0.16	0.57	0.39
26	0.45	0.68	0.23	0.05	1.71	1,040	2.24	3.02	0.74	0.64	0.52	0.60
27	0.47	1.64	0.20	0.05	1.58	1,040	2.44	2.79	0.71	0.22	4.05	0.48
28	3.17	6.69	0.18	0.05	1.58	825	1.93	3.05	0.71	0.13	10.3	1.12
29	11.2	9.93	0.17	0.05	---	270	1.60	3.46	0.66	0.10	2.69	1.52
30	15.4	4.19	0.19	0.05	---	131	1.41	3.80	0.59	0.11	1.13	1.65
31	5.52	---	24.2	0.05	---	305	---	3.28	---	0.11	0.61	---
TOTAL	40.23	43.00	489.08	233.89	1,351.10	5,433.26	321.75	113.19	2,428.49	11.60	268.25	11.27

WTR YR 2005 TOTAL 10,745.11

04085068 ASHWAUBENON CREEK NEAR LITTLE RAPIDS, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Residue total at 105 deg. C, suspended, mg/L (00530)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)
OCT									
15...	1004	--	.20	10	24	--	.120	--	--
27...	1418	--	.17	10	15	.340	.410	--	--
28...	2215	--	10	50	82	--	.370	--	--
NOV									
18...	1445	--	.32	10	11	--	.230	--	--
DEC									
08...	1015	--	11	50	100	--	.350	--	--
10...	0850	--	13	50	92	--	.490	--	--
10...	1955	--	64	50	184	--	.700	--	--
11...	0755	--	64	50	74	--	.710	--	--
12...	0530	--	24	50	23	--	.740	--	--
13...	1045	8.2	--	10	15	.520	.610	--	--
JAN									
21...	1328	.10	--	10	3	--	.070	--	--
FEB									
05...	1530	2.8	--	50	35	--	.220	--	--
05...	2025	2.8	--	50	96	--	.350	--	--
06...	0255	99	--	50	54	.470	.630	--	--
06...	1455	99	--	50	44	--	.560	--	--
07...	0255	150	--	50	40	--	.580	--	--
07...	0925	150	--	50	47	--	.620	--	--
07...	0926	150	--	10	53	.520	.640	--	--
07...	2125	150	--	50	39	--	.340	94	54
08...	1750	50	--	50	22	--	.300	--	--
09...	1730	25	--	50	14	--	.270	--	--
10...	1025	18	--	10	10	.510	.620	--	--
MAR									
17...	1530	1.3	--	10	4	--	.300	--	--
25...	1145	146	--	50	40	--	1.16	--	--
26...	1145	184	--	50	56	--	1.05	83	63
27...	2345	189	--	50	146	--	1.02	95	159
28...	1440	154	--	50	192	--	1.11	--	--
28...	2255	154	--	50	156	--	.770	--	--
29...	1640	85	--	50	100	--	.530	--	--
30...	1640	53	--	50	35	--	.400	--	--
31...	0230	--	102	50	344	.250	.730	99	422
31...	2125	--	52	50	62	--	.560	--	--
APR									
01...	0950	--	31	10	32	--	.450	--	--
04...	1100	--	10	10	8	.310	.390	--	--
19...	1630	--	1.7	10	7	--	.260	--	--
MAY									
04...	0955	--	1.1	10	4	.090	.150	--	--
18...	1150	--	1.1	10	6	--	.260	--	--
JUN									
02...	0855	--	.58	10	9	.980	.970	--	--
10...	2200	--	17	50	472	--	.790	--	--
10...	2235	--	57	50	6,180	.330	7.01	--	--
11...	0135	--	34	50	190	--	.650	--	--
11...	1700	--	5.5	50	2,390	--	2.27	--	--
13...	1700	--	19	50	756	--	1.00	--	--
13...	1730	--	66	50	3,140	--	2.76	--	--
13...	1845	--	178	50	3,680	--	3.49	99	3,740
13...	2220	--	248	50	1,660	.200	1.72	--	--
14...	1020	--	211	50	288	.330	1.46	--	--
14...	1021	--	210	10	856	--	.770	--	--
14...	1845	--	87	50	130	--	.690	97	216
14...	2330	--	61	50	172	--	.770	--	--
15...	1840	--	20	50	51	--	.510	--	--
16...	1120	--	7.9	10	38	--	.510	--	--
28...	1040	--	.37	10	20	.340	.390	--	--
JUL									
14...	1639	--	.14	10	20	--	.430	--	--
27...	0740	--	.11	10	38	.300	.400	--	--

04085068 ASHWAUBENON CREEK NEAR LITTLE RAPIDS, WI—Continued

Date	Time	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Residue total at 105 deg. C, suspended, mg/L (00530)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)
AUG						
16...	1144	.03	10	64	--	.440
18...	2040	3.0	50	204	--	.440
18...	2115	38	50	386	.090	.550
18...	2135	55	50	1,910	--	2.02
19...	0120	32	50	640	.360	1.08
19...	1320	36	50	126	--	.530
20...	1320	9.7	50	33	--	.920
27...	2125	2.0	50	30	--	.590
28...	0940	4.5	50	24	--	.620
28...	2140	2.2	50	26	.460	.530
29...	1010	.90	10	18	.450	.560
SEP						
13...	1200	.05	10	14	--	.300
30...	1120	.74	10	7	.039	.390

040851325 BAIRD CREEK AT SUPERIOR ROAD AT GREEN BAY, WI

LOCATION.--Lat 44°30'04", long 87°56'10" in NW 1/4 NE 1/4 sec.3, T.23 N., R.21 E., Brown County, Hydrologic Unit 04030204, on left bank 10 ft upstream from Superior Road bridge and 0.9 mi north of County Road V, in Green Bay, WI.

DRAINAGE AREA.--15.74 mi^2.

PERIOD OF RECORD.--September 2003 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 670 feet above NGVD29.

REMARKS.--Records good, except those that are estimated and those under 0.5 cfs, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.38	0.74	0.95	e3.9	e0.43	e1.1	105	3.5	0.73	0.34	0.27	0.31
2	0.33	0.81	0.85	e18	e0.44	e1.1	81	3.6	0.71	0.33	0.27	0.28
3	0.27	0.74	0.79	e14	e0.44	e1.4	61	3.4	0.58	0.32	0.27	0.30
4	0.24	0.73	0.74	e6.5	e0.58	e1.3	46	2.3	0.66	0.62	0.26	0.32
5	0.33	0.67	0.66	e2.9	e15	e1.3	36	2.1	0.87	0.35	0.26	0.30
6	0.31	0.67	0.81	e1.9	e62	e12	29	2.0	0.51	0.34	0.26	0.31
7	0.26	0.65	2.1	e1.5	e73	e28	23	1.9	0.52	0.32	0.26	0.73
8	0.63	0.59	2.2	e1.1	e56	e19	18	1.7	1.7	0.30	0.23	0.39
9	0.34	0.58	2.4	e0.90	e40	e12	14	1.7	0.61	0.29	0.31	0.30
10	0.37	0.68	11	e0.85	e30	e9.0	12	1.6	1.5	0.30	0.27	0.31
11	0.37	0.72	12	e0.90	e23	e6.9	12	1.4	2.0	0.30	0.36	0.32
12	0.40	0.60	8.4	e1.6	e20	e3.7	9.7	1.3	4.4	0.32	0.47	0.34
13	0.42	0.56	5.1	e3.2	e19	e2.8	7.9	2.8	17	0.32	0.24	0.44
14	0.51	0.54	3.7	e2.4	e16	e2.3	5.9	2.7	27	0.33	0.23	0.30
15	0.81	0.52	2.1	e1.8	e11	e1.9	4.7	2.6	15	0.32	0.23	0.26
16	0.57	0.56	1.5	e1.6	e9.3	e1.7	4.0	2.2	9.2	0.32	0.25	0.27
17	0.43	0.60	1.1	e1.4	e7.1	e1.6	3.5	1.9	5.8	0.32	0.23	0.28
18	0.42	0.53	1.0	e1.1	e4.6	e1.6	3.0	1.7	3.7	0.32	17	0.30
19	0.42	0.64	e1.0	e0.85	e2.8	e1.7	3.8	3.2	2.7	0.33	11	0.35
20	0.40	1.1	e1.0	e0.74	e2.2	e1.8	11	2.5	2.0	0.36	0.94	0.34
21	0.38	0.68	e0.95	e0.71	e1.8	e4.6	9.5	2.2	1.4	0.31	0.32	0.34
22	0.39	0.64	e0.83	e0.65	e1.6	e10	6.8	2.6	1.1	0.30	0.29	0.41
23	2.8	0.62	e0.81	e0.58	e1.4	e17	5.3	1.9	0.82	0.34	0.25	0.30
24	1.0	0.60	e0.83	e0.55	e1.3	e22	4.1	1.6	0.62	0.28	0.23	0.31
25	0.77	0.56	e0.81	e0.49	e1.2	e31	3.7	1.5	0.55	0.30	0.24	0.77
26	0.98	0.61	e0.81	e0.48	e1.2	e66	5.4	1.2	0.52	0.91	0.24	0.42
27	1.0	1.8	e0.81	e0.48	e1.3	e111	6.1	1.1	0.44	0.28	2.2	0.30
28	3.9	2.1	e0.77	e0.45	e1.2	e139	6.3	1.1	0.40	0.27	0.34	1.2
29	3.1	1.3	e0.77	e0.45	---	e158	5.3	1.0	0.39	0.27	0.26	0.59
30	1.2	0.98	e1.6	e0.45	---	156	4.3	0.86	0.41	0.28	0.27	0.34
31	0.79	---	e6.6	e0.44	---	150	---	0.77	---	0.27	0.30	---
TOTAL	24.52	23.12	74.99	72.87	403.89	976.8	547.3	61.93	103.84	10.56	38.55	11.73
MEAN	0.79	0.77	2.42	2.35	14.4	31.5	18.2	2.00	3.46	0.34	1.24	0.39
MAX	3.9	2.1	12	18	73	158	105	3.6	27	0.91	17	1.2
MIN	0.24	0.52	0.66	0.44	0.43	1.1	3.0	0.77	0.39	0.27	0.23	0.26
CFSM	0.05	0.05	0.15	0.15	0.92	2.00	1.16	0.13	0.22	0.02	0.08	0.02
IN.	0.06	0.05	0.18	0.17	0.95	2.31	1.29	0.15	0.25	0.02	0.09	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.87	8.07	6.19	3.41	7.90	65.1	13.6	25.0	37.2	0.93	0.87	0.37
MAX	0.95	15.4	9.95	4.46	14.4	98.8	18.2	48.0	70.8	1.53	1.24	0.39
(WY)	(2004)	(2004)	(2004)	(2004)	(2005)	(2004)	(2005)	(2004)	(2004)	(2004)	(2005)	(2005)
MIN	0.79	0.77	2.42	2.35	1.60	31.5	9.01	2.00	3.46	0.34	0.50	0.35
(WY)	(2005)	(2005)	(2005)	(2005)	(2004)	(2005)	(2004)	(2005)	(2005)	(2005)	(2004)	(2004)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		SEPTEMBER 2003 - 2005	
ANNUAL TOTAL	7,325.46		2,350.10			
ANNUAL MEAN	20.0		6.44		14.2	
HIGHEST ANNUAL MEAN					21.9	2004
LOWEST ANNUAL MEAN					6.44	2005
HIGHEST DAILY MEAN	299	Mar 3	(a)158	Mar 29	299	Mar 3, 2004
LOWEST DAILY MEAN	0.23	Sep 20	0.23	(b)Aug 8	0.21	Sep 25, 2003
ANNUAL SEVEN-DAY MINIMUM	0.26	Sep 18	0.26	Aug 2	0.26	(c)Aug 2, 2005
MAXIMUM PEAK FLOW			267	Aug 18	(d)444	May 31, 2004
MAXIMUM PEAK STAGE			4.30	Aug 18	(a)5.66	Mar 1, 2004
ANNUAL RUNOFF (CFSM)	1.27		0.409		0.900	
ANNUAL RUNOFF (INCHES)	17.31		5.55		12.22	
10 PERCENT EXCEEDS	69		13		36	
50 PERCENT EXCEEDS	1.1		0.86		1.3	
90 PERCENT EXCEEDS	0.39		0.30		0.31	

040851325 BAIRD CREEK AT SUPERIOR ROAD AT GREEN BAY, WI—Continued

(a) Ice affected
(b) Also occurred Aug. 14, 15, 17, and 24
(c) Also occurred Sept. 18, 2004
(d) Gage height, 5.16 ft
(e) Estimated

040851325 BAIRD CREEK AT SUPERIOR ROAD AT GREEN BAY, WI—Continued

PRECIPITATION QUANTITY

PERIOD OF RECORD.--October 2003 to current year (non-frozen precipitation).

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

REMARKS.--Rainfall estimated to be 0.00 for Dec. 6, 7, 13, Jan. 4, 12, 19, 23, 25, 26, Feb. 10, 13-15, 21-26, and Mar. 4 and 20 because recorded precipitation interpreted as collector snowmelt.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 3.18 in., Aug. 18, 2005.

EXTREMES FOR CURRENT YEAR.-- Maximum daily rainfall, 3.18 in., Aug. 18.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.27	0.03	0.00	0.01	0.00	0.00	0.08	0.00	0.05	0.00	0.00	0.00
2	0.00	0.12	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.46	0.01	0.01
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.02	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.63	0.00	0.00	0.78
8	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
9	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.51	0.00
10	0.00	0.21	0.70	0.00	0.00	0.02	0.00	0.00	0.67	0.00	0.04	0.00
11	0.00	0.00	0.00	0.00	0.00	0.01	0.15	0.00	0.11	0.00	0.47	0.00
12	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.79	0.00	0.00	0.39
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.01
15	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.08	0.00	0.00	3.18	0.00
19	0.00	0.38	0.00	0.00	0.00	0.00	0.80	0.32	0.00	0.00	0.13	0.11
20	0.00	0.16	0.00	0.00	0.00	0.00	0.07	0.01	0.00	0.32	0.05	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.26
23	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.41	0.00	0.46
26	0.09	0.24	0.00	0.00	0.00	0.00	0.07	0.04	0.10	0.26	0.47	0.05
27	0.03	0.68	0.00	0.00	0.00	0.00	0.01	0.29	0.00	0.00	0.54	0.00
28	1.25	0.06	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.72
29	0.02	0.00	0.00	0.00	---	0.00	0.00	0.10	0.00	0.00	0.00	0.00
30	0.18	0.00	0.00	0.00	---	0.44	0.00	0.00	0.13	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	3.40	1.98	0.81	0.05	0.31	0.47	1.55	2.00	3.24	1.70	5.57	2.80

CAL YR 2004 TOTAL 26.55
WTR YR 2005 TOTAL 23.88

040851325 BAIRD CREEK AT SUPERIOR ROAD AT GREEN BAY, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2003 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January to April 2004 (discontinued).
SUSPENDED-SOLIDS DISCHARGE: October 2003 to current year.
TOTAL-PHOSPHORUS DISCHARGE: October 2003 to current year.

INSTRUMENTATION.--Continuous specific conductance record from January to April 2004. Water-quality sampler October 2003 to current year.

REMARKS.--Chemical analyses by the Green Bay Metropolitan Sewerage District Laboratory. Samples are point samples unless otherwise indicated.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,250 µS/cm, Feb. 26, 2004; minimum, 81 µS/cm, Mar. 3, 2004.
SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 426 tons, Mar. 5, 2004; minimum daily, 0.001 tons, Sept. 28, 30, 2004.
TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 1,820 lbs, Mar. 3, 2004; minimum daily, 0.06 lbs, Sept. 15-16, 2005.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 109 tons, Mar. 28; minimum daily, 0.003 tons, many days.
TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 696 lbs, Mar. 28; minimum daily, 0.06 lbs, Sept. 15-16.

SUSPENDED SOLIDS, DRIED AT 105 DEGREES CELSIUS, WATER, UNFILTERED, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.004	0.008	0.010	0.15	0.007	0.008	9.03	0.040	0.020	0.010	0.010	0.007
2	0.004	0.008	0.010	2.27	0.007	0.007	5.30	0.030	0.020	0.010	0.010	0.007
3	0.003	0.007	0.010	1.45	0.007	0.009	3.13	0.030	0.020	0.010	0.010	0.007
4	0.003	0.007	0.010	0.37	0.009	0.008	1.60	0.020	0.020	0.020	0.010	0.008
5	0.004	0.006	0.010	0.090	0.87	0.007	1.10	0.020	0.030	0.010	0.010	0.007
6	0.003	0.006	0.010	0.040	6.75	0.37	0.83	0.020	0.010	0.010	0.009	0.007
7	0.003	0.006	0.050	0.030	8.63	1.22	0.62	0.020	0.010	0.009	0.009	0.12
8	0.010	0.005	0.050	0.020	3.05	0.70	0.46	0.010	0.080	0.008	0.008	0.010
9	0.004	0.005	0.060	0.020	1.56	0.37	0.35	0.010	0.020	0.008	0.010	0.006
10	0.004	0.005	1.84	0.020	0.97	0.24	0.27	0.010	0.060	0.008	0.008	0.005
11	0.004	0.005	1.17	0.020	0.68	0.17	0.25	0.010	0.10	0.008	0.010	0.005
12	0.004	0.004	0.37	0.030	0.52	0.070	0.20	0.010	0.28	0.008	0.010	0.004
13	0.004	0.004	0.13	0.10	0.44	0.020	0.15	0.15	6.81	0.008	0.006	0.005
14	0.006	0.003	0.080	0.060	0.33	0.010	0.11	0.14	5.36	0.008	0.006	0.003
15	0.010	0.003	0.040	0.040	0.21	0.010	0.080	0.14	1.27	0.008	0.006	0.003
16	0.006	0.003	0.030	0.030	0.15	0.009	0.070	0.11	0.47	0.008	0.006	0.003
17	0.005	0.003	0.020	0.020	0.10	0.008	0.050	0.020	0.28	0.008	0.006	0.003
18	0.005	0.003	0.020	0.020	0.060	0.008	0.040	0.010	0.17	0.008	103	0.003
19	0.005	0.010	0.020	0.010	0.030	0.009	0.050	0.18	0.12	0.008	13.2	0.004
20	0.004	0.020	0.020	0.010	0.030	0.010	0.97	0.13	0.090	0.009	0.050	0.004
21	0.004	0.004	0.020	0.010	0.020	0.090	0.80	0.11	0.060	0.007	0.009	0.004
22	0.004	0.003	0.020	0.010	0.020	0.26	0.51	0.14	0.050	0.007	0.008	0.004
23	0.20	0.003	0.020	0.009	0.010	1.21	0.36	0.020	0.030	0.008	0.007	0.003
24	0.020	0.003	0.020	0.009	0.010	4.40	0.25	0.020	0.020	0.007	0.006	0.003
25	0.010	0.003	0.020	0.008	0.010	11.6	0.22	0.020	0.020	0.008	0.006	0.020
26	0.020	0.003	0.020	0.008	0.010	17.0	0.37	0.020	0.020	0.16	0.006	0.006
27	0.020	0.040	0.020	0.008	0.010	75.0	0.44	0.020	0.020	0.020	0.63	0.004
28	0.26	0.050	0.010	0.007	0.009	109	0.46	0.020	0.010	0.010	0.010	0.11
29	0.17	0.020	0.010	0.007	---	73.2	0.36	0.020	0.010	0.010	0.007	0.020
30	0.030	0.010	0.030	0.007	---	41.7	0.050	0.020	0.010	0.010	0.007	0.005
31	0.009	---	0.38	0.007	---	29.8	---	0.020	---	0.010	0.007	---
TOTAL	0.842	0.260	4.530	4.890	24.509	366.523	28.480	1.540	15.490	0.441	117.097	0.400

WTR YR 2005 TOTAL 565.002

040851325 BAIRD CREEK AT SUPERIOR ROAD AT GREEN BAY, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.22	0.28	0.75	4.92	0.34	0.58	212	1.95	0.83	0.52	0.25	0.23
2	0.19	0.31	0.64	18.7	0.34	0.59	146	1.90	0.84	0.49	0.25	0.21
3	0.15	0.28	0.57	15.0	0.35	0.70	98.9	1.71	0.68	0.47	0.24	0.23
4	0.14	0.28	0.52	7.39	0.38	0.67	68.2	1.14	0.77	0.88	0.23	0.24
5	0.19	0.26	0.43	2.50	10.7	0.62	49.2	1.03	1.19	0.48	0.22	0.23
6	0.17	0.25	0.59	1.53	204	16.8	36.8	1.01	0.59	0.45	0.21	0.23
7	0.15	0.25	2.50	1.18	261	52.4	27.4	0.96	0.59	0.43	0.21	0.82
8	0.43	0.22	2.69	0.89	93.9	31.1	20.2	0.92	2.75	0.38	0.19	0.26
9	0.19	0.22	3.06	0.71	53.6	16.8	15.1	0.90	0.68	0.36	0.24	0.16
10	0.20	0.26	27.2	0.67	70.8	11.4	11.5	0.87	2.35	0.36	0.21	0.13
11	0.20	0.27	42.3	0.70	55.7	8.00	10.7	0.79	3.36	0.35	0.26	0.11
12	0.22	0.23	21.7	1.24	40.2	3.47	8.44	0.73	8.97	0.37	0.34	0.09
13	0.23	0.21	9.69	2.86	31.8	1.39	6.45	5.11	62.1	0.35	0.17	0.10
14	0.28	0.20	4.88	1.94	23.0	1.12	4.56	4.88	88.4	0.35	0.16	0.07
15	0.61	0.20	2.00	1.39	13.5	1.02	3.34	4.66	38.6	0.35	0.16	0.06
16	0.31	0.21	1.43	1.17	9.17	0.91	2.69	3.78	20.8	0.34	0.16	0.06
17	0.23	0.23	1.05	1.04	5.88	1.02	2.19	1.23	12.1	0.35	0.15	0.07
18	0.23	0.20	0.93	0.79	3.24	1.00	1.75	1.13	7.18	0.35	215	0.08
19	0.23	0.41	0.92	0.63	1.79	0.93	2.18	6.03	4.96	0.35	36.4	0.09
20	0.21	0.94	0.92	0.54	1.38	0.87	28.1	4.44	3.61	0.39	0.76	0.09
21	0.20	0.26	0.86	0.51	1.13	4.65	23.4	3.78	2.51	0.33	0.24	0.10
22	0.21	0.24	0.75	0.47	0.95	6.96	15.4	4.66	1.93	0.32	0.22	0.12
23	2.67	0.23	0.72	0.41	0.85	20.0	11.3	1.53	1.40	0.37	0.19	0.09
24	0.97	0.23	0.74	0.39	0.77	53.9	8.21	1.32	1.03	0.31	0.18	0.10
25	0.71	0.21	0.71	0.41	0.71	133	7.23	1.28	0.90	0.32	0.18	0.29
26	0.87	0.23	0.70	0.41	0.67	206	11.6	1.10	0.83	1.21	0.18	0.15
27	0.88	1.98	0.74	0.36	0.72	531	13.5	1.60	0.70	0.30	3.53	0.10
28	5.24	2.50	0.71	0.34	0.65	696	14.0	1.09	0.62	0.28	0.27	0.38
29	3.83	1.21	0.69	0.34	---	402	11.3	1.04	0.61	0.27	0.20	0.19
30	1.05	0.79	1.36	0.32	---	231	2.47	0.91	0.65	0.28	0.20	0.11
31	0.30	---	6.34	0.31	---	287	---	0.84	---	0.26	0.23	---
TOTAL	21.71	13.59	139.09	70.06	887.52	2,722.90	874.11	64.32	272.53	12.62	261.43	5.19

WTR YR 2005 TOTAL 5,345.07

040851325 BAIRD CREEK AT SUPERIOR ROAD AT GREEN BAY, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Dis-charge, cfs (00060)	Instan-taneous dis-charge, cfs (00061)	Sam-pling method, code (82398)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)
OCT									
15...	1050	--	1.0	10	4	--	.100	--	--
23...	1120	--	18	50	91	.090	.290	--	--
27...	1038	--	1.1	10	5	.090	.160	--	--
28...	2120	--	17	50	89	--	.290	--	--
NOV									
18...	1137	--	.56	10	2	--	.070	--	--
DEC									
10...	0945	--	14	50	77	--	.170	--	--
10...	1520	--	19	10	70	.220	.470	--	--
10...	2150	--	14	50	53	--	.770	--	--
13...	1355	--	4.1	10	8	.230	.340	--	--
JAN									
21...	1430	.71	--	10	6	--	2.70	--	--
FEB									
05...	1840	15	--	50	41	--	.120	--	--
06...	0400	62	--	50	<7	--	.330	--	--
06...	1520	62	--	50	69	--	.870	--	--
06...	2345	62	--	50	57	.690	.790	--	--
07...	1255	73	--	50	40	--	.710	--	--
07...	1256	73	--	10	42	--	.700	--	--
08...	1255	56	--	50	16	--	.250	--	--
08...	1915	56	--	50	17	--	.300	--	--
09...	1915	40	--	50	12	--	.220	--	--
10...	1240	30	--	10	12	.440	.520	--	--
MAR									
17...	1205	1.6	--	10	<2	--	.090	--	--
25...	1230	31	--	50	190	--	.920	--	--
26...	0545	66	--	50	28	--	.630	--	--
26...	1745	66	--	50	207	--	1.02	--	--
27...	0545	111	--	50	30	--	.470	--	--
27...	1335	111	--	50	462	--	1.31	85	459
28...	1145	139	--	50	212	--	.890	--	--
28...	1146	139	--	10	261	--	.900	--	--
28...	1345	139	--	50	329	--	1.16	74	493
29...	1345	158	--	50	147	.290	.610	--	--
30...	1311	--	151	10	64	--	.460	--	--
30...	1315	--	150	50	59	--	.460	--	--
30...	2245	--	168	50	157	--	.590	92	166
31...	1045	--	178	50	53	.250	.440	--	--
APR									
01...	1045	--	104	50	28	--	.370	--	--
03...	1145	--	62	50	18	--	.300	--	--
04...	1200	--	45	10	12	.190	.270	--	--
20...	1400	--	12	10	10	--	.270	--	--
MAY									
04...	0905	--	2.3	10	<3	.060	.090	--	--
18...	1319	--	1.8	10	3	--	.120	--	--
JUN									
02...	1150	--	1.1	10	10	.150	.220	--	--
13...	1755	--	64	50	434	.220	.930	--	--
14...	1200	--	26	10	56	--	.560	--	--
16...	0830	--	10	10	18	--	.420	--	--
28...	0950	--	.43	10	13	.220	.290	--	--
JUL									
14...	1400	--	.34	10	9	--	.200	--	--
26...	0130	--	4.1	50	119	.120	.300	--	--
27...	0910	--	.30	10	20	.130	.200	--	--
AUG									
16...	1353	--	.24	10	9	--	.120	--	--
18...	2105	--	9.0	50	54	--	.220	--	--
18...	2115	--	65	50	542	.070	.890	--	--
18...	2125	--	132	50	1,870	--	2.53	--	--
18...	2135	--	206	50	2,810	--	3.22	--	--
18...	2150	--	234	50	2,600	.060	3.05	--	--
18...	2200	--	263	50	2,680	--	3.14	--	--
18...	2230	--	170	50	2,340	--	2.38	--	--
19...	0005	--	54	50	780	--	.850	--	--
19...	0530	--	17	50	296	.210	.610	--	--
27...	0020	--	19	50	276	.100	.470	--	--
29...	1205	--	.26	10	9	.080	.140	--	--

040851325 BAIRD CREEK AT SUPERIOR ROAD AT GREEN BAY, WI—Continued

Date	Time	Instan- taneous dis- charge, cfs (00061)	Sam- pling method, code (82398)	Residue total at 105 deg. C, sus- pended, mg/L (00530)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)
SEP						
07...	1840	3.8	50	192	.090	.380
13...	1250	.37	10	4	--	.040
25...	1220	6.1	50	31	--	.090
28...	1510	3.8	50	54	<.020	.060
30...	1010	.33	10	<5	.020	.060

040851378 EAST RIVER AT MONROE STREET AT GREEN BAY, WI

LOCATION.--Lat 44°31'02", long 88°00'24" in SW 1/4 SW 1/4 sec. 30, T.24 N., R.21 E., Brown County, Hydrologic Unit 04030204, on right bank upstream side Monroe Street bridge and 0.2 mi upstream of the Fox River.

DRAINAGE AREA.--145 mi^2.

PERIOD OF RECORD.--December 2003 to current year.

GAGE.--Water-stage recorder. Side-looking velocity meter system. Elevation of gage is 585 ft above NGVD of 1929, from topographic map.

REMARKS.--Records fair except for estimated daily discharges and those for days with negative mean daily flow, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-35	-8.8	57	85	29	36	386	84	14	40	11	49
2	149	128	-9.1	247	53	73	276	78	24	7.2	3.2	25
3	-42	51	123	177	23	71	229	81	35	-19	-35	44
4	70	72	-36	137	49	33	123	e48	26	75	25	-30
5	62	43	13	55	65	57	109	e35	60	-26	45	42
6	-18	-42	5.0	87	339	92	136	-19	59	93	-12	0.07
7	-31	121	131	61	882	249	156	86	-17	60	3.5	63
8	40	-7.8	103	41	541	225	97	17	180	36	-16	63
9	70	8.0	65	39	283	205	46	-3.8	78	14	37	28
10	-7.5	-11	157	36	129	120	38	22	109	-2.4	-29	26
11	19	63	268	16	100	57	e38	11	113	-7.8	46	44
12	22	18	139	21	83	63	e119	150	53	16	78	19
13	-43	53	95	134	28	62	e111	66	162	-13	32	38
14	118	-9.4	123	95	103	46	84	124	439	96	26	61
15	56	28	59	86	123	56	37	116	177	79	58	18
16	103	-5.1	19	47	137	52	80	52	172	16	34	48
17	-25	28	28	65	129	57	58	e33	102	34	-38	22
18	-55	37	24	-15	51	54	24	e42	114	13	97	12
19	22	15	57	81	89	60	63	e105	27	31	335	75
20	39	86	43	-21	13	104	146	e98	42	-21	98	-19
21	25	75	-3.3	11	66	103	e148	e59	33	1.8	68	8.1
22	0.56	34	47	70	58	112	e33	e40	58	94	54	39
23	43	-13	30	16	43	163	e195	e26	21	12	50	76
24	47	35	33	50	36	195	e148	e45	19	80	17	28
25	-8.4	66	-25	37	41	328	e55	e13	65	5.1	36	42
26	-8.7	-3.3	13	-6.2	36	317	e135	47	34	81	22	118
27	89	72	21	28	4.1	445	87	69	1.2	148	160	46
28	63	105	34	29	79	582	88	64	-29	-4.8	39	96
29	128	72	35	56	---	e629	60	41	149	62	34	82
30	138	49	-3.1	13	---	e564	89	59	64	11	35	34
31	8.6	---	163	17	---	e760	---	74	---	0.11	65	---
TOTAL	1,038.56	1,158.6	1,808.5	1,794.8	3,612.1	5,970	3,394	1,762.2	2,384.2	1,011.21	1,378.7	1,197.17
MEAN	33.5	38.6	58.3	57.9	129	193	113	56.8	79.5	32.6	44.5	39.9
MAX	149	128	268	247	882	760	386	150	439	148	335	118
MIN	-55	-42	-36	-21	4.1	33	24	-19	-29	-26	-38	-30
CFSM	0.23	0.27	0.40	0.40	0.89	1.33	0.78	0.39	0.55	0.23	0.31	0.28
IN.	0.27	0.30	0.46	0.46	0.93	1.53	0.87	0.45	0.61	0.26	0.35	0.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2004 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	33.5	38.6	64.2	47.7	89.7	399	98.7	229	213	49.3	41.2	29.6
MAX	33.5	38.6	75.5	57.9	129	605	113	400	346	66.1	44.5	39.9
(WY)	(2005)	(2005)	(2004)	(2005)	(2005)	(2004)	(2005)	(2004)	(2004)	(2004)	(2005)	(2005)
MIN	33.5	38.6	58.3	37.4	51.7	193	84.3	56.8	79.5	32.6	37.9	19.4
(WY)	(2005)	(2005)	(2005)	(2004)	(2004)	(2005)	(2004)	(2005)	(2005)	(2005)	(2004)	(2004)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2004 - 2005	
ANNUAL TOTAL	54,546.18		26,510.04			
ANNUAL MEAN	149		72.6		119	
HIGHEST ANNUAL MEAN					178	2004
LOWEST ANNUAL MEAN					72.6	2005
HIGHEST DAILY MEAN	2,660	Mar 6	882	Feb 7	2,660	Mar 6, 2004
LOWEST DAILY MEAN	-55	Oct 18	-55	Oct 18	-55	Oct 18, 2004
ANNUAL SEVEN-DAY MINIMUM	7.1	Oct 17	2.0	Aug 2	2.0	Aug 2, 2005
ANNUAL RUNOFF (CFSM)	1.03		0.501		0.825	
ANNUAL RUNOFF (INCHES)	14.00		6.81		11.20	
10 PERCENT EXCEEDS	329		148		233	
50 PERCENT EXCEEDS	55		49		56	
90 PERCENT EXCEEDS	-5.4		-6.7		-0.55	

(e) Estimated

040851378 EAST RIVER AT MONROE STREET AT GREEN BAY, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 2003 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SOLIDS DISCHARGE: December 2003 to current year.
TOTAL-PHOSPHORUS DISCHARGE: December 2003 to current year.

INSTRUMENTATION.--Water-quality sampler December 2003 to current year.

REMARKS.--Chemical analyses by the Green Bay Metropolitan Sewerage District Laboratory. Samples are point samples and are composite of four discrete samples collected during periods of positive flow. Negative loads are due to flow reversals. Suspended sediment and total-phosphorus loads have been calculated at this site for the 1986 water year. Loads for this period are published in U.S. Geological Survey Open-File Report 89-245.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 5240 tons, June 1, 2004; minimum daily, -6.62 tons, Aug. 24, 2004, due to flow reversal.
TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 17,400 lbs, June 1, 2004; minimum daily, -54.5 lbs, Aug. 24, 2004, due to flow reversal.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SOLIDS DISCHARGE: Maximum daily, 162 tons, Mar. 31; minimum daily, 11.0 tons, Aug. 3, due to flow reversal.
TOTAL-PHOSPHORUS DISCHARGE: Maximum daily, 2,050 lbs, Mar. 29; minimum daily, -67.9 lbs, Aug. 3, due to flow reversal.

SUSPENDED SOLIDS, DRIED AT 105 DEGREES CELSIUS, WATER, UNFILTERED, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-7.40	-0.74	2.96	2.55	0.40	0.51	39.9	3.37	1.18	5.09	3.53	11.9
2	31.0	10.5	-0.46	6.87	0.73	1.06	31.4	3.02	1.94	0.94	1.04	6.12
3	-8.42	4.18	6.46	4.62	0.32	1.07	34.1	3.46	2.78	-2.42	-11.0	10.8
4	14.0	5.76	-1.87	3.34	0.66	0.52	23.0	2.33	2.04	9.61	7.69	-7.31
5	12.2	3.41	0.68	1.26	0.96	0.93	20.0	1.92	4.60	-3.30	13.8	10.3
6	-3.35	-3.23	0.27	1.85	8.82	1.64	23.6	-1.16	4.49	12.0	-3.55	0.070
7	-5.72	9.22	7.11	1.21	30.9	4.86	25.5	5.97	-1.29	7.80	1.02	15.1
8	7.09	-0.53	5.67	0.76	15.9	4.70	15.0	1.37	14.3	4.68	-4.70	14.9
9	12.1	0.56	3.61	0.68	6.44	3.78	6.79	-0.33	6.45	1.83	10.7	6.56
10	-1.19	-0.71	8.74	0.59	2.27	1.88	5.28	2.12	9.19	-0.30	-8.26	5.95
11	3.06	3.82	15.0	0.26	1.38	0.76	4.89	1.16	9.81	-1.04	13.0	9.88
12	3.46	1.04	7.93	0.34	1.02	0.71	14.8	17.1	4.76	2.74	21.9	4.26
13	-6.50	2.80	5.52	2.12	0.32	0.59	13.3	8.25	15.9	-2.94	8.93	8.62
14	17.3	-0.45	7.28	1.50	1.05	0.39	9.79	16.7	64.5	27.5	7.12	14.2
15	8.04	1.29	3.59	1.35	1.15	0.47	4.12	17.0	26.2	22.0	15.7	4.37
16	14.2	-0.23	1.19	0.73	1.17	0.46	8.56	8.21	23.2	4.23	9.27	11.8
17	-3.26	1.30	1.77	1.00	1.01	0.52	6.05	5.05	13.0	8.17	-10.3	5.61
18	-7.07	1.74	1.55	-0.22	0.37	0.51	2.38	6.13	15.4	2.94	27.2	3.14
19	2.60	0.72	3.75	1.22	0.58	0.60	5.80	14.7	4.02	6.52	109	19.9
20	4.37	4.09	2.88	-0.31	0.080	1.07	12.3	13.2	6.58	-4.47	33.2	-4.90
21	2.62	3.61	-0.19	0.16	0.36	1.14	11.6	7.61	5.08	0.38	22.8	2.09
22	0.070	1.66	2.75	1.04	0.36	1.52	2.46	4.94	8.59	21.7	17.3	10.1
23	3.86	-0.62	1.66	0.24	0.30	2.79	13.0	3.08	3.04	2.99	11.5	19.6
24	3.95	1.71	1.70	0.73	0.29	4.21	9.10	5.07	2.63	19.9	2.68	7.22
25	-0.64	3.27	-1.19	0.54	0.37	9.37	3.17	1.43	8.64	1.42	3.80	10.6
26	-0.70	-0.15	0.57	-0.090	0.37	14.8	7.22	4.86	4.40	21.6	1.59	29.5
27	7.25	3.61	0.88	0.40	0.050	26.4	4.41	6.85	0.17	40.8	9.40	11.6
28	5.35	5.33	1.33	0.41	1.05	47.8	4.19	6.10	-3.60	-1.15	5.39	23.7
29	12.1	3.70	1.28	0.79	---	115	2.71	3.75	18.6	18.2	7.62	20.2
30	14.4	2.54	-0.10	0.19	---	125	3.77	5.15	8.13	3.42	8.37	8.27
31	0.89	---	5.18	0.24	---	162	---	6.21	---	0.050	15.6	---
TOTAL	135.660	69.20	97.50	36.370	78.680	537.06	368.19	184.62	284.73	230.890	351.34	294.150

WTR YR 2005 TOTAL 2,668.390

040851378 EAST RIVER AT MONROE STREET AT GREEN BAY, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-50.6	-10.9	81.6	109	8.13	41.3	598	59.6	11.7	60.5	21.3	36.3
2	227	153	-12.5	312	13.9	78.9	471	79.7	20.9	11.3	6.31	14.5
3	-65.5	59.5	175	223	5.70	73.0	456	84.7	32.6	-29.5	-67.9	19.6
4	115	80.4	-50.2	171	11.3	32.5	278	48.8	25.9	119	48.3	-10.3
5	106	46.6	18.2	68.5	15.5	53.2	232	34.4	63.6	-41.1	88.0	12.0
6	-29.6	-43.3	7.19	106	156	82.0	267	-17.8	66.9	147	-23.0	0.09
7	-50.7	121	186	74.4	879	210	281	78.7	-20.0	94.1	6.73	28.3
8	63.3	-7.01	147	49.6	544	184	161	15.5	229	55.5	-31.3	36.8
9	109	8.16	92.6	46.7	251	170	70.7	-3.23	107	21.3	72.5	21.2
10	-10.8	-11.9	222	42.5	101	102	53.5	20.5	157	-3.43	-56.7	25.3
11	27.9	72.4	379	17.9	68.9	49.6	48.1	11.2	173	-11.4	90.4	55.2
12	31.6	22.3	198	21.9	52.0	55.5	139	164	86.7	23.7	155	29.9
13	-59.8	68.6	135	130	19.2	55.4	119	78.7	277	-19.7	64.2	58.7
14	160	-12.5	174	87.0	77.8	42.6	83.4	159	756	150	51.9	90.3
15	75.0	40.2	83.8	73.7	104	52.0	33.4	161	308	127	115	25.9
16	133	-7.18	27.1	37.9	129	48.8	66.2	77.3	297	26.9	66.9	64.9
17	-30.7	40.5	39.4	48.7	135	53.8	44.6	47.5	177	57.2	-72.4	28.7
18	-67.5	53.7	33.8	-10.2	60.1	51.0	16.3	57.6	197	22.7	182	15.0
19	25.9	21.9	79.9	53.0	116	57.8	30.8	137	47.4	54.8	619	89.9
20	45.5	124	60.4	-12.6	19.4	99.7	49.3	123	72.2	-37.7	191	-23.3
21	28.5	109	-4.26	6.25	104	103	34.8	71.1	55.4	3.13	137	10.6
22	0.76	49.5	64.6	37.7	90.0	138	5.56	46.0	94.2	178	111	54.9
23	46.2	-18.4	41.2	8.25	63.9	255	22.0	28.6	33.5	24.3	88.3	114
24	49.4	50.2	44.9	23.6	51.1	388	11.6	47.1	29.2	160	25.4	44.8
25	-8.42	95.0	-33.3	16.5	55.6	824	3.33	13.2	96.5	11.2	44.3	70.5
26	-9.51	-4.23	17.1	-2.48	46.8	991	11.3	44.9	49.4	164	22.8	207
27	103	103	27.8	10.8	5.30	1,500	11.2	63.2	1.94	298	148	78.1
28	78.2	151	44.7	10.6	93.3	1,860	17.3	56.2	-41.2	-8.02	50.0	152
29	168	104	45.7	19.1	---	2,050	18.1	34.5	215	123	50.5	123
30	191	70.5	-3.76	4.24	---	1,450	41.1	47.2	95.5	22.2	42.7	48.1
31	12.3	---	209	5.09	---	1,470	---	57.5	---	0.33	61.6	---
TOTAL	1,413.43	1,529.04	2,530.97	1,789.65	3,276.93	12,622.1	3,674.59	1,926.67	3,715.34	1,804.31	2,308.84	1,521.99

WTR YR 2005 TOTAL 38,113.86

040851378 EAST RIVER AT MONROE STREET AT GREEN BAY, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Dis- charge, cfs (00060)	Sam- pling method, code (82398)	Residue total at 105 deg. C, sus- pended, mg/L (00530)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)
OCT						
05...	1200	62	50	73	.083	.320
18...	1200	-55	50	48	--	5.64
25...	1130	-8.4	50	29	--	.190
30...	1200	138	50	40	--	.260
NOV						
01...	1200	-8.8	50	31	--	.230
08...	1200	-7.8	50	28	--	.180
15...	1200	28	50	17	.090	.270
DEC						
20...	1200	43	50	25	.130	.260
JAN						
10...	1200	36	50	6	.150	.220
FEB						
05...	1200	65	50	<5	--	.040
06...	1200	339	50	10	--	.080
07...	1200	882	50	14	--	.210
21...	1200	66	50	<2	.580	.300
28...	1200	79	50	5	--	.220
MAR						
08...	1200	225	50	8	--	.150
14...	1200	46	50	3	--	.170
21...	1200	103	50	4	--	.180
26...	1200	317	50	18	--	.590
27...	1200	445	50	22	--	.640
28...	1200	582	50	27	--	.580
29...	1200	629	50	75	--	.630
APR						
01...	1200	386	50	32	--	.270
04...	1200	123	50	72	--	.430
11...	1200	38	50	48	--	2.38
18...	1200	24	50	37	--	.130
25...	1200	55	50	21	.045	.010
MAY						
02...	1200	78	50	14	--	.200
09...	1200	-3.8	50	33	--	.160
16...	1200	52	50	59	.052	.278
31...	1200	74	50	31	--	.142
JUN						
06...	1200	59	50	28	--	.210
13...	1200	162	50	34	.240	.320
20...	1200	42	50	59	--	.320
27...	1200	1.2	50	46	--	.260
JUL						
04...	1200	75	50	--	.150	--
05...	1200	-26	50	48	--	.300
11...	1200	-7.8	50	48	--	.270
25...	1200	5.1	50	96	--	.380
AUG						
01...	1200	11	50	120	--	.360
15...	1200	58	50	100	.220	.370
18...	1200	97	50	102	--	.350
19...	1200	335	50	124	--	.340
22...	1200	54	50	120	--	.390
27...	1200	160	50	18	--	.160
28...	1200	39	50	53	--	.240
29...	1200	34	50	88	--	.290
SEP						
05...	1200	42	50	92	--	.050
12...	1200	19	50	82	--	.300
19...	1200	75	50	99	--	.220
26...	1200	118	50	93	.160	.330

040851385 FOX RIVER, AT OIL TANK DEPOT, AT GREEN BAY, WI

LOCATION.--Lat 44°31'43", long 88°00'36" in NE 1/4 NE 1/4 sec. 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 mi^2.

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

GAGE.--Water-stage recorder. Side-looking velocity meter system.

REMARKS.--Records poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

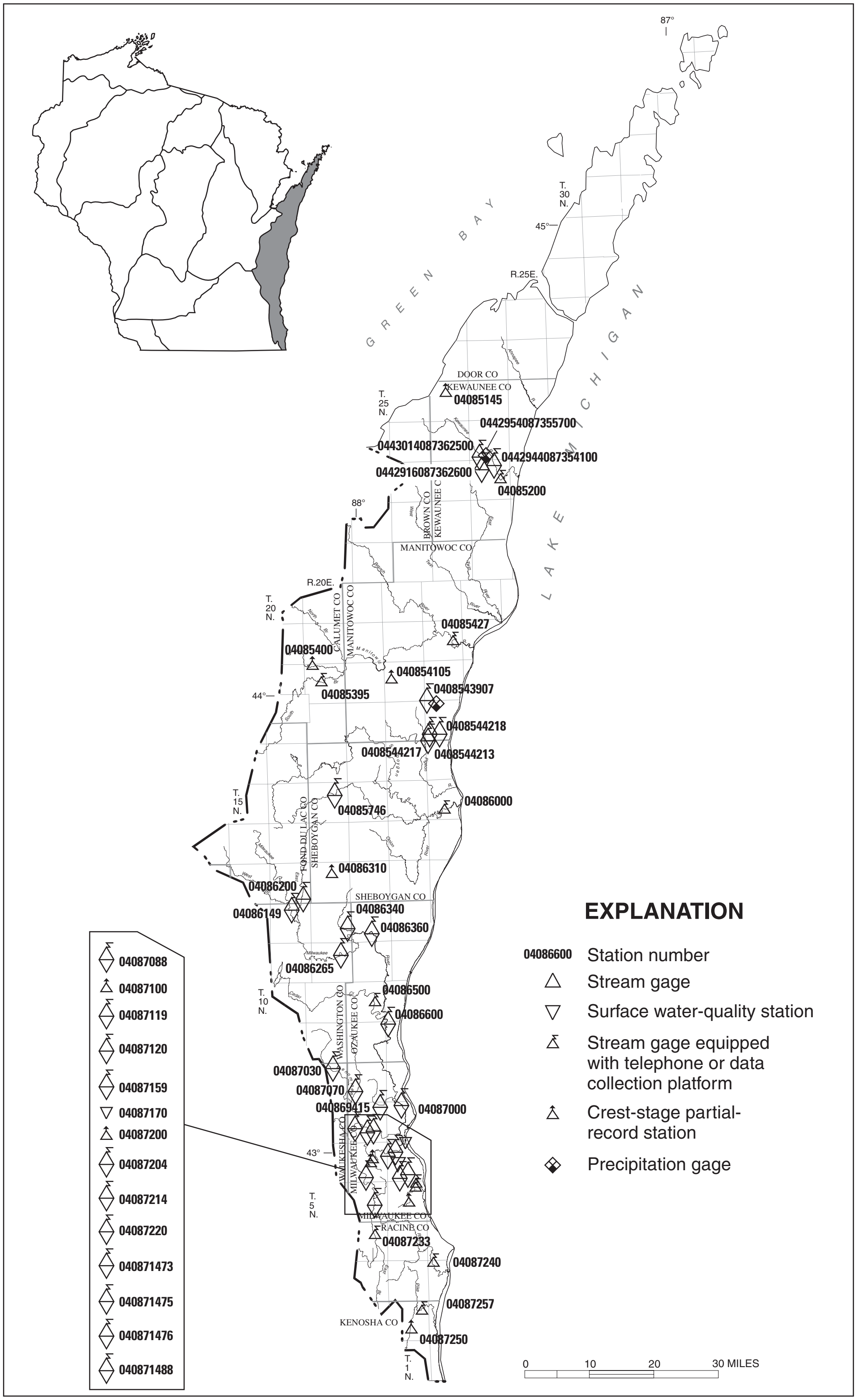
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1,450	4,990	e4,680	2,850	4,400	5,130	5,340	5,490	e3,000	2,820	e1,970	1,890
2	2,930	3,890	e4,750	3,020	4,250	e5,670	5,590	5,270	2,620	1,420	e2,050	1,510
3	e1,850	4,260	3,890	3,030	4,140	4,700	5,900	4,640	1,070	1,140	e2,010	e1,600
4	2,380	4,100	e4,950	3,680	4,340	4,410	5,040	3,980	1,510	3,030	1,840	e1,600
5	1,340	3,880	e4,680	3,190	4,350	4,970	5,250	3,330	1,400	e2,340	e2,110	1,470
6	e1,790	3,490	3,980	4,220	5,090	4,680	4,840	3,680	e2,310	e2,330	e1,670	999
7	e1,710	4,520	3,830	4,350	e4,830	5,240	7,260	e4,150	1,100	e2,070	e1,710	e1,750
8	1,590	3,040	4,570	2,850	5,960	6,060	e6,260	e3,900	e2,470	2,560	e1,800	e1,510
9	1,750	e4,270	3,570	4,170	4,930	5,570	e7,350	e4,150	e1,880	1,610	e1,750	e1,720
10	1,430	e5,230	5,830	e4,390	5,410	4,660	e7,930	e4,100	2,260	e1,960	e1,670	e1,510
11	2,090	e4,440	5,300	4,320	5,030	3,990	e7,930	4,120	1,990	e1,960	e1,580	1,470
12	2,350	2,980	e5,930	4,100	5,080	4,990	e9,020	e3,900	e2,150	1,710	e1,670	e1,630
13	1,310	3,000	4,350	e4,480	5,630	e5,330	e7,130	e3,690	1,160	2,420	e1,750	1,170
14	3,320	e4,310	5,540	3,650	7,350	e5,300	e7,200	e4,400	e3,400	e1,790	e1,620	e1,660
15	3,390	2,960	e5,800	3,810	5,520	e5,260	e7,640	e4,230	2,710	e2,140	e1,540	2,100
16	3,220	2,870	e6,150	3,910	5,820	e5,270	e8,140	e3,940	e2,240	e1,940	e1,710	e1,450
17	2,140	3,200	e5,280	3,940	5,760	e5,290	e8,070	3,190	e2,460	e1,820	1,530	e1,450
18	1,970	3,180	5,230	4,020	e5,610	e5,150	e8,000	3,020	e3,180	e1,780	734	1,220
19	2,720	e3,250	5,610	e4,380	5,230	e5,260	e7,930	2,110	3,490	e1,550	e2,270	e1,540
20	2,940	2,570	6,030	3,330	e5,700	4,970	e7,930	e2,340	1,990	e1,600	e1,730	e1,660
21	2,510	2,700	2,550	3,790	e5,730	e5,200	e8,070	3,470	2,760	1,760	e1,450	e1,600
22	2,340	e3,450	5,150	5,170	e5,720	e5,200	e7,930	1,670	e2,690	e1,960	e1,560	1,120
23	3,490	e3,450	3,490	4,840	e5,580	e5,290	9,240	1,840	1,770	e1,700	e1,450	e1,910
24	2,790	2,430	3,030	4,430	e5,750	4,640	7,230	e2,330	e1,970	e1,820	e1,570	1,630
25	3,240	e3,250	4,010	e5,000	e5,750	5,260	6,860	e2,420	2,270	e1,820	1,480	e1,410
26	6,920	e3,530	2,630	4,600	e5,720	5,410	7,470	3,590	e2,570	e1,790	712	e1,810
27	e9,090	2,380	3,790	4,150	e5,690	5,620	7,000	e3,030	e1,810	e3,130	3,310	1,250
28	6,540	2,910	4,050	4,610	e5,720	5,500	6,120	e4,110	e2,430	2,300	2,180	2,080
29	4,200	3,020	e3,680	e4,560	---	5,680	5,750	3,550	e2,530	e2,000	1,930	1,280
30	4,680	e5,550	2,960	e4,530	---	5,240	5,720	e3,340	e2,720	e2,000	e1,600	1,550
31	e4,920	---	3,540	e4,560	---	e5,770	---	e3,220	---	e1,880	e1,660	---
TOTAL	94,390	107,100	138,830	125,930	150,090	160,710	211,140	110,200	67,910	62,150	53,616	46,549
MEAN	3,045	3,570	4,478	4,062	5,360	5,184	7,038	3,555	2,264	2,005	1,730	1,552
MAX	9,090	5,550	6,150	5,170	7,350	6,060	9,240	5,490	3,490	3,130	3,310	2,100
MIN	1,310	2,380	2,550	2,850	4,140	3,990	4,840	1,670	1,070	1,140	712	999
CFSM	0.48	0.56	0.71	0.64	0.85	0.82	1.11	0.56	0.36	0.32	0.27	0.25
IN.	0.55	0.63	0.82	0.74	0.88	0.94	1.24	0.65	0.40	0.37	0.32	0.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3,310	4,726	4,337	3,813	3,872	5,804	7,324	6,512	6,992	4,492	3,182	3,041
MAX	8,504	8,668	9,446	6,092	5,814	10,680	13,660	13,220	15,520	15,620	6,855	6,172
(WY)	(1996)	(1993)	(1993)	(1993)	(1996)	(2004)	(1993)	(1993)	(2004)	(1993)	(1993)	(1993)
MIN	1,019	2,037	2,977	2,768	1,873	2,394	3,010	2,710	2,264	2,005	1,730	1,355
(WY)	(2000)	(2000)	(1990)	(1990)	(2003)	(2000)	(1990)	(1998)	(2005)	(2005)	(2005)	(1998)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1989 - 2005	
ANNUAL TOTAL	2,239,208		1,328,615			
ANNUAL MEAN	6,118		3,640		4,783	
HIGHEST ANNUAL MEAN					9,102	1993
LOWEST ANNUAL MEAN					3,512	2000
HIGHEST DAILY MEAN	21,700	May 24	9,240	Apr 23	33,800	Jun 23, 1990
LOWEST DAILY MEAN	644	Apr 29	712	Aug 26	-3,260	Nov 4, 1990
ANNUAL SEVEN-DAY MINIMUM	1,670	Oct 5	1,420	Aug 20	203	Jul 27, 2000
ANNUAL RUNOFF (CFSM)	0.967		0.575		0.756	
ANNUAL RUNOFF (INCHES)	13.16		7.81		10.27	
10 PERCENT EXCEEDS	13,900		5,760		9,290	
50 PERCENT EXCEEDS	4,000		3,450		3,860	
90 PERCENT EXCEEDS	1,870		1,570		1,790	

(e) Estimated



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

LAKE MICHIGAN BASIN

04085200 KEWAUNEE RIVER NEAR KEWAUNEE, WI

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

DRAINAGE AREA.--127 mi^2.

PERIOD OF RECORD.--Annual maximum, water years 1958-65, and occasional low-flow measurements, water years 1963-64. September 1964 to June 1996, November 1997 to current year. No winter records for years 1965 and 1966.

REVISED RECORDS.--WDR WI-79-1: Drainage area. WDR WI-85-1: 1962(M), 1965(M), 1967-69(M), 1971(M), 1973-74(M), 1976(M), 1978(M), 1980-82(M).

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

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	35	39	e90	e29	e37	490	47	23	10	5.9	11
2	15	32	34	e96	e27	e36	315	43	22	9.3	5.7	10
3	14	30	30	e110	e26	e37	242	41	21	9.2	5.3	9.6
4	15	27	30	e70	e25	e39	196	38	20	12	5.0	9.5
5	15	25	28	e50	e25	e40	167	36	24	12	4.8	9.3
6	15	24	32	e40	e40	e44	154	36	27	12	4.6	9.3
7	14	23	56	e36	e280	e54	135	40	22	12	4.4	10
8	22	22	90	e35	e320	e91	116	37	21	12	4.2	15
9	22	21	78	e34	e190	e130	102	35	23	11	4.2	15
10	19	21	121	e34	e110	e92	92	34	21	10	4.6	13
11	17	22	202	e34	e94	e78	84	32	30	9.0	5.3	11
12	17	22	146	e40	e72	e62	79	31	63	8.2	7.0	9.6
13	17	21	97	e48	e76	e52	70	37	63	8.4	7.3	10
14	17	21	79	e37	e80	e48	62	50	41	8.3	6.4	74
15	16	21	57	e35	e68	e45	57	47	36	8.0	6.7	51
16	18	21	45	e28	e54	e44	53	40	39	7.7	5.9	28
17	18	22	38	e22	e50	e45	49	37	29	7.4	5.4	20
18	18	23	36	e20	e44	e45	47	35	23	7.0	10	16
19	18	23	22	e22	e39	e48	46	40	20	6.7	180	14
20	19	32	e26	e23	e36	e52	104	56	19	6.5	74	13
21	19	38	e26	e23	e38	e50	120	48	17	7.3	37	12
22	19	33	e26	e23	e37	e50	92	43	15	7.7	21	13
23	28	29	e25	e24	e36	e55	73	45	14	7.4	17	13
24	40	27	e25	e26	e36	e62	61	40	14	8.7	14	13
25	29	25	e26	e27	e38	e84	55	35	14	7.7	15	15
26	24	24	e27	e26	e36	e220	64	32	13	12	13	18
27	23	34	e26	e25	e36	e430	72	30	13	12	18	18
28	23	66	e26	e24	e38	e800	65	29	12	9.8	20	17
29	64	66	e26	e27	---	1,350	58	29	11	8.2	17	26
30	62	49	e28	e28	---	949	51	28	11	7.4	14	24
31	45	---	e64	e30	---	813	---	26	---	6.9	13	---
TOTAL	716	879	1,611	1,187	1,980	5,982	3,371	1,177	721	281.8	555.7	527.3
MEAN	23.1	29.3	52.0	38.3	70.7	193	112	38.0	24.0	9.09	17.9	17.6
MAX	64	66	202	110	320	1,350	490	56	63	12	180	74
MIN	14	21	22	20	25	36	46	26	11	6.5	4.2	9.3
CFSM	0.18	0.23	0.41	0.30	0.56	1.52	0.88	0.30	0.19	0.07	0.14	0.14
IN.	0.21	0.26	0.47	0.35	0.58	1.75	0.99	0.34	0.21	0.08	0.16	0.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2005, BY WATER YEAR (WY)

MEAN	42.4	61.0	49.5	34.7	60.6	248	193	86.0	90.3	39.1	31.5	49.8
MAX	221	458	226	265	314	567	450	354	483	342	113	454
(WY)	(1985)	(1986)	(1993)	(1973)	(1984)	(1986)	(1993)	(1973)	(1990)	(1993)	(1975)	(1986)
MIN	10.1	10.9	9.10	8.14	11.0	38.8	26.0	21.2	12.3	8.29	7.90	8.98
(WY)	(1967)	(1977)	(1977)	(2003)	(2003)	(2000)	(2000)	(1977)	(1988)	(1965)	(1970)	(1966)

04085200 KEWAUNEE RIVER NEAR KEWAUNEE, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1964 - 2005	
ANNUAL TOTAL	43,323		18,988.8			
ANNUAL MEAN	118		52.0		82.0	
HIGHEST ANNUAL MEAN					178	1993
LOWEST ANNUAL MEAN					27.8	2000
HIGHEST DAILY MEAN	2,060	May 24	1,350	Mar 29	5,950	Jun 23, 1990
LOWEST DAILY MEAN	14	Sep 22	4.2	Aug 8	4.2	Aug 8, 2005
ANNUAL SEVEN-DAY MINIMUM	14	Sep 21	4.5	Aug 4	4.5	Aug 4, 2005
MAXIMUM PEAK FLOW			1,590	Mar 29	(a)8,570	Jun 23, 1990
MAXIMUM PEAK STAGE			12.58	Mar 29	(b)16.03	Mar 30, 1960
INSTANTANEOUS LOW FLOW			3.2	Aug 10	3.2	Aug 10, 2005
ANNUAL RUNOFF (CFSM)	0.932		0.410		0.646	
ANNUAL RUNOFF (INCHES)	12.69		5.56		8.78	
10 PERCENT EXCEEDS	255		86		162	
50 PERCENT EXCEEDS	34		28		30	
90 PERCENT EXCEEDS	19		9.3		12	

(a) Gage height, 16.00 ft, from crest-stage gage
(b) Backwater from ice
(e) Estimated

442944087354100 DISCOVERY FARMS WATERWAY SITE NO. 1 NEAR KEWAUNEE, WI

LOCATION.--Lat 44°29'44", long 87°35'41", Kewaunee County, Hydrologic Unit 04030102, 1,700 ft west of intersection of Ryan Radio Rd. and County Hwy B, 700 ft south of Ryan Radio Rd. in waterway, 5.0 mi northwest of Kewaunee, WI.

DRAINAGE AREA.--20.5 acres.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 2003 to current year.

GAGE.--Water-stage recorder. Water levels are controlled by 2.5 ft H flume. Elevation of gage is 740 ft above NGVD of 1929, from topographic map.

REMARKS.--Records are excellent except for Mar. 6 and 7, which are fair (see Introduction). Note that discharge is the daily sum, in cubic feet.

DAILY SUM DISCHARGE, CUBIC FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	5,606	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	12,520	0	0	0	0	0	0	0
7	0	0	0	0	19,870	1,520	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	7,037	0	0	0	0	0	0	0	0
13	0	0	0	588	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	834	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	18,590	0	0	0	0	0	0
28	0	0	0	0	0	40,620	0	0	0	0	0	0
29	0	0	0	0	---	25,240	0	0	0	0	0	0
30	0	0	4,867	0	---	225	0	0	0	0	0	0
31	0	---	298	0	---	0	---	0	---	0	0	---
TOTAL	0	0	5,165	13,231	32,390	86,195	0	0	0	0	834	0
MEAN	0	0	167	427	1,157	2,780	0	0	0	0	27	0
MAX	0	0	4,867	7,037	19,870	40,620	0	0	0	0	834	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0

442944087354100 DISCOVERY FARMS WATERWAY SITE NO. 1 NEAR KEWAUNEE, WI—Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--December 2003 to current year.

INSTRUMENTATION.--Water-quality sampler since December 2003.

REMARKS.--Chemical analyses by the Water and Environmental Analysis Lab (formerly the Environmental Task Force Lab) at the University of Wisconsin-Stevens Point. Samples with start and end dates/times are flow-composite samples which represent the event-mean concentation for the specified runoff period. Samples with only start dates/times are discrete samples collected by the same automatic point sampler. Runoff perods which were not sampled have zero subsamples. The sample runoff volume is the total flow that occurs between the start and end time of each flow-composite sample. The storm runoff volume is the total flow that occurs between the time that runoff starts and ends. In most cases, the sample runoff volume is slightly less than the storm runoff volume. A storm load (in pounds) can be computed by multiplying the storm runoff volume (in cubic feet) by the constituent concentration (in mg/L) and a factor of 6.2428x10^-5.

STORM-RUNOFF AND SAMPLE SUMMARY, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Storm Beginning Date	Storm Beginning Time	Storm Ending Date	Storm Ending Time	Storm Runoff Volume, Cubic Feet	Peak Discharge (CFS)	Number of Subsamples
12-30-04	1956	12-31-04	0200	5164	0.72	8
01-02-05	0242	01-02-05	0700	4785	1.40	3
01-02-05	1240	01-02-05	1603	821	0.15	3
01-12-05	1655	01-13-05	0300	7625	0.46	13
02-06-05	1450	02-07-05	2323	32389	0.75	15
03-07-05	0400	03-07-05	1134	1520	0.10	3
03-27-05	1320	03-28-05	0000	18588	1.59	6
03-28-05	1119	03-28-05	2020	40614	2.97	6
03-29-05	0945	03-29-05	1811	25243	1.93	5
03-30-05	0926	03-30-05	1122	161	0.04	0
03-30-05	1839	03-30-05	2030	60	0.02	0
08-18-05	2200	08-18-05	2317	834	0.46	12

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DISCRETE SAMPLES

Date	Time	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydrolyzable phosphorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)
JAN											
12...	1818	.20	70	6.0	180	14	10.6	.50	1.50	.788	23
12...	1819	.20	50	6.0	162	13	9.24	.39	1.40	.804	21

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sampling method, code (82398)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydrolyzable phosphorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)	Sample runoff volume, cubic feet (99906)
DEC													
30-31	20041231	2010	0133	50	6.5	--	3.8	1.83	1.85	2.20	2.08	21	5,160
JAN													
02-02	20050102	0245	0506	50	1.5	--	2.2	1.06	.51	1.00	.617	3	4,790
JAN													
02-02	20050102	1242	1603	50	3.0	--	4.2	.900	.71	1.60	1.59	16	821
JAN													
12-13	20050113	1701	0245	50	47.5	1,170	110	107	.97	.800	3.91	18	7,620
FEB													
06-07	20050207	1456	2141	50	45.0	550	80	59.2	1.64	<.100	2.87	29	32,400
MAR													
07-07	20050307	0406	1104	50	1.5	58	5.0	4.20	.56	2.20	.630	11	1,520
MAR													
27-27	20050327	1323	2322	50	17.0	288	28	16.4	2.25	<.100	3.70	23	18,600
MAR													
28-28	20050328	1121	1958	50	11.0	222	22	11.6	2.20	<.100	3.76	42	40,600
MAR													
29-29	20050329	0949	1758	50	5.0	114	11	5.20	1.26	<.100	2.18	43	25,200
AUG													
18-18	20050818	2201	2314	50	5.5	262	4.0	.450	1.69	8.70	2.15	151	834

442916087362600 DISCOVERY FARMS WATERWAY SITE NO. 2 NEAR KEWAUNEE, WI

LOCATION.--Lat 44°29'16", long 87°36'26", Kewaunee County, Hydrologic Unit 04030102, 1 mi west of intersection of Ryan Radio Rd. and County Hwy B, 3,500 ft south of Ryan Radio Rd. in waterway, 5.4 mi northwest of Kewaunee, WI.

DRAINAGE AREA.--22.1 acres.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 2003 to current year.

GAGE.--Water-stage recorder. Water levels are controlled by 2.5 ft H flume. Elevation of gage is 750 ft above NGVD of 1929, from topographic map.

REMARKS.--Records excellent except for Dec. 31, 2004 and Mar. 6 and 7, which are fair (see Introduction). Note that discharge is the daily sum, in cubic feet.

DAILY SUM DISCHARGE, CUBIC FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	4,483	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	350	0	0	0	0	0	0	0
6	0	0	0	0	8,604	4,951	0	0	0	0	0	0
7	0	0	0	0	6,574	2,483	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	1,261	0	0	0	0	0	0	0	0
13	0	0	0	12	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	1,395	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	3,380	0	0	0	0	0	0
25	0	0	0	0	0	3,693	0	0	0	0	0	0
26	0	0	0	0	0	7,038	0	0	0	0	0	0
27	0	0	0	0	0	7,954	0	0	0	0	0	0
28	0	0	0	0	0	4,608	0	0	0	0	0	0
29	0	0	0	0	---	1,086	0	0	0	0	0	0
30	0	0	693	0	---	0	0	0	0	0	0	0
31	0	---	0	0	---	0	---	0	---	0	0	---
TOTAL	0	0	693	5,756	15,528	35,193	0	0	0	0	1,395	0
MEAN	0	0	22	186	555	1,135	0	0	0	0	45	0
MAX	0	0	693	4,483	8,604	7,954	0	0	0	0	1,395	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0

442916087362600 DISCOVERY FARMS WATERWAY SITE NO. 2 NEAR KEWAUNEE, WI—Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--December 2003 to current year.

INSTRUMENTATION.--Water-quality sampler since December 2003.

REMARKS.--Chemical analyses by the Water and Environmental Analysis Lab (formerly the Environmental Task Force Lab) at the University of Wisconsin-Stevens Point. Samples with start and end dates/times are flow-composite samples which represent the event-mean concentation for the specified runoff period. Samples with only start dates/times are discrete samples collected by the same automatic point sampler. Runoff perods which were not sampled have zero subsamples. The sample runoff volume is the total flow that occurs between the start and end time of each flow-composite sample. The storm runoff volume is the total flow that occurs between the time that runoff starts and ends. In most cases, the sample runoff volume is slightly less than the storm runoff volume. A storm load (in pounds) can be computed by multiplying the storm runoff volume (in cubic feet) by the constituent concentration (in mg/L) and a factor of 6.2428x10^-5.

STORM-RUNOFF AND SAMPLE SUMMARY, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Storm Beginning Date	Storm Beginning Time	Storm Ending Date	Storm Ending Time	Storm Runoff Volume, Cubic Feet	Peak Discharge (CFS)	Number of Subsamples
12-30-04	1246	12-30-04	2049	694	0.05	3
01-02-05	0054	01-02-05	0807	4034	0.54	0
01-02-05	1130	01-02-05	1716	448	0.06	0
01-12-05	1730	01-13-05	0100	1273	0.09	10
02-05-05	2111	02-07-05	2121	15527	0.32	12
03-06-05	1240	03-07-05	1014	7434	0.21	10
03-24-05	1302	03-24-05	2300	3380	0.23	6
03-25-05	1203	03-25-05	2059	3693	0.27	6
03-26-05	1145	03-26-05	2055	7038	0.48	0
03-27-05	1047	03-27-05	1945	7954	0.56	0
03-28-05	0931	03-28-05	1902	4608	0.33	5
03-29-05	0700	03-29-05	1732	1084	0.05	0
08-18-05	2140	08-18-05	2241	1394	1.44	8

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sampling method, code (82398)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydrolyzable phosphorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)	Sample runoff volume, cubic feet (99906)
DEC													
30-30	20041230	1246	2049	50	4.5	--	1.6	.300	.34	2.10	.413	28	694
JAN													
12-13	20050113	1735	0018	50	3.5	188	3.4	.100	.09	1.50	.419	83	1,270
FEB													
05-07	20050207	2126	1948	50	7.5	72	4.0	1.40	<.03	1.50	.342	102	15,500
MAR													
06-07	20050307	1300	0804	50	2.5	82	3.0	2.00	.10	2.00	.190	19	7,430
MAR													
24-24	20050324	1305	2242	50	4.5	146	3.3	2.10	.04	1.50	.250	89	3,380
MAR													
25-25	20050325	1205	2009	50	4.5	132	3.5	2.20	.02	1.10	.360	99	3,690
MAR													
28-28	20050328	0936	1810	50	8.0	164	7.2	2.80	.02	<.100	1.11	881	4,610
AUG													
18-18	20050818	2029	2234	50	<.5	64	2.7	.030	.14	1.00	.890	519	1,390

443012087362500 DISCOVERY FARMS WATERWAY SITE NO. 3 NEAR KEWAUNEE, WI

LOCATION.--Lat 44°30'12", long 87°36'25", Kewaunee County, Hydrologic Unit 04030102, 1 mi west of intersection of Ryan Radio Rd. and County Hwy B, 2,400 ft north of Ryan Radio Rd. in waterway, 5.6 mi northwest of Kewaunee, WI.

DRAINAGE AREA.--13.2 acres.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 2003 to current year.

GAGE.--Water-stage recorder. Water levels are controlled by 2.5 ft H flume. Elevation of gage is 742 ft above NGVD of 1929, from topographic map.

REMARKS.--Records excellent except for Mar. 6 and 7, which are fair (see Introduction). Note that discharge is the daily sum, in cubic feet.

DAILY SUM DISCHARGE, CUBIC FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	11,300	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	480	0	0	0	0	0	0	0
6	0	0	0	0	15,800	4,030	0	0	0	0	0	0
7	0	0	0	0	21,800	5,310	0	0	0	0	0	0
8	0	0	0	0	770	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	10,300	3,520	0	0	0	0	0	0	0
13	0	0	0	1,750	1,930	0	0	0	0	0	0	1,890
14	0	0	0	0	1,600	0	0	0	0	0	0	0
15	0	0	0	0	860	0	0	0	0	0	0	0
16	0	0	0	0	3	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	7,570	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	940	0	0	0	0	0	0
25	0	0	0	0	0	1,770	0	0	0	0	0	6
26	0	0	0	0	0	2,610	0	0	0	0	0	0
27	0	0	0	0	0	25,800	0	0	0	0	0	0
28	0	0	0	0	0	52,100	0	0	0	0	0	0
29	0	0	0	0	---	32,800	0	0	0	0	0	0
30	0	0	5,190	0	---	5,560	0	0	0	0	0	0
31	0	---	680	0	---	97	---	0	---	0	0	---
TOTAL	0	0	5,870	23,350	46,763	131,017	0	0	0	0	7,570	1,896
MEAN	0	0	190	750	1,670	4,230	0	0	0	0	240	63
MAX	0	0	5,190	11,300	21,800	52,100	0	0	0	0	7,570	1,890
MIN	0	0	0	0	0	0	0	0	0	0	0	0

443012087362500 DISCOVERY FARMS WATERWAY SITE NO. 3 NEAR KEWAUNEE, WI—Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--December 2003 to current year.

INSTRUMENTATION.--Water-quality sampler since December 2003.

REMARKS.--Chemical analyses by the Water and Environmental Analysis Lab (formerly the Environmental Task Force Lab) at the University of Wisconsin-Stevens Point. Samples with start and end dates/times are flow-composite samples which represent the event-mean concentation for the specified runoff period. Samples with only start dates/times are discrete samples collected by the same automatic point sampler. Runoff perods which were not sampled have zero subsamples. The sample runoff volume is the total flow that occurs between the start and end time of each flow-composite sample. The storm runoff volume is the total flow that occurs between the time that runoff starts and ends. In most cases, the sample runoff volume is slightly less than the storm runoff volume. A storm load (in pounds) can be computed by multiplying the storm runoff volume (in cubic feet) by the constituent concentration (in mg/L) and a factor of 6.2428x10^-5.

STORM-RUNOFF AND SAMPLE SUMMARY, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Storm Beginning Date	Storm Beginning Time	Storm Ending Date	Storm Ending Time	Storm Runoff Volume, Cubic Feet	Peak Discharge (CFS)	Number of Subsamples
12-30-04	1545	12-31-04	0655	5862	0.40	5
01-02-05	0014	01-02-05	0853	10392	1.69	0
01-02-05	1152	01-02-05	1755	906	0.14	0
01-12-05	0959	01-13-05	1412	12029	0.45	18
02-05-05	1530	02-08-05	1601	38921	0.74	13
02-12-05	1000	02-16-05	0401	7912	0.23	0
03-06-05	1230	03-07-05	2047	9337	0.25	7
03-24-05	1415	03-25-05	0854	2112	0.06	7
03-25-05	1114	03-25-05	2253	600	0.03	0
03-26-05	1208	03-27-05	0403	2814	0.12	8
03-27-05	1114	03-30-05	1641	114300	2.66	37
03-30-05	1641	03-31-05	0156	1884	0.28	3
08-18-05	2100	08-18-05	2328	7568	7.31	18
09-13-05	1824	09-13-05	2030	1895	1.29	20
09-25-05	1135	09-25-05	1144	6	0.02	0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DISCRETE SAMPLES

Date	Time	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydrolyzable phosphorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)
JAN											
12...	1915	.41	70	.5	52	2.4	1.19	.51	1.10	.602	9
12...	1916	.41	50	.5	70	2.3	1.14	.52	1.10	.584	4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sampling method, code (82398)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydrolyzable phosphorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)	Sample runoff volume, cubic feet (99906)
DEC 30-31	20041231	2052	0655	50	3.5	--	2.6	.820	.82	2.10	.944	32	5,860
JAN 12-13	20050113	1135	1046	50	.5	54	2.2	1.04	.48	1.00	.554	9	12,000
FEB 05-08	20050208	1650	1000	50	1.5	112	3.8	2.00	.42	.900	.573	26	38,900
MAR 06-07	20050307	1317	1408	50	1.0	72	3.9	3.20	.29	2.30	.480	6	9,340
MAR 24-25	20050325	1505	0744	50	2.5	144	7.9	4.90	.91	.400	1.17	16	2,110
MAR 26-27	20050327	1324	0222	50	1.5	114	7.2	4.60	.73	.700	1.00	17	2,810
MAR 27-30	20050330	1155	1641	50	1.5	92	7.3	3.50	1.00	<.100	1.52	35	114,000
MAR 30-31	20050331	1641	0129	50	4.0	224	6.3	2.10	.26	.100	1.07	262	1,880
AUG 18-18	20050818	2120	2322	50	<.5	34	2.7	.040	.21	.500	.800	474	7,570
SEP 13-13	20050913	1826	2018	50	4.0	114	8.7	<.100	.26	1.70	3.50	2,180	1,900

442954087355700 DISCOVERY FARMS WEATHER STATION NEAR KEWAUNEE, WI

LOCATION.--Lat 44°29'54", long 87°35'57", Kewaunee County, Hydrologic Unit 04030102, 2,700 ft west of intersection of Ryan Radio Rd. and County Hwy B, 50 ft north of Ryan Radio Rd., 5.3 mi northwest of Kewaunee, WI.

PERIOD OF RECORD.--November 2003 to current year.

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

REMARKS.--Gage established Nov. 21, 2003. Rainfall estimated to be 0.00 for Jan. 25, Feb. 21, 27 and Mar. 4-5, 19-20 because recorded precipitation was interpreted as collector snowmelt.

EXTREMES FOR CURRENT PERIOD.--Maximum daily rainfall, 4.59 in., Aug. 18, 2005.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 4.59 in., Aug. 18.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.21	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.12	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.07	0.41	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.27	0.00	0.00	0.00
6	0.00	0.00	0.31	0.00	0.11	0.00	0.00	0.09	0.00	0.00	0.00	0.00
7	0.00	0.00	0.45	0.00	0.23	0.00	0.00	0.00	0.03	0.00	0.00	0.69
8	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00
9	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.10	0.00	0.27	0.00
10	0.00	0.14	1.01	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00
11	0.00	0.00	0.01	0.02	0.00	0.00	0.03	0.00	0.03	0.00	0.32	0.00
12	0.00	0.01	0.03	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00
13	0.01	0.00	0.00	0.00	0.05	0.00	0.00	0.52	0.08	0.00	0.00	1.44
14	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.04	0.02	0.00	0.00	0.00
15	0.16	0.05	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	4.59	0.00
19	0.00	0.42	0.00	0.00	0.00	e0.00	0.78	0.38	0.00	0.00	0.12	0.05
20	0.00	0.11	0.00	0.00	0.00	e0.00	0.10	0.00	0.00	0.01	0.58	0.00
21	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.33
23	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.07	0.00	0.00
25	0.01	0.00	0.00	e0.00	0.00	0.00	0.28	0.00	0.00	0.43	0.00	0.57
26	0.06	0.22	0.00	0.00	0.00	0.00	0.13	0.04	0.00	0.37	0.20	0.06
27	0.02	0.55	0.00	0.00	e0.00	0.00	0.03	0.04	0.00	0.00	0.64	0.00
28	1.01	0.08	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.63
29	0.03	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.16	0.00	0.29	0.00	---	0.35	0.00	0.00	0.18	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	3.80	1.85	2.12	0.66	0.72	0.35	1.35	1.40	1.13	1.63	6.89	3.77

CAL YR 2004 TOTAL 34.23
WTR YR 2005 TOTAL 25.67

(e) Estimated

442945087354100 DISCOVERY FARMS TILE SITE NO. 1 NEAR KEWAUNEE, WI

LOCATION.--Lat 44°29'45", long 87°35'41", Kewaunee County, Hydrologic Unit 04030102, 1,700 ft west of intersection of Ryan Radio Rd. and County Hwy B, 700 ft south of Ryan Radio Rd. in waterway, 5.0 mi northwest of Kewaunee, WI.

DRAINAGE AREA.--20.5 acres.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 2004 to September 2005.

GAGE.--Water-stage recorder. Water levels are controlled by 60-degree extra-large trapezoidal flume. Elevation of gage is 740 ft above NGVD of 1929, from topographic map.

REMARKS.--Records excellent except for Dec. 6-8, 30-31, 2004 and Aug. 18, which are fair (see Introduction). Note that discharge is the daily sum, in cubic feet.

DAILY SUM DISCHARGE, CUBIC FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	0	0	1,443	0	0	1,376	100	61	5	0	8
2	---	0	0	11,310	7	0	970	87	64	0	0	6
3	---	0	0	2,301	15	0	575	77	64	0	0	0
4	---	0	0	1,505	13	0	411	67	64	5	0	0
5	---	0	0	349	49	5	366	71	75	0	0	0
6	---	0	8	187	2,759	156	327	85	64	0	0	0
7	---	0	203	115	7,341	5,845	307	73	65	0	0	97
8	---	0	348	82	1,866	6,586	287	81	70	0	0	27
9	---	0	158	85	556	1,138	277	86	59	0	0	17
10	---	0	6,089	58	144	294	247	79	53	0	0	13
11	---	0	1,174	60	67	87	222	50	52	0	0	10
12	---	0	544	4,005	1,289	39	190	42	45	0	0	8
13	---	0	269	5,376	1,105	22	140	87	42	0	0	1,974
14	---	0	161	902	748	18	123	81	42	0	0	1,446
15	---	0	133	276	273	15	110	65	36	0	0	439
16	---	0	99	69	114	16	109	58	30	0	0	263
17	---	0	72	38	53	14	108	62	26	0	0	189
18	---	0	72	42	30	15	110	66	18	0	3,633	148
19	---	0	38	32	24	12	125	92	16	0	1,557	130
20	---	0	49	18	32	0	300	76	18	0	702	87
21	---	0	34	11	21	2	197	87	16	0	116	84
22	---	0	17	2	15	15	199	118	13	0	40	72
23	---	0	17	0	12	18	171	100	17	0	19	46
24	---	0	16	0	6	49	178	87	18	0	12	53
25	---	0	15	0	0	795	167	89	15	0	9	359
26	---	0	13	0	0	7,579	163	95	14	122	7	298
27	---	0	13	0	0	17,160	139	85	14	5	267	200
28	---	0	16	0	0	15,950	117	79	11	0	37	741
29	---	0	13	0	---	15,180	112	70	7	0	18	975
30	---	0	3,563	0	---	15,510	107	63	9	0	13	536
31	---	---	16,370	0	---	5,409	---	58	---	0	10	---
TOTAL	---	0	29,504	28,266	16,539	91,929	8,230	2,416	1,098	137	6,440	8,226
MEAN	---	0	952	912	591	2,965	274	78	37	4	208	274
MAX	---	0	16,370	11,310	7,341	17,160	1,376	118	75	122	3,633	1,974
MIN	---	0	0	0	0	0	107	42	7	0	0	0

442945087354100 DISCOVERY FARMS TILE SITE NO. 1 NEAR KEWAUNEE, WI—Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--December 2004 to current year.

INSTRUMENTATION.--Water-quality sampler since December 2004.

REMARKS.--Chemical analyses by the Water and Environmental Analysis Lab (formerly the Environmental Task Force Lab) at the University of Wisconsin-Stevens Point. Samples with start and end dates/times are flow-composite samples which represent the event-mean concentation for the specified runoff period. Samples with only start dates/times are discrete samples collected by the same automatic point sampler. Runoff perods which were not sampled have zero subsamples. The sample runoff volume is the total flow that occurs between the start and end time of each flow-composite sample. The storm runoff volume is the total flow that occurs between the time that runoff starts and ends. In most cases, the sample runoff volume is slightly less than the storm runoff volume. A storm load (in pounds) can be computed by multiplying the storm runoff volume (in cubic feet) by the constituent concentration (in mg/L) and a factor of 6.2428x10^-5.

STORM-RUNOFF AND SAMPLE SUMMARY, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Storm Beginning Date	Storm Beginning Time	Storm Ending Date	Storm Ending Time	Storm Runoff Volume, Cubic Feet	Peak Discharge (CFS)	Number of Subsamples
12-06-04	1500	12-10-04	0355	737	0.006	1
12-10-04	0355	12-11-04	1735	7041	0.274	11
12-11-04	1735	12-14-04	0100	1016	0.010	7
12-14-04	0100	12-30-04	1640	793	0.002	0
12-30-04	1640	01-02-05	0200	21414	0.345	9
01-02-05	0200	01-05-05	1200	15286	0.282	13
01-05-05	1200	01-12-05	0845	745	0.004	0
01-12-05	0845	01-15-05	1215	10442	0.171	31
01-15-05	1215	01-22-05	1200	297	0.004	0
02-02-05	0820	02-05-05	1720	48	0.001	0
02-05-05	1720	02-11-05	0525	12720	0.093	27
02-11-05	0525	02-12-05	1255	75	0.001	0
02-12-05	1255	02-15-05	0510	3224	0.063	15
02-15-05	0510	02-25-05	0100	471	0.005	0
03-05-05	1500	03-06-05	1535	16	0.001	0
03-06-05	1535	03-11-05	1825	14080	0.114	23
03-11-05	1825	03-20-05	0200	166	0.001	0
03-21-05	1900	03-24-05	1845	52	0.001	0
03-24-05	1845	03-26-05	1115	1324	0.027	7
03-26-05	1115	03-27-05	0750	10841	0.262	7
03-27-05	0750	03-30-05	1805	55241	0.355	24
03-30-05	1805	04-04-05	1355	13356	0.339	20
04-04-05	1355	05-11-05	2245	5919	0.011	1
05-11-05	2245	07-02-05	0545	2666	0.002	0
07-04-05	0515	07-04-05	1900	5	0.000	0
07-26-05	0045	07-27-05	1800	126	0.020	0
08-18-05	2100	08-20-05	0630	5225	0.448	21
08-20-05	0630	08-21-05	2315	781	0.049	10
08-21-05	2315	08-27-05	0100	90	0.001	1
08-27-05	0100	08-28-05	0000	266	0.014	5
08-28-05	0000	09-03-05	0615	92	0.001	0
09-07-05	1600	09-13-05	1800	177	0.013	0
09-13-05	1800	09-17-05	0110	4125	0.224	26
09-17-05	0110	09-25-05	1130	824	0.003	1
09-25-05	1130	09-28-05	1440	950	0.022	5
09-28-05	1440	10-02-05	2115	2747	0.027	16
10-02-05	2115	10-10-05	1700	1288	0.003	6
10-10-05	1700	10-31-05	2359	981	0.001	1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DISCRETE SAMPLES

Date	Time	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydrolyzable phosphorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)
DEC											
08...	1634	.0032	50	20.5	--	4.2	.460	1.24	24.9	1.41	--
APR											
04...	1345	.0047	50	21.0	662	4.6	2.00	.83	2.20	1.33	18
AUG											
22...	1145	.0005	50	22.5	1,130	6.6	.670	.65	37.4	.760	12
SEP											
20...	1523	.0010	50	48.5	1,060	1.6	<.100	.19	10.8	.300	38

442945087354100 DISCOVERY FARMS TILE SITE NO. 1 NEAR KEWAUNEE, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sampling method, code (82398)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydrolyzable phosphorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)	Sample runoff volume, cubic feet (99906)
DEC 10-11	20041211	0355	1735	50	17.5	--	3.5	.240	1.21	13.4	1.49	--	7,040
DEC 11-14	20041214	1736	0100	50	27.0	--	2.7	.280	.72	15.6	.776	--	1,020
DEC 30 2004-JAN 02 2005	20050102	1640	0200	50	12.0	368	2.8	.570	.77	8.30	.895	27	21,400
JAN 02-05	20050105	0201	1200	50	5.5	252	3.0	.770	.73	4.00	.857	21	15,300
JAN 12-15	20050115	0845	1215	50	51.0	1,420	94	80.2	.86	2.00	1.71	34	10,400
FEB 05-11	20050211	1720	0525	50	31.5	546	53	36.3	1.37	1.10	2.32	22	12,700
FEB 12-15	20050215	1255	0510	50	40.5	852	54	39.2	1.83	<.100	3.25	32	3,220
MAR 06-11	20050311	1535	1825	50	15.0	262	18	11.6	.49	2.30	1.13	24	14,100
MAR 24-26	20050326	1845	1115	50	10.0	388	12	7.90	1.96	5.30	2.45	26	1,320
MAR 26-27	20050327	1115	0750	50	36.0	518	44	22.8	1.48	<.100	3.92	169	10,800
MAR 27-30	20050330	0750	1805	50	11.0	260	14	7.00	1.18	<.100	2.16	81	55,200
MAR 30-APR 04	20050404	1805	1355	50	15.5	210	5.7	.600	.22	.300	.980	39	13,400
AUG 18-20	20050820	2120	0630	50	12.5	678	5.5	.350	.89	34.5	3.03	178	5,220
AUG 20-21	20050821	0630	2315	50	19.5	1,050	10	.610	1.31	44.2	1.40	14	781
AUG 27-28	20050828	0100	0000	50	12.0	744	7.9	3.30	1.49	36.5	1.65	40	266
SEP 13-17	20050917	1830	0110	50	57.5	1,170	4.9	.500	.59	33.7	.960	68	4,130
SEP 25-28	20050928	1155	1440	50	50.0	1,010	3.2	.150	.96	18.7	1.03	<2	950
SEP 28-OCT 02	20051002	1440	2115	50	63.0	1,010	2.7	.240	.70	31.4	.801	2	2,750

443014087362500 DISCOVERY FARMS TILE SITE NO. 2 NEAR KEWAUNEE, WI

LOCATION.--Lat 44°30'14", long 87°36'25", Kewaunee County, Hydrologic Unit 04030102, 1 mi west of intersection of Ryan Radio Rd. and County Hwy B, 2,400 ft north of Ryan Radio Rd. in waterway, 5.6 mi northwest of Kewaunee, WI.

DRAINAGE AREA.--13.2 acres.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 2004 to September 2005.

GAGE.--Water-stage recorder. Water levels are controlled by 60-degree extra-large trapezoidal flume. Elevation of gage is 742 ft above NGVD of 1929, from topographic map.

REMARKS.--Records are excellent. Note that discharge is the daily sum, in cubic feet.

DAILY SUM DISCHARGE, CUBIC FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	0	0	760	0	0	980	54	0	0	0	0
2	---	0	0	4,170	0	0	3,660	40	0	0	0	0
3	---	0	0	1,130	0	0	1,990	22	0	0	0	0
4	---	0	0	640	0	0	240	15	0	0	0	0
5	---	0	0	240	50	0	190	13	0	0	0	0
6	---	0	0	130	4,970	35	150	11	0	0	0	0
7	---	0	150	67	4,620	2,240	130	7	0	0	0	0
8	---	0	210	45	140	1,540	110	2	0	0	0	0
9	---	0	22	49	12	78	120	0	0	0	0	0
10	---	0	940	31	9	16	110	0	0	0	0	0
11	---	0	360	31	15	14	91	0	0	0	0	0
12	---	0	190	4,100	1,130	12	83	0	0	0	0	0
13	---	0	92	2,370	110	3	55	0	0	0	0	3,770
14	---	0	45	340	67	0	39	0	0	0	0	1,650
15	---	0	40	63	34	0	27	0	0	0	0	300
16	---	0	25	15	15	0	26	0	0	0	0	81
17	---	0	17	12	12	0	24	0	0	0	0	27
18	---	0	18	14	11	0	25	0	0	0	2,600	13
19	---	0	15	2	9	0	25	0	0	0	3,050	4
20	---	0	17	0	7	0	140	0	0	0	770	0
21	---	0	14	0	6	0	88	0	0	0	210	0
22	---	0	13	0	2	0	82	0	0	0	72	0
23	---	0	12	0	0	0	75	0	0	0	12	0
24	---	0	7	0	0	5	75	0	0	0	0	0
25	---	0	6	0	0	15	81	0	0	0	0	260
26	---	0	6	0	0	32	67	0	0	0	0	270
27	---	0	7	0	0	37	63	0	0	0	150	170
28	---	0	11	0	0	38	58	0	0	0	21	400
29	---	0	16	0	---	1,480	55	0	0	0	2	690
30	---	0	1,470	0	---	5,560	55	0	0	0	0	370
31	---	---	5,850	0	---	2,970	---	0	---	0	0	---
TOTAL	---	0	9,553	14,209	11,219	14,075	8,914	164	0	0	6,887	8,005
MEAN	---	0	310	460	400	450	300	5	0	0	220	270
MAX	---	0	5,850	4,170	4,970	5,560	3,660	54	0	0	3,050	3,770
MIN	---	0	0	0	0	0	24	0	0	0	0	0

443014087362500 DISCOVERY FARMS TILE SITE NO. 2 NEAR KEWAUNEE, WI—Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--December 2004 to current year.

INSTRUMENTATION.--Water-quality sampler since December 2004.

REMARKS.--Chemical analyses by the Water and Environmental Analysis Lab (formerly the Environmental Task Force Lab) at the University of Wisconsin-Stevens Point. Samples with start and end dates/times are flow-composite samples which represent the event-mean concentation for the specified runoff period. Samples with only start dates/times are discrete samples collected by the same automatic point sampler. Runoff perods which were not sampled have zero subsamples. The sample runoff volume is the total flow that occurs between the start and end time of each flow-composite sample. The storm runoff volume is the total flow that occurs between the time that runoff starts and ends. In most cases, the sample runoff volume is slightly less than the storm runoff volume. A storm load (in pounds) can be computed by multiplying the storm runoff volume (in cubic feet) by the constituent concentration (in mg/L) and a factor of 6.2428x10^-5.

STORM-RUNOFF AND SAMPLE SUMMARY, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Storm Beginning Date	Storm Beginning Time	Storm Ending Date	Storm Ending Time	Storm Runoff Volume, Cubic Feet	Peak Discharge (CFS)	Number of Subsamples
12-07-04	0200	12-10-04	0617	392	0.005	1
12-10-04	0617	12-13-04	0400	1502	0.030	12
12-13-04	0400	01-02-05	0201	8466	0.126	0
01-02-05	0201	01-05-05	0030	5870	0.111	8
01-05-05	0030	01-12-05	1100	608	0.005	0
01-12-05	1100	01-14-05	0645	6570	0.123	30
01-14-05	0645	01-19-05	0500	320	0.004	0
02-05-05	1300	02-05-05	1700	6	0.001	0
02-05-05	1700	02-08-05	1800	9766	0.124	12
02-08-05	1800	02-22-05	1530	1451	0.068	0
03-06-05	1500	03-07-05	1620	1447	0.037	0
03-07-05	1620	03-08-05	0800	1543	0.036	11
03-08-05	0800	03-13-05	1500	941	0.029	0
03-24-05	2000	03-25-05	0800	9	0.001	0
03-25-05	1500	03-29-05	1055	128	0.001	0
03-29-05	1055	03-31-05	0630	8816	0.141	14
03-31-05	0630	04-04-05	0745	7909	0.104	16
04-04-05	0745	05-08-05	1200	2347	0.003	1
08-18-05	2100	08-20-05	0630	5756	0.363	23
08-20-05	0630	08-22-05	0300	887	0.013	6
08-22-05	0300	08-23-05	2100	72	0.001	1
08-27-05	0300	08-29-05	1130	172	0.003	0
09-13-05	1745	09-19-05	2230	5845	0.385	33
09-25-05	1130	09-28-05	1500	788	0.010	5
09-28-05	1500	10-02-05	2150	1717	0.014	14
10-02-05	2150	10-16-05	0946	503	0.002	1
10-16-05	1700	10-18-05	0816	18	0.0002	0
10-18-05	1945	10-19-05	0631	6	0.00026	0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DISCRETE SAMPLES

Date	Time	Instan-taneous dis-charge, cfs (00061)	Sam-pling method, code (82398)	Chlor-ide, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydro-lyzable phos-phorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phos-phorus, water, unfltrd mg/L (00665)	Sus-pended sedi-ment concen-tration mg/L (80154)
DEC											
08...	1400	.0006	50	20.5	--	1.3	.070	.10	6.40	.149	--
APR											
04...	0745	.003	50	7.0	294	2.1	.600	.24	1.00	.360	15
AUG											
22...	0929	.001	50	12.0	332	1.9	.060	.39	5.40	.430	78

443014087362500 DISCOVERY FARMS TILE SITE NO. 2 NEAR KEWAUNEE, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sampling method, code (82398)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydrolyzable phosphorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)	Sample runoff volume, cubic feet (99906)
DEC 10-13	20041213	0617	0400	50	17.0	--	1.1	.070	.10	6.30	.196	--	1,500
JAN 02-05	20050105	0201	0030	50	7.5	220	2.3	.540	.75	3.80	.880	26	5,870
JAN 12-14	20050114	1100	0645	50	3.0	128	2.1	.830	.46	2.10	.555	87	6,570
FEB 05-08	20050208	1700	1800	50	1.5	26	3.8	1.80	.38	.900	.574	30	9,770
MAR 07-08	20050308	1620	0800	50	<.5	66	3.9	3.10	.49	1.60	.610	28	1,540
MAR 29-31	20050331	1055	0630	50	7.5	250	2.5	.400	.24	.500	.450	34	8,820
MAR 31-APR 04	20050404	0630	0745	50	6.5	240	2.2	.700	.39	1.40	.520	7	7,910
AUG 18-20	20050820	2130	0630	50	11.5	360	2.4	.060	.28	19.5	.540	455	5,760
AUG 20-22	20050822	0630	0300	50	15.0	436	1.7	.030	.23	14.7	.340	563	887
SEP 13-16	20050916	1825	2115	50	14.5	436	13	<.100	.20	11.9	.930	225	5,850
SEP 25-28	20050928	1145	1500	50	27.0	594	1.5	.060	.14	10.6	.202	8	788
SEP 28-OCT 02	20051002	1500	2150	50	29.0	618	1.3	.020	.10	11.0	.125	<2	1,720

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 mi^2.

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

GAGE.--Water-stage recorder. Elevation of gage is 808 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	25	35	e30	e16	e23	274	31	16	9.3	4.8	4.2
2	9.7	29	32	e50	e15	e25	245	30	15	7.1	4.1	3.4
3	8.8	29	28	e58	e15	e24	211	29	14	5.8	4.7	3.0
4	7.1	30	28	e44	e16	e23	182	27	15	8.6	4.8	2.9
5	8.3	25	28	e37	e42	e23	157	25	16	9.3	5.2	2.8
6	6.1	22	29	e32	e110	e34	136	23	14	7.7	4.4	2.9
7	4.5	21	49	e28	e220	e190	119	26	14	7.5	3.7	6.2
8	20	20	69	e24	e190	e220	106	26	13	7.2	3.3	13
9	16	20	62	e23	e120	163	92	26	14	6.1	3.2	7.4
10	13	20	97	e21	e90	117	81	27	22	4.5	4.0	4.7
11	13	20	125	e22	e78	102	72	24	23	4.6	4.4	3.7
12	13	19	107	e30	e74	81	66	23	22	6.0	6.5	3.1
13	13	19	79	e56	e70	65	61	36	18	8.5	4.7	3.7
14	13	18	60	e38	e84	55	54	43	17	7.5	3.5	3.7
15	13	18	57	e28	e120	46	50	38	16	5.7	3.1	3.1
16	14	19	46	e20	e110	42	46	35	16	4.3	3.1	2.9
17	12	20	41	e16	e80	41	43	32	14	3.3	3.1	2.9
18	13	20	36	e14	e65	40	45	29	14	3.2	3.2	2.9
19	13	22	29	e13	e54	37	45	41	13	2.6	8.8	6.7
20	13	33	e27	e12	e45	38	57	45	12	2.7	7.5	6.8
21	13	31	e24	e12	e40	49	56	36	11	3.0	6.0	4.0
22	14	28	e23	e16	e36	66	48	33	10	3.7	3.4	7.1
23	23	26	e22	e15	e32	74	43	30	10	3.9	3.1	8.1
24	26	25	22	e18	e31	77	38	28	9.6	5.6	3.8	4.2
25	20	23	22	e17	e28	78	37	24	11	5.2	4.4	7.9
26	20	21	22	e16	e26	84	41	22	9.8	36	4.2	13
27	20	33	21	e16	e25	104	42	20	8.1	20	20	8.2
28	20	52	21	e17	e25	129	40	18	6.8	13	9.9	8.7
29	30	48	21	e18	---	162	37	17	6.5	9.3	5.1	12
30	32	41	21	e17	---	203	34	17	13	7.4	4.3	8.7
31	27	---	e24	e17	---	269	---	16	---	6.5	4.0	---
TOTAL	476.6	777	1,307	775	1,857	2,684	2,558	877	413.8	235.1	158.3	171.9
MEAN	15.4	25.9	42.2	25.0	66.3	86.6	85.3	28.3	13.8	7.58	5.11	5.73
MAX	32	52	125	58	220	269	274	45	23	36	20	13
MIN	4.5	18	21	12	15	23	34	16	6.5	2.6	3.1	2.8
CFSM	0.14	0.24	0.39	0.23	0.61	0.79	0.78	0.26	0.13	0.07	0.05	0.05
IN.	0.16	0.27	0.45	0.26	0.63	0.92	0.87	0.30	0.14	0.08	0.05	0.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	18.0	25.4	20.7	14.1	41.8	109	117	87.1	90.0	51.6	20.1	22.6
MAX	40.0	55.5	42.2	25.0	86.7	262	328	292	400	232	49.4	137
(WY)	(2001)	(2004)	(2005)	(2005)	(1999)	(2004)	(2001)	(2004)	(2004)	(1993)	(1999)	(2000)
MIN	7.17	10.9	8.74	3.60	3.26	37.8	43.3	28.3	12.1	2.46	5.11	4.02
(WY)	(1995)	(1995)	(1995)	(2003)	(2003)	(2003)	(2003)	(2005)	(1995)	(1995)	(2005)	(1998)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1993 - 2005	
ANNUAL TOTAL	38,654.3		12,290.7			
ANNUAL MEAN	106		33.7		50.9	
HIGHEST ANNUAL MEAN					108	2004
LOWEST ANNUAL MEAN					17.3	1995
HIGHEST DAILY MEAN	946	Jun 12	274	Apr 1	946	Jun 12, 2004
LOWEST DAILY MEAN	4.5	Oct 7	2.6	Jul 19	0.92	Jul 31, 1995
ANNUAL SEVEN-DAY MINIMUM	7.5	Oct 1	3.2	Sep 12	1.5	Jul 26, 1995
MAXIMUM PEAK FLOW			285	Mar 31	1,010	Jun 12, 2004
MAXIMUM PEAK STAGE			(a)5.10	Mar 7	7.41	Jun 12, 2004
INSTANTANEOUS LOW FLOW			2.3	Sep 3	0.89	(b)Jul 30, 1995
ANNUAL RUNOFF (CFSM)	0.969		0.309		0.467	
ANNUAL RUNOFF (INCHES)	13.19		4.19		6.35	
10 PERCENT EXCEEDS	311		78		118	
50 PERCENT EXCEEDS	30		21		23	
90 PERCENT EXCEEDS	14		4.2		7.0	

04085395 SOUTH BRANCH MANITOWOC RIVER AT HAYTON, WI—Continued

(a) Backwater from ice
(b) Also occurred July 31 to Aug. 1, 1995
(e) Estimated

04085427 MANITOWOC RIVER AT MANITOWOC, WI

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

DRAINAGE AREA.--526 mi^2.

PERIOD OF RECORD.--July 1972 to September 1996, December 1997 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 610.12 ft above NGVD of 1929.

REMARKS.--Records good except for periods of ice effect, Dec. 2-5 and Dec. 14 to Mar. 30, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	121	181	e170	e61	e160	1,380	234	65	32	26	21
2	31	110	e170	e180	e65	e150	1,300	221	61	36	25	18
3	31	120	e140	e170	e67	e150	1,230	208	57	36	23	18
4	36	117	e150	e160	e73	e150	1,170	191	57	34	21	19
5	31	120	e130	e150	e80	e160	1,110	173	58	31	18	17
6	30	115	141	e140	e90	e170	1,070	162	60	30	17	15
7	27	98	178	e130	e220	e350	1,030	160	65	30	18	14
8	44	92	242	e120	e240	e400	972	149	61	30	16	16
9	40	85	254	e110	e260	e390	901	144	49	28	15	17
10	48	76	354	e100	e240	e370	833	143	51	27	14	19
11	47	77	445	e110	e220	e340	762	143	52	26	14	17
12	40	77	442	e110	e210	e320	692	126	60	25	17	16
13	38	73	431	e110	e210	e290	645	135	67	24	17	16
14	38	71	e260	e110	e210	e270	610	153	71	21	16	17
15	41	71	e340	e100	e220	e250	569	177	75	20	16	16
16	45	73	e360	e90	e220	e230	513	175	74	19	16	17
17	50	75	e310	e82	e210	e220	461	157	73	18	15	17
18	64	78	e270	e75	e190	e210	409	142	71	18	19	16
19	47	83	e150	e73	e180	e200	364	146	63	18	27	16
20	35	92	e210	e72	e190	e190	361	151	56	17	25	15
21	31	111	e200	e68	e190	e190	362	166	50	19	25	14
22	33	118	e180	e64	e180	e210	352	170	47	18	23	18
23	45	e110	e170	e60	e170	e250	328	163	41	17	23	18
24	52	e100	e150	e57	e170	e300	322	139	37	18	22	17
25	81	e100	e140	e54	e180	e390	305	118	38	19	19	25
26	79	e110	e130	e52	e170	e530	282	106	38	50	16	25
27	72	119	e130	e52	e180	e670	272	102	36	41	24	22
28	74	164	e130	e53	e170	e920	272	93	34	40	24	26
29	105	196	e140	e55	---	e1,200	257	79	32	38	27	35
30	127	184	e150	e57	---	e1,300	242	73	34	34	27	37
31	134	---	e160	e59	---	1,400	---	67	---	30	25	---
TOTAL	1,627	3,136	6,838	2,993	4,866	12,330	19,376	4,566	1,633	844	630	574
MEAN	52.5	105	221	96.5	174	398	646	147	54.4	27.2	20.3	19.1
MAX	134	196	445	180	260	1,400	1,380	234	75	50	27	37
MIN	27	71	130	52	61	150	242	67	32	17	14	14
CFSM	0.10	0.20	0.42	0.18	0.33	0.76	1.23	0.28	0.10	0.05	0.04	0.04
IN.	0.12	0.22	0.48	0.21	0.34	0.87	1.37	0.32	0.12	0.06	0.04	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	175	229	176	108	183	805	911	406	318	138	74.8	131
MAX	1,465	1,367	575	503	1,104	1,951	2,672	991	1,414	1,071	343	1,711
(WY)	(1987)	(1986)	(1983)	(1973)	(1984)	(1985)	(1979)	(1978)	(2004)	(1993)	(1986)	(1986)
MIN	18.8	23.1	16.3	20.4	20.1	219	181	53.8	18.1	13.6	13.7	14.9
(WY)	(1977)	(1977)	(1977)	(1977)	(2003)	(2003)	(2000)	(1977)	(1988)	(1988)	(1988)	(1976)

04085427 MANITOWOC RIVER AT MANITOWOC, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1972 - 2005	
ANNUAL TOTAL	151,566		59,413			
ANNUAL MEAN	414		163		307	
HIGHEST ANNUAL MEAN					728	1986
LOWEST ANNUAL MEAN					82.7	1977
HIGHEST DAILY MEAN	2,890	Jun 1	1,400	Mar 31	8,000	Mar 31, 1979
LOWEST DAILY MEAN	27	Oct 7	(a)14	Aug 10	7.0	Oct 3, 1989
ANNUAL SEVEN-DAY MINIMUM	31	Oct 1	16	Aug 8	8.1	Sep 28, 1989
MAXIMUM PEAK FLOW			(b)1,440	Apr 1	(c)8,280	Mar 31, 1979
MAXIMUM PEAK STAGE			(d)9.06	Mar 28	(f)13.30	Mar 25, 1986
INSTANTANEOUS LOW FLOW			13	Sep 7, 21	6.8	(g)Jul 8, 1988
ANNUAL RUNOFF (CFSM)	0.787		0.309		0.583	
ANNUAL RUNOFF (INCHES)	10.72		4.20		7.92	
10 PERCENT EXCEEDS	1,340		353		815	
50 PERCENT EXCEEDS	120		83		115	
90 PERCENT EXCEEDS	46		18		30	

(a) Also occurred Aug. 11 and Sept. 7, 21
(b) Gage height, 7.74 ft
(c) Gage height, 13.24 ft
(d) Ice affected
(e) Estimated
(f) From floodmarks
(g) Also occurred Oct. 3-5, 1989

0408543907 POINT CREEK WATERWAY SITE NEAR NEWTON, WI

LOCATION.--Lat 43°58'57", long 87°47'41", Manitowoc County, Hydrologic Unit 04030101, 1/2 mi west of intersection of Union Rd. and County Rd. F and 1/3 mi north of County Rd. F, past a private farm, in waterway/intermittent stream. Eight mi southwest of Manitowoc, WI.

DRAINAGE AREA.--295 acres.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 2004 to September 2005.

GAGE.--Water-stage recorder. Water levels are controlled by 2.5 ft H flume. Elevation of gage is 718 ft above NGVD of 1929, from topographic map.

REMARKS.--Records excellent except for Mar. 15 to Apr. 1, which could be affect by backwater. This period is considered to be fair to poor (see Introduction). During the period from Dec. 16, 2004 to Mar. 14, 2005, the flume was completely ice-covered. Although there was significant flow during this period, no data were reported. Note that discharge is the daily sum, in cubic feet.

DAILY SUM DISCHARGE, CUBIC FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0	0	0	---	---	---	37,550	721	0	0	0	0
2	e0	0	0	---	---	---	32,310	609	0	0	0	0
3	e0	0	0	---	---	---	25,390	427	0	0	0	0
4	e0	0	0	---	---	---	21,150	305	95	0	0	0
5	e0	0	0	---	---	---	18,430	239	133	0	0	0
6	e0	0	3,121	---	---	---	17,040	559	0	0	0	0
7	e0	0	21,900	---	---	---	14,310	696	0	0	0	0
8	e0	0	10,380	---	---	---	11,110	570	0	0	0	0
9	e0	0	6,433	---	---	---	9,232	641	0	0	0	0
10	e0	0	134,000	---	---	---	7,703	690	0	0	0	0
11	e0	0	75,910	---	---	---	6,382	428	0	0	0	0
12	e0	0	27,540	---	---	---	5,310	0	0	0	0	0
13	e0	0	14,860	---	---	---	3,837	3,975	0	0	0	0
14	e0	0	10,230	---	---	---	3,090	1,809	0	0	0	0
15	0	0	8,916	---	---	3,622	2,646	1,001	0	0	0	0
16	0	0	---	---	---	122,900	2,514	452	0	0	0	0
17	0	0	---	---	---	76,370	2,459	249	0	0	0	0
18	0	0	---	---	---	11,150	2,709	191	0	0	0	0
19	0	0	---	---	---	4,640	2,341	8,935	0	0	0	0
20	0	0	---	---	---	5,140	4,501	3,458	0	0	0	0
21	0	0	---	---	---	184,800	2,301	1,597	0	0	0	0
22	0	0	---	---	---	178,800	2,230	1,581	0	0	0	0
23	0	0	---	---	---	129,400	1,579	838	0	0	0	0
24	0	0	---	---	---	83,050	1,441	357	0	0	0	0
25	0	0	---	---	---	55,220	1,390	145	0	0	0	0
26	0	0	---	---	---	82,650	1,908	156	0	0	0	0
27	0	0	---	---	---	111,800	1,492	39	0	0	0	0
28	0	0	---	---	---	118,700	1,038	48	0	0	0	0
29	0	0	---	---	---	98,250	923	22	0	0	0	0
30	0	0	---	---	---	89,150	846	98	0	0	0	0
31	0	---	---	---	---	64,860	---	0	---	0	0	---
TOTAL	0	0	---	---	---	---	245,162	30,836	228	0	0	0
MEAN	0	0	---	---	---	---	8,172	995	8	0	0	0
MAX	0	0	---	---	---	---	37,550	8,935	133	0	0	0
MIN	0	0	---	---	---	---	846	0	0	0	0	0

(e) Estimated

0408543907 POINT CREEK WATERWAY SITE NEAR NEWTON, WI—Continued

PRECIPITATION QUANTITY

PERIOD OF RECORD.--October 2004 to September 2005.

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

REMARKS.--Gage established Oct. 13, 2004. Rainfall estimated to be 0.00 for Jan. 25, 29, Feb. 9, 11, 21, 23, 25, and Mar. 3-4, 11, 14 because recorded precipitation was interpreted as collector snowmelt. Rainfall estimated for Oct. 1-7, 2004 from National Weather Service archives for Manitowoc - South site. Rainfall estimated for Oct. 8-13, 2004 and Jan. 3-11 from Discovery Farms Weather Station near Cleveland (435449087463600).

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 1.48 in., Jul. 25.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.00	0.29	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
2	e0.23	0.12	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	e0.00	0.00	0.00	e0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	e0.00	0.05	0.00	e0.00	0.00	e0.00	0.00	0.00	0.20	0.23	0.01	0.00
5	e0.00	0.00	0.01	e0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00
6	e0.00	0.00	0.39	e0.00	0.14	0.00	0.00	0.12	0.00	0.00	0.00	0.00
7	e0.00	0.00	0.64	e0.00	0.23	0.01	0.00	0.00	0.00	0.00	0.00	0.65
8	e0.81	0.00	0.00	e0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.01
9	e0.00	0.00	0.19	e0.00	e0.00	0.00	0.00	0.10	0.00	0.00	0.02	0.00
10	e0.00	0.06	1.01	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
11	e0.00	0.00	0.00	e0.07	e0.00	e0.00	0.00	0.08	0.12	0.00	0.17	0.00
12	e0.00	0.00	0.01	0.78	0.00	0.00	0.00	0.01	0.00	0.04	0.17	0.00
13	e0.00	0.00	0.00	0.01	0.09	0.00	0.00	0.54	0.07	0.00	0.00	0.04
14	e0.00	0.00	0.00	0.00	0.51	e0.00	0.00	0.05	0.20	0.00	0.00	0.00
15	0.03	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01	0.00	0.00	0.69	0.00
19	0.02	0.58	0.00	0.00	0.00	0.19	0.14	0.69	0.00	0.00	0.01	0.25
20	0.00	0.02	0.00	0.00	0.00	0.03	0.12	0.00	0.00	0.00	0.38	0.00
21	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.31
23	0.65	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.22	0.03	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.01	0.00	0.00
25	0.00	0.00	0.00	e0.01	e0.00	0.00	0.09	0.00	0.00	1.48	0.00	0.88
26	0.06	0.15	0.00	0.00	0.00	0.00	0.02	0.04	0.01	0.30	0.19	0.02
27	0.01	0.67	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.44	0.00
28	0.31	0.04	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35
29	0.15	0.00	0.00	e0.00	---	0.00	0.00	0.08	0.00	0.00	0.00	0.00
30	0.05	0.00	0.05	0.00	---	0.18	0.00	0.00	0.11	0.00	0.00	0.00
31	0.04	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	2.42	2.09	2.36	1.37	0.97	0.42	0.46	1.89	0.80	2.34	2.12	2.51

WTR YR 2005 TOTAL 19.75

(e) Estimated

0408543907 POINT CREEK WATERWAY SITE NEAR NEWTON, WI—Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--October 2004 to September 2005.

INSTRUMENTATION.--Water-quality sampler since October 2004.

REMARKS.--Chemical analyses by the Water and Environmental Analysis Lab (formerly the Environmental Task Force Lab) at the University of Wisconsin-Stevens Point. Samples with start and end dates/times are flow-composite samples which represent the event-mean concentation for the specified runoff period. Samples with only start dates/times are discrete samples collected by the same automatic point sampler. Runoff perods which were not sampled have zero subsamples. The sample runoff volume is the total flow that occurs between the start and end time of each flow-composite sample. The storm runoff volume is the total flow that occurs between the time that runoff starts and ends. In most cases, the sample runoff volume is slightly less than the storm runoff volume. A storm load (in pounds) can be computed by multiplying the storm runoff volume (in cubic feet) by the constituent concentration (in mg/L) and a factor of 6.2428x10^-5.

STORM-RUNOFF AND SAMPLE SUMMARY, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Storm Beginning Date	Storm Beginning Time	Storm Ending Date	Storm Ending Time	Storm Runoff Volume, Cubic Feet	Peak Discharge (CFS)	Number of Subsamples
12-06-04	0123	12-08-04	0700	29056	0.65	23
12-08-04	0700	12-09-04	1907	11280	0.13	8
12-09-04	1907	12-12-05	1015	225170	2.90	17
12-12-04	1015	12-14-05	1830	36691	0.34	5
03-14-05	0700	04-01-05	0600	1440734	7.16	0
04-01-05	0600	04-08-05	1100	161620	0.48	1
04-08-05	1100	05-11-05	2300	79497	0.13	1
05-13-05	0030	05-15-05	1650	6580	0.10	15
05-15-05	1650	05-20-05	1905	13061	0.24	13
05-20-05	1905	05-24-05	1815	4783	0.03	3
05-24-05	2130	05-25-05	1430	153	0.004	0
05-26-05	0100	05-26-05	1415	156	0.01	0
05-27-05	0430	05-27-05	1145	39	0.002	0
05-28-05	0315	05-28-05	1200	48	0.002	0
05-29-05	2115	05-30-05	1045	120	0.004	0
06-04-05	1945	06-05-05	1100	228	0.01	0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DISCRETE SAMPLES

Date	Time	Instan-taneous dis-charge, cfs (00061)	Sam-pling method, code (82398)	Chlor-ide, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydro-lyzable phos-phorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phos-phorus, water, unfltrd mg/L (00665)	Sus-pended sedi-ment concen-tration mg/L (80154)
APR											
04...	1205	.24	50	57.5	490	1.9	.600	.37	9.20	.380	9
12...	1020	.07	50	63.5	22	1.2	<.100	.50	6.00	.540	12

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sam-pling method, code (82398)	Chlor-ide, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydro-lyzable phos-phorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phos-phorus, water, unfltrd mg/L (00665)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sample runoff volume, cubic feet (99906)
DEC 07-08	20041208	0700	0700	50	110	--	14	5.54	1.23	8.10	2.24	55	29,100
DEC 08-09	20041209	0700	1907	50	104	--	5.2	2.32	.83	16.2	.969	6	11,300
DEC 09-12	20041212	1907	1015	50	74.0	--	3.6	1.22	.80	29.4	1.05	35	225,000
DEC 12-14	20041214	1015	1830	50	89.0	--	1.1	.160	.55	11.3	.569	10	36,700
MAY 13-15	20050515	0415	1650	50	64.5	590	1.7	.020	.80	1.20	1.04	22	6,580
MAY 19-20	20050520	0305	1905	50	56.0	548	2.6	.400	1.11	2.10	1.18	22	13,100
MAY 20-23	20050523	1905	1305	50	63.0	596	1.3	<.010	.79	1.00	.820	8	4,780

0408544213 CENTERVILLE CREEK DOWNSTREAM SITE NEAR CLEVELAND, WI

LOCATION.--Lat 43°54'24", long 87°46'50", Manitowoc County, Hydrologic Unit 04030101, 1 mi east of intersection of Union Rd. and Washington Rd. (Dead End). 300 ft south of Washington Rd. in waterway/intermittent stream. 12 mi south of Manitowoc, WI.

DRAINAGE AREA.--641 acres.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 2004 to September 2005

GAGE.--Water-stage recorder. Water levels are controlled by 2.5 ft H flume. Elevation of gage is 695 ft above NGVD of 1929, from topographic map.

REMARKS.--Records are excellent. Note that discharge is the daily sum, in cubic feet.

DAILY SUM DISCHARGE, CUBIC FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0	e0	0	94	0	0	16,120	0	0	0	0	0
2	e0	0	0	2,450	0	0	613	0	0	0	0	0
3	e0	0	0	0	0	0	0	0	0	0	0	0
4	e0	0	0	0	345	0	0	0	0	0	0	0
5	e0	0	0	0	7,727	4,043	0	0	0	0	0	0
6	e0	0	0	0	24,660	225,700	0	0	0	0	0	0
7	e0	0	0	0	215,800	331,600	0	0	0	0	0	0
8	e0	0	0	0	19,430	24,100	0	0	0	0	0	0
9	e0	0	0	0	16,480	7,071	0	0	0	0	0	0
10	e0	0	0	0	114	1,284	0	0	0	0	0	0
11	e0	0	0	0	0	0	0	0	0	0	0	0
12	e0	0	0	301,400	3,690	0	0	0	0	0	0	0
13	e0	0	0	105,600	3,572	0	0	0	0	0	0	0
14	e0	0	0	0	131,800	336	0	0	0	0	0	0
15	e0	0	0	0	132,100	0	0	0	0	0	0	0
16	e0	0	0	0	52,430	1,383	0	0	0	0	0	0
17	e0	0	0	0	9,551	1,881	0	0	0	0	0	0
18	e0	0	0	0	302	646	0	0	0	0	0	0
19	e0	0	0	0	0	2,417	0	0	0	0	0	0
20	e0	0	0	0	0	4,594	0	0	0	0	0	0
21	e0	0	0	0	0	13,010	0	0	0	0	0	0
22	e0	0	0	0	800	24,380	0	0	0	0	0	0
23	e0	0	0	0	245	43,200	0	0	0	0	0	0
24	e0	0	0	0	0	30,770	0	0	0	0	0	0
25	e0	0	0	0	0	9,368	0	0	0	0	0	0
26	e0	0	0	0	0	1,232	0	0	0	0	0	0
27	e0	0	0	0	0	20,860	0	0	0	0	0	0
28	e0	0	0	0	0	61,460	0	0	0	0	0	0
29	e0	0	0	0	---	75,170	0	0	0	0	0	0
30	e0	0	0	0	---	70,980	0	0	0	0	0	0
31	e0	---	0	0	---	75,460	---	0	---	0	0	---
TOTAL	0	0	0	409,544	619,046	1,030,945	16,733	0	0	0	0	0
MEAN	0	0	0	13,210	22,110	33,260	558	0	0	0	0	0
MAX	0	0	0	301,400	215,800	331,600	16,120	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0

(e) Estimated

0408544213 CENTERVILLE CREEK DOWNSTREAM SITE NEAR CLEVELAND, WI—Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--October 2004 to September 2005.

INSTRUMENTATION.--Water-quality sampler since October 2004.

REMARKS.--Chemical analyses by the Water and Environmental Analysis Lab (formerly the Environmental Task Force Lab) at the University of Wisconsin-Stevens Point. Samples with start and end dates/times are flow-composite samples which represent the event-mean concentation for the specified runoff period. Samples with only start dates/times are discrete samples collected by the same automatic point sampler. Runoff perods which were not sampled have zero subsamples. The sample runoff volume is the total flow that occurs between the start and end time of each flow-composite sample. The storm runoff volume is the total flow that occurs between the time that runoff starts and ends. In most cases, the sample runoff volume is slightly less than the storm runoff volume. A storm load (pounds) can be computed by multiplying the storm runoff volume (cubic feet) by the constituent concentration (in mg/L) and a factor of 6.2428x10^-5.

STORM-RUNOFF AND SAMPLE SUMMARY, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Storm Beginning Date	Storm Beginning Time	Storm Ending Date	Storm Ending Time	Storm Runoff Volume, Cubic Feet	Peak Discharge (CFS)	Number of Subsamples
01-01-05	2046	01-02-05	1400	2544	0.27	11
01-12-05	1145	01-13-05	2328	406909	22.3	24
02-04-05	1831	02-08-05	1720	256910	4.61	25
02-08-05	1720	02-10-05	0403	27606	0.69	17
02-12-05	1240	02-15-05	1000	166693	3.90	20
02-15-05	1000	02-16-05	1112	124723	4.90	13
02-16-05	1112	02-18-05	0900	41998	1.40	8
02-22-05	1311	02-23-05	0449	1042	0.05	0
03-05-05	1235	03-10-05	1350	593879	13.26	23
03-14-05	1536	03-14-05	2050	336	0.04	0
03-16-05	1229	03-17-05	0600	1696	0.08	0
03-17-05	1245	03-18-05	0700	2215	0.08	0
03-19-05	1815	03-21-05	0900	8667	0.22	0
03-21-05	1127	03-22-05	0814	14811	0.69	8
03-22-05	0814	03-23-05	1302	25798	0.90	12
03-23-05	1302	03-26-05	0340	78496	3.23	28
03-26-05	1810	03-28-05	0922	23618	0.99	11
03-28-05	0922	03-30-05	1534	180430	1.74	19
03-30-05	1534	04-02-05	1100	117804	1.14	11

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sampling method, code (82398)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydrolyzable phosphorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)	Sample runoff volume, cubic feet (99906)
JAN 01-02	20050102	2107	1324	50	99.0	--	2.5	.740	1.12	1.60	1.30	30	2,540
JAN 12-13	20050113	1209	2215	50	7.5	80	10	6.20	2.54	.200	2.93	11	407,000
FEB 04-08	20050208	1845	1720	50	34.0	260	25	15.7	4.70	<.100	5.07	42	257,000
FEB 08-10	20050210	1721	0349	50	17.0	266	13	8.00	2.78	1.00	3.08	3	27,600
FEB 13-15	20050215	1510	1000	50	16.5	254	17	11.4	3.84	.400	4.22	44	167,000
FEB 15-16	20050216	1001	1112	50	10.0	252	8.2	5.50	2.48	.700	2.54	21	125,000
FEB 16-18	20050218	1113	0348	50	9.0	282	4.2	2.70	1.02	1.50	1.07	6	42,000
MAR 06-10	20050310	0816	1203	50	11.5	190	14	8.80	2.39	.400	2.80	59	594,000
MAR 21-22	20050322	1137	0814	50	100	396	14	7.20	2.35	1.60	2.72	34	14,800
MAR 22-23	20050323	0814	1302	50	19.5	300	21	13.0	3.80	.600	4.70	27	25,800
MAR 23-25	20050325	1302	2341	50	11.0	272	7.0	4.50	1.69	.600	1.81	8	78,500
MAR 26-28	20050328	1815	0922	50	8.0	240	2.8	1.60	.67	.300	.750	126	23,600
MAR 28-30	20050330	0922	1534	50	7.0	196	2.6	1.10	.58	.400	.640	21	180,000
MAR 30-APR 02	20050402	1534	0816	50	8.0	204	2.8	.600	.39	.400	.540	4	118,000

0408544217 CENTERVILLE CREEK TRIBUTARY NO. 1 NEAR CLEVELAND, WI

LOCATION.--Lat 43°54'24", long 87°46'52", Manitowoc County, Hydrologic Unit 04030101, 50 ft east of the intersection of Union and South Cleveland Rd. in ditch along South Cleveland Rd., 12 mi south of Manitowoc, WI.

DRAINAGE AREA.--14.7 acres.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 2004 to September 2005.

GAGE.--Water-stage recorder. Water levels are controlled by 1.5 ft H flume. Elevation of gage is 712 ft above NGVD of 1929, from topographic map.

REMARKS.--Records excellent. Note that discharge is the daily sum, in cubic feet.

DAILY SUM DISCHARGE, CUBIC FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0	0	0	0	0	0	0	0	0	0	0	0
2	e0	0	0	2,967	0	0	0	0	0	0	0	0
3	e0	0	0	0	0	0	0	0	0	0	0	0
4	e0	0	0	0	0	0	0	0	0	0	0	0
5	e0	0	0	0	1,154	0	0	0	0	0	0	0
6	e0	0	0	0	16,800	33,960	0	0	0	0	0	0
7	e0	0	0	0	28,390	16,410	0	0	0	0	0	0
8	e0	0	0	0	2,724	428	0	0	0	0	0	0
9	e0	0	0	0	302	180	0	0	0	0	0	0
10	e0	0	2,014	0	0	0	0	0	0	0	0	0
11	e0	0	0	0	0	0	0	0	0	0	0	0
12	e0	0	0	9,901	4,611	0	0	0	0	0	0	0
13	e0	0	0	3,834	5,451	0	0	0	0	0	0	0
14	0	0	0	10	19,710	0	0	0	0	0	0	0
15	0	0	0	0	8,120	0	0	0	0	0	0	0
16	0	0	0	0	1,302	2,007	0	0	0	0	0	0
17	0	0	0	0	71	1,485	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	3	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	7,395	0	0	0	0	0	0
22	0	0	0	0	0	8,772	0	0	0	0	0	0
23	0	0	0	0	0	2,653	0	0	0	0	0	0
24	0	0	0	0	0	937	0	0	0	0	0	0
25	0	0	0	0	0	394	0	0	0	0	0	0
26	0	0	0	0	0	1,159	0	0	0	0	0	0
27	0	0	0	0	0	1,537	0	0	0	0	0	0
28	0	0	0	0	0	1,700	0	0	0	0	0	0
29	0	0	0	0	---	767	0	0	0	0	0	0
30	0	0	24	0	---	516	0	0	0	0	0	0
31	0	---	137	0	---	45	---	0	---	0	0	---
TOTAL	0	0	2,175	16,712	88,635	80,345	0	3	0	0	0	0
MEAN	0	0	70	539	3,166	2,592	0	0	0	0	0	0
MAX	0	0	2,014	9,901	28,390	33,960	0	3	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0

(e) Estimated

0408544217 CENTERVILLE CREEK TRIBUTARY NO. 1 NEAR CLEVELAND, WI—Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--October 2004 to September 2005.

INSTRUMENTATION.--Water-quality sampler since October 2004.

REMARKS.--Chemical analyses by the Water and Environmental Analysis Lab (formerly the Environmental Task Force Lab) at the University of Wisconsin-Stevens Point. Samples with start and end dates/times are flow-composite samples which represent the event-mean concentation for the specified runoff period. Samples with only start dates/times are discrete samples collected by the same automatic point sampler. Runoff perods which were not sampled have zero subsamples. The sample runoff volume is the total flow that occurs between the start and end time of each flow-composite sample. The storm runoff volume is the total flow that occurs between the time that runoff starts and ends. In most cases, the sample runoff volume is slightly less than the storm runoff volume. A storm load (pounds) can be computed by multiplying the storm runoff volume (cubic feet) by the constituent concentration (in mg/L) and a factor of 6.2428x10^-5.

STORM-RUNOFF AND SAMPLE SUMMARY, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Storm Beginning Date	Storm Beginning Time	Storm Ending Date	Storm Ending Time	Storm Runoff Volume, Cubic Feet	Peak Discharge (CFS)	Number of Subsamples
12-10-04	0447	12-10-04	2345	2014	0.08	22
12-30-04	2300	12-31-04	0600	161	0.01	0
01-01-05	2347	01-02-05	1613	2968	0.19	0
01-12-05	1100	01-14-05	0050	13745	1.27	24
02-05-05	1104	02-09-05	1249	49372	0.83	22
02-12-05	1300	02-17-05	0715	39269	0.79	39
03-06-05	1113	03-08-05	0250	50419	2.28	16
03-08-05	1117	03-08-05	2304	370	0.02	0
03-09-05	1200	03-09-05	1930	180	0.01	0
03-16-05	1100	03-16-05	1948	2007	0.21	0
03-17-05	1202	03-17-05	2017	1485	0.09	0
03-21-05	1225	03-22-05	0529	7670	0.97	4
03-22-05	0913	03-22-05	2211	8497	0.53	7
03-23-05	1105	03-23-05	2207	2653	0.18	6
03-24-05	1100	03-25-05	0300	962	0.04	4
03-25-05	1300	03-26-05	0031	369	0.02	1
03-26-05	1010	03-27-05	0058	1159	0.06	7
03-27-05	1045	03-28-05	0100	1546	0.08	5
03-28-05	1015	03-29-05	0130	1696	0.07	7
03-29-05	1044	03-29-05	2320	761	0.04	5
03-30-05	1146	03-31-05	0300	561	0.02	3
05-19-05	0636	05-19-05	0650	3	0.01	0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sampling method, code (82398)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydrolyzable phosphorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)	Sample runoff volume, cubic feet (99906)
DEC													
10-10	20041210	0454	2256	50	9.0	--	1.2	.160	.39	2.50	.494	14	2,010
JAN													
12-13	20050113	1108	2336	50	6.5	92	1.6	.300	.19	.900	.390	44	13,700
FEB													
05-09	20050209	1406	0858	50	3.5	102	1.6	.500	.07	2.30	.224	52	49,400
FEB													
13-16	20050216	1251	2133	50	3.0	186	1.9	.400	.20	2.30	--	190	39,300
MAR													
06-08	20050308	1113	0112	50	3.0	132	3.9	.800	.16	2.10	1.16	809	50,400
MAR													
21-22	20050322	1425	0443	50	5.5	154	4.1	1.60	.16	2.60	.470	107	7,670
MAR													
22-22	20050322	1040	2121	50	4.0	250	4.0	.600	.11	3.40	.960	675	8,500
MAR													
23-23	20050323	1144	2049	50	4.5	162	2.6	.500	.17	2.50	.570	206	2,650
MAR													
24-24	20050324	1125	2355	50	9.5	194	1.7	.700	.25	1.10	.410	14	962
MAR													
25-31	20050331	1306	0043	50	7.5	158	1.1	.400	.24	1.00	.290	20	6,090

0408544218 CENTERVILLE CREEK UPSTREAM SITE NEAR CLEVELAND, WI

LOCATION.--Lat 43°54'24", long 87°46'50", Manitowoc County, Hydrologic Unit 04030101, 100 ft east of the intersection of Union and South Cleveland Rd. in waterway/intermittent stream north of South Cleveland Rd. 12 mi south of Manitowoc, WI.

DRAINAGE AREA.--495 acres.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 2004 to September 2005.

GAGE.--Water-stage recorder. Water levels are controlled by 2.5 ft H flume. Elevation of gage is 711 ft above NGVD of 1929, from topographic map.

REMARKS.--Records excellent except for Feb. 15-18, which are fair (see Introduction). Note that discharge is the daily sum, in cubic feet.

DAILY SUM DISCHARGE, CUBIC FEET
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0	0	0	0	0	0	70,370	0	0	0	0	0
2	e0	0	0	3,542	0	0	44,590	0	0	0	0	0
3	e0	0	0	0	0	0	31,640	0	0	0	0	0
4	e0	0	0	0	0	0	22,880	0	0	0	0	0
5	e0	0	0	0	0	0	16,380	0	0	0	0	0
6	e0	0	0	0	5,965	62,240	14,420	0	0	0	0	0
7	e0	0	0	0	63,120	302,200	10,990	0	0	0	0	0
8	e0	0	0	0	76,610	61,080	6,208	0	0	0	0	0
9	e0	0	0	0	19,240	11,000	2,633	0	0	0	0	0
10	e0	0	7,812	0	0	1,034	308	0	0	0	0	0
11	e0	0	170	0	0	0	0	0	0	0	0	0
12	e0	0	0	70,870	190	0	0	0	0	0	0	0
13	e0	0	0	55,690	491	0	0	0	0	0	0	0
14	0	0	0	39	58,300	0	0	0	0	0	0	0
15	0	0	0	0	120,600	0	0	0	0	0	0	0
16	0	0	0	0	81,160	0	0	0	0	0	0	0
17	0	0	0	0	17,390	0	0	0	0	0	0	0
18	0	0	0	0	933	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	3,963	0	0	0	0	0	0
22	0	0	0	0	0	10,240	0	0	0	0	0	0
23	0	0	0	0	0	77,150	0	0	0	0	0	0
24	0	0	0	0	0	93,510	0	0	0	0	0	0
25	0	0	0	0	0	76,260	0	0	0	0	0	0
26	0	0	0	0	0	85,070	0	0	0	0	0	0
27	0	0	0	0	0	113,300	0	0	0	0	0	0
28	0	0	0	0	0	172,200	0	0	0	0	0	0
29	0	0	0	0	---	127,900	0	0	0	0	0	0
30	0	0	0	0	---	121,800	0	0	0	0	0	0
31	0	---	0	0	---	122,700	---	0	---	0	0	---
TOTAL	0	0	7,982	130,141	443,999	1,441,647	220,419	0	0	0	0	0
MEAN	0	0	257	4,198	15,860	46,500	7,347	0	0	0	0	0
MAX	0	0	7,812	70,870	120,600	302,200	70,370	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0

(e) Estimated

0408544218 CENTERVILLE CREEK UPSTREAM SITE NEAR CLEVELAND, WI—Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--October 2004 to September 2005.

INSTRUMENTATION.--Water-quality sampler since October 2004.

REMARKS.--Chemical analyses by the Water and Environmental Analysis Lab (formerly the Environmental Task Force Lab) at the University of Wisconsin-Stevens Point. Samples with start and end dates/times are flow-composite samples which represent the event-mean concentation for the specified runoff period. Samples with only start dates/times are discrete samples collected by the same automatic point sampler. Runoff perods which were not sampled have zero subsamples. The sample runoff volume is the total flow that occurs between the start and end time of each flow-composite sample. The storm runoff volume is the total flow that occurs between the time that runoff starts and ends. In most cases, the sample runoff volume is slightly less than the storm runoff volume. A storm load (pounds) can be computed by multiplying the storm runoff volume (cubic feet) by the constituent concentration (in mg/L) and a factor of 6.2428x10^-5.

STORM-RUNOFF AND SAMPLE SUMMARY, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Storm Beginning Date	Storm Beginning Time	Storm Ending Date	Storm Ending Time	Storm Runoff Volume, Cubic Feet	Peak Discharge (CFS)	Number of Subsamples
12-10-04	1105	12-11-04	0250	7982	0.34	20
01-02-05	0025	01-02-05	1250	3542	0.26	12
01-12-05	1825	01-14-05	0200	126600	4.36	22
02-06-05	1230	02-08-05	0818	70192	1.40	21
02-08-05	1210	02-09-05	1800	94745	2.50	24
02-12-05	2000	02-15-05	0600	68105	2.52	13
02-15-05	0600	02-16-05	0945	127316	3.82	14
02-16-05	0945	02-18-05	1300	83602	2.93	22
03-06-05	1100	03-10-05	0750	437561	5.98	30
03-21-05	1545	03-22-05	0459	4399	0.25	6
03-22-05	1210	03-23-05	1010	21236	0.45	11
03-23-05	1010	03-25-05	1001	195293	2.13	24
03-25-05	1001	03-27-05	0940	174138	2.02	24
03-27-05	0940	03-30-05	1113	421630	3.31	22
03-30-05	1113	04-04-05	1223	346668	1.71	17
04-04-05	1223	04-10-05	1056	61220	0.40	11

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DISCRETE SAMPLES

Date	Time	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydrolyzable phosphorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)
JAN											
13...	1333	.23	50	12.0	156	16	8.50	2.25	<.100	3.20	59
13...	1336	.24	70	12.5	202	17	8.90	2.34	<.100	3.28	25
FEB											
15...	1603	2.8	50	7.5	226	3.0	1.70	.54	1.20	.680	45
15...	1604	2.8	70	7.5	250	3.2	1.70	.68	1.20	.740	5

0408544218 CENTERVILLE CREEK UPSTREAM SITE NEAR CLEVELAND, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sampling method, code (82398)	Chloride, water, fltrd, mg/L (00940)	Residue on evap. at 105degC wat flt mg/L (00515)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Hydrolyzable phosphorus, water, fltrd, mg/L (00672)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration mg/L (80154)	Sample runoff volume, cubic feet (99906)
DEC 10-11	20041211	1111	0228	50	12.0	--	1.1	.190	.58	2.00	.663	7	7,980
JAN 02-02	20050102	0028	1159	50	8.5	--	1.9	.280	.85	.800	1.00	21	3,540
JAN 12-14	20050114	1830	0100	50	7.5	22	9.2	4.50	1.44	.200	2.02	33	127,000
FEB 06-08	20050208	1247	0603	50	8.0	168	6.7	3.80	1.29	1.10	1.57	43	70,200
FEB 08-09	20050209	1217	1634	50	9.5	228	5.9	3.40	.71	1.80	.955	14	94,700
FEB 13-15	20050215	1847	0600	50	7.0	188	4.2	2.60	1.48	1.20	1.52	66	68,100
FEB 15-16	20050216	0601	0945	50	8.0	238	3.4	2.00	.84	1.30	.860	17	127,000
FEB 16-18	20050218	0946	0847	50	8.0	282	3.0	1.70	.38	1.60	.460	10	83,600
MAR 06-10	20050310	1130	0709	50	5.5	200	4.3	2.60	.87	1.20	1.04	87	438,000
MAR 21-22	20050322	1548	0348	50	7.5	166	5.2	2.80	.73	2.50	1.01	78	4,400
MAR 22-23	20050323	1223	1010	50	7.0	234	5.1	2.70	.91	1.70	1.18	139	21,200
MAR 23-25	20050325	1010	1001	50	8.0	264	4.0	2.20	.94	.700	1.05	22	195,000
MAR 25-27	20050327	1001	0940	50	8.5	236	2.9	1.60	.76	.200	.910	7	174,000
MAR 27-30	20050330	0940	1113	50	7.0	222	2.3	1.20	.65	.300	.700	16	422,000
MAR 30-APR 04	20050404	1113	1223	50	7.0	168	1.8	.500	.29	.200	.330	6	347,000
APR 04-10	20050410	1223	0502	50	8.5	254	1.8	<.100	.13	<.100	.200	<2	61,200

04085746 MULLET RIVER AT OLD WADE HOUSE AT GREENBUSH, WI

LOCATION.--Lat 43°46'39", long 88°05'07", in SE 1/4 SE 1/4 sec.10, T.15 N., R.20 E., Sheboygan County, Hydrologic Unit 04030101, on right bank about 300 ft upstream of Plank Road bridge in Greenbush, located in Old Wade House Historic site.

DRAINAGE AREA.--24.3 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 2001 to September 2005 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 963.96 ft above NGVD of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor (see Introduction). Flow partly regulated by sawmill at Old Wade House, May-September. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	9.2	15	9.1	e5.1	6.5	45	9.6	5.4	1.1	0.77	0.55
2	2.1	12	14	16	e5.2	6.1	45	9.1	4.8	1.1	0.71	0.45
3	2.0	11	13	14	e5.4	6.4	45	8.6	4.4	1.1	0.67	0.44
4	1.9	10	14	12	e5.4	6.2	44	8.0	4.2	1.4	0.64	0.45
5	1.7	9.7	14	9.6	e9.0	6.2	44	7.4	4.1	1.4	0.60	0.43
6	1.8	9.4	15	9.4	23	12	44	7.3	3.6	1.3	0.58	0.38
7	1.8	8.6	21	9.1	35	31	43	7.9	3.5	1.3	0.55	0.62
8	4.6	8.2	23	8.0	26	17	42	7.8	3.4	1.2	0.51	1.1
9	5.2	9.9	21	7.5	18	18	41	7.4	2.9	1.0	0.47	0.70
10	4.6	11	23	7.0	17	19	40	7.4	2.9	0.95	0.51	0.66
11	4.4	12	24	6.7	18	18	39	8.3	2.7	0.90	0.59	0.58
12	4.4	12	22	10	18	17	38	9.3	2.7	0.96	1.1	0.53
13	4.5	11	18	e28	19	14	36	12	2.5	1.2	0.78	0.47
14	4.3	11	17	e16	27	11	35	14	2.6	0.97	0.73	0.53
15	4.0	12	16	e10	28	9.5	33	14	2.6	0.88	0.66	0.47
16	3.6	13	16	e9.0	24	8.9	30	14	2.5	0.82	0.62	0.49
17	3.6	13	15	e8.6	19	8.4	25	12	2.3	0.76	0.54	0.46
18	3.3	13	15	e8.2	19	8.3	19	11	2.3	0.69	0.60	0.43
19	3.3	14	12	e7.6	17	8.3	16	17	2.2	0.64	0.73	e0.37
20	3.3	16	e12	e5.9	15	8.3	19	19	2.1	0.72	0.63	e0.42
21	3.3	15	e11	e5.4	12	8.6	18	19	2.0	1.3	0.50	e0.47
22	3.1	14	e11	e5.2	9.8	10	18	18	1.8	1.3	0.44	e1.1
23	7.5	14	e9.7	e5.0	7.9	13	17	16	1.6	1.0	0.49	0.85
24	8.5	13	e9.7	e5.3	7.9	16	16	14	1.5	1.1	0.51	0.76
25	6.4	13	e9.7	e5.2	7.5	19	14	12	1.4	0.94	0.49	1.3
26	6.0	13	e9.4	e4.8	6.7	20	14	9.6	1.4	2.3	0.49	1.2
27	7.3	17	e8.8	e4.7	7.0	24	13	8.1	1.3	1.4	1.3	0.91
28	8.1	20	e7.7	e4.8	6.9	29	12	7.2	1.2	1.3	0.73	0.91
29	9.3	18	6.1	e4.8	---	36	11	6.8	1.1	1.1	0.62	1.1
30	9.7	16	6.0	e4.9	---	43	10	6.9	1.3	0.99	0.60	0.83
31	9.0	---	9.0	e5.0	---	49	---	6.1	---	0.91	0.58	---
TOTAL	144.3	379.0	438.1	266.8	418.8	507.7	866	334.8	78.3	34.03	19.74	19.96
MEAN	4.65	12.6	14.1	8.61	15.0	16.4	28.9	10.8	2.61	1.10	0.64	0.67
MAX	9.7	20	24	28	35	49	45	19	5.4	2.3	1.3	1.3
MIN	1.7	8.2	6.0	4.7	5.1	6.1	10	6.1	1.1	0.64	0.44	0.37
CFSM	0.19	0.52	0.58	0.35	0.62	0.67	1.19	0.44	0.11	0.05	0.03	0.03
IN.	0.22	0.58	0.67	0.41	0.64	0.78	1.33	0.51	0.12	0.05	0.03	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2005, BY WATER YEAR (WY)

MEAN	6.65	13.9	11.1	5.63	9.10	25.6	25.5	27.7	25.1	6.55	4.83	4.21
MAX	11.3	25.2	14.1	8.61	15.5	46.9	35.6	55.1	86.3	18.5	10.3	12.1
(WY)	(2002)	(2004)	(2005)	(2005)	(2002)	(2004)	(2002)	(2004)	(2004)	(2004)	(2004)	(2001)
MIN	2.96	5.09	5.32	2.24	1.69	10.9	15.4	10.8	2.61	1.10	0.64	0.67
(WY)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2005)	(2005)	(2005)	(2005)	(2005)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2001 - 2005	
ANNUAL TOTAL	8,696.1		3,507.53			
ANNUAL MEAN	23.8		9.61		13.5	
HIGHEST ANNUAL MEAN					24.4	2004
LOWEST ANNUAL MEAN					7.71	2003
HIGHEST DAILY MEAN	155	Jun 12	49	Mar 31	155	Jun 12, 2004
LOWEST DAILY MEAN	1.6	Sep 27-29	(e)0.37	Sep 19	(e)0.37	Sep 19, 2005
ANNUAL SEVEN-DAY MINIMUM	1.8	Sep 27	(e)0.44	Sep 15	0.44	Sep 15, 2005
MAXIMUM PEAK FLOW			50	Mar 31	197	Jun 11, 2004
MAXIMUM PEAK STAGE			4.26	Mar 31	5.67	Jun 11, 2004
ANNUAL RUNOFF (CFSM)	0.978		0.395		0.557	
ANNUAL RUNOFF (INCHES)	13.31		5.37		7.56	
10 PERCENT EXCEEDS	64		20		33	
50 PERCENT EXCEEDS	11		7.4		8.0	
90 PERCENT EXCEEDS	3.4		0.62		1.5	

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(e) Estimated

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 2001 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 2001 to current year (no winter records).
DISSOLVED OXYGEN: June 2001 to current year (no winter records).

INSTRUMENTATION.--Continuous water-temperature recorder dissolved-oxyten recorder since June 2001.

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

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum, 29.0°C, Aug. 8, 2001; minimum, 3.5°C, Oct. 28, 2001.
DISSOLVED OXYGEN: Maximum, 15.7 mg/L, Oct. 17, 2003; minimum, 3.1 mg/L, June 17, 2004.

EXTREMES FOR CURRENT PERIOD (OCTOBER, MAY-SEPTEMBER).--
WATER TEMPERATURE: Maximum, 28.6°C, July 17; minimum, 5.2°C, Oct. 17.
DISSOLVED OXYGEN: Maximum, 13.6 mg/L, Aug. 23; minimum, 3.5 mg/L, Aug. 10.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.2	12.0	13.4	---	---	---	---	---	---	---	---	---
2	13.4	9.9	11.3	---	---	---	---	---	---	---	---	---
3	11.7	8.4	10.1	---	---	---	---	---	---	---	---	---
4	12.1	8.8	10.5	---	---	---	---	---	---	---	---	---
5	9.5	6.6	8.2	---	---	---	---	---	---	---	---	---
6	12.4	8.2	10.2	---	---	---	---	---	---	---	---	---
7	14.0	11.2	12.5	---	---	---	---	---	---	---	---	---
8	14.7	13.2	13.9	---	---	---	---	---	---	---	---	---
9	13.7	11.6	12.7	---	---	---	---	---	---	---	---	---
10	12.7	9.3	10.9	---	---	---	---	---	---	---	---	---
11	11.1	8.3	9.8	---	---	---	---	---	---	---	---	---
12	11.9	8.3	9.9	---	---	---	---	---	---	---	---	---
13	12.1	9.1	10.6	---	---	---	---	---	---	---	---	---
14	11.3	9.7	10.4	---	---	---	---	---	---	---	---	---
15	11.6	8.7	9.4	---	---	---	---	---	---	---	---	---
16	8.9	6.2	7.5	---	---	---	---	---	---	---	---	---
17	7.9	5.2	6.5	---	---	---	---	---	---	---	---	---
18	8.1	7.1	7.6	---	---	---	---	---	---	---	---	---
19	8.6	7.6	8.1	---	---	---	---	---	---	---	---	---
20	9.6	8.5	9.0	---	---	---	---	---	---	---	---	---
21	10.1	7.6	8.8	---	---	---	---	---	---	---	---	---
22	10.3	9.3	9.9	---	---	---	---	---	---	---	---	---
23	12.4	10.3	11.3	---	---	---	---	---	---	---	---	---
24	11.8	10.5	11.2	---	---	---	---	---	---	---	---	---
25	11.6	9.2	10.4	---	---	---	---	---	---	---	---	---
26	10.3	9.4	9.9	---	---	---	---	---	---	---	---	---
27	10.0	9.4	9.7	---	---	---	---	---	---	---	---	---
28	10.5	9.2	9.9	---	---	---	---	---	---	---	---	---
29	13.9	10.5	12.3	---	---	---	---	---	---	---	---	---
30	14.1	11.0	12.7	---	---	---	---	---	---	---	---	---
31	11.0	9.6	10.2	---	---	---	---	---	---	---	---	---
MONTH	15.2	5.2	10.3	---	---	---	---	---	---	---	---	---

04085746 MULLET RIVER AT OLD WADE HOUSE AT GREENBUSH, WI—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
		JUNE			JULY			AUGUST			SEPTEMBER	
1	20.2	15.2	17.8	22.7	18.6	20.9	27.5	21.8	24.4	23.1	18.7	20.5
2	21.1	16.1	18.6	22.5	16.6	19.3	28.2	22.6	25.1	22.6	17.5	19.9
3	19.2	16.5	17.8	22.9	18.1	20.4	28.3	23.4	25.3	22.4	16.6	19.4
4	20.4	16.9	18.7	21.5	20.0	20.8	27.8	23.2	25.4	22.2	18.0	19.8
5	23.1	18.2	20.6	22.7	18.7	20.4	26.2	20.7	23.4	24.0	18.1	20.9
6	23.3	19.1	21.4	20.4	18.3	19.4	26.3	20.0	23.0	24.5	19.6	21.6
7	24.2	20.0	22.2	21.6	17.0	19.0	26.6	20.1	23.2	24.9	20.0	21.6
8	23.7	20.8	22.6	22.7	16.3	19.4	27.2	20.8	23.9	21.6	18.6	20.0
9	23.9	20.9	22.5	24.7	18.3	21.1	27.7	21.8	24.6	22.2	17.1	19.5
10	24.7	20.6	22.8	26.4	20.0	22.7	27.5	22.4	24.7	24.3	19.3	21.4
11	25.4	21.5	23.7	24.7	20.3	22.6	23.3	21.3	22.3	25.5	20.7	22.7
12	25.6	22.5	24.1	22.7	20.6	21.6	23.5	21.0	21.8	25.2	21.1	22.9
13	25.1	22.1	23.6	25.8	20.3	22.7	21.0	19.1	20.4	25.9	21.6	23.2
14	23.2	20.8	21.9	27.1	21.3	23.9	21.8	17.6	19.6	22.8	18.4	21.1
15	20.8	17.2	18.9	26.9	20.8	23.7	23.1	17.3	19.9	19.1	16.0	17.7
16	19.9	15.4	17.8	27.7	21.2	24.2	24.5	18.7	21.3	20.5	15.5	17.7
17	18.5	16.5	17.3	28.6	22.5	25.3	24.0	18.5	21.1	20.4	14.8	17.5
18	17.2	14.5	16.1	27.8	23.4	25.3	23.4	20.2	21.3	21.2	16.6	18.6
19	19.8	14.6	17.5	27.5	21.3	24.1	24.1	20.8	22.0	---	---	---
20	22.5	17.6	20.3	25.7	21.4	23.2	26.1	21.5	23.1	---	---	---
21	24.3	20.4	22.3	22.7	20.6	21.7	24.0	19.4	21.5	---	---	---
22	23.5	19.6	21.7	24.5	19.1	21.5	20.5	16.9	18.8	---	---	---
23	24.8	19.4	22.3	23.4	20.1	21.3	19.5	15.2	17.2	---	---	---
24	27.6	23.0	25.1	27.1	20.8	24.0	20.4	15.0	17.5	---	---	---
25	25.2	22.1	23.9	27.1	23.1	24.6	21.4	16.6	18.7	---	---	---
26	24.7	20.7	22.4	23.1	19.8	21.6	22.6	17.7	20.1	---	---	---
27	27.1	22.5	24.6	22.0	17.7	19.8	22.7	19.8	20.9	---	---	---
28	27.4	23.2	25.0	22.5	18.1	20.1	22.6	18.8	20.6	---	---	---
29	27.0	22.4	24.5	23.1	19.5	20.9	22.9	18.0	20.3	---	---	---
30	26.4	22.5	24.0	23.5	18.4	20.7	22.4	18.3	20.1	---	---	---
31	---	---	---	26.5	20.7	23.2	22.9	18.1	20.0	---	---	---
MONTH	27.6	14.5	21.4	28.6	16.3	21.9	28.3	15.0	21.7	25.9	14.8	20.3
YEAR	28.6	5.2	19.0									

04085746 MULLET RIVER AT OLD WADE HOUSE AT GREENBUSH, WI—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	10.8	8.2	9.2	---	---	---	---	---	---	---	---	---
2	11.0	8.1	9.6	---	---	---	---	---	---	---	---	---
3	11.8	9.5	10.5	---	---	---	---	---	---	---	---	---
4	11.5	9.2	10.3	---	---	---	---	---	---	---	---	---
5	12.5	10.4	11.3	---	---	---	---	---	---	---	---	---
6	11.9	9.1	10.6	---	---	---	---	---	---	---	---	---
7	11.5	8.7	9.7	---	---	---	---	---	---	---	---	---
8	8.7	7.8	8.2	---	---	---	---	---	---	---	---	---
9	10.0	7.9	8.9	---	---	---	---	---	---	---	---	---
10	10.9	8.9	9.7	---	---	---	---	---	---	---	---	---
11	11.4	9.3	10.3	---	---	---	---	---	---	---	---	---
12	11.2	9.2	10.1	---	---	---	---	---	---	---	---	---
13	11.1	9.0	9.8	---	---	---	---	---	---	---	---	---
14	10.0	8.8	9.2	---	---	---	---	---	---	---	---	---
15	10.6	8.8	9.4	---	---	---	---	---	---	---	---	---
16	10.7	9.1	9.8	---	---	---	---	---	---	---	---	---
17	12.1	10.3	10.9	---	---	---	---	---	---	---	---	---
18	11.0	9.5	10.2	---	---	---	---	---	---	---	---	---
19	11.0	9.4	10.0	---	---	---	---	---	---	---	---	---
20	10.9	9.4	9.9	---	---	---	---	---	---	---	---	---
21	11.3	9.2	10.1	---	---	---	---	---	---	---	---	---
22	10.3	8.5	9.3	---	---	---	---	---	---	---	---	---
23	8.7	7.8	8.3	---	---	---	---	---	---	---	---	---
24	9.0	7.7	8.3	---	---	---	---	---	---	---	---	---
25	10.1	8.5	9.2	---	---	---	---	---	---	---	---	---
26	10.1	8.9	9.4	---	---	---	---	---	---	---	---	---
27	9.6	9.0	9.3	---	---	---	---	---	---	---	---	---
28	10.0	8.6	9.4	---	---	---	---	---	---	---	---	---
29	9.0	7.5	8.4	---	---	---	---	---	---	---	---	---
30	9.1	7.2	8.1	---	---	---	---	---	---	---	---	---
31	10.0	8.3	9.2	---	---	---	---	---	---	---	---	---
MONTH	12.5	7.2	9.6	---	---	---	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

04085746 MULLET RIVER AT OLD WADE HOUSE AT GREENBUSH, WI—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	13.3	8.8	10.0	10.0	6.0	7.9	10.2	6.1	7.7	11.2	6.6	8.3
2	12.5	8.2	9.9	10.9	7.5	9.0	10.2	5.8	7.6	11.3	6.5	8.3
3	13.2	8.3	9.9	11.0	7.4	8.9	10.3	5.1	7.2	11.2	6.6	8.4
4	11.5	8.3	9.5	8.5	6.4	7.2	9.8	5.3	7.0	11.8	6.6	8.6
5	12.2	7.3	9.0	10.2	6.7	8.3	10.2	5.7	7.5	11.5	5.5	8.5
6	10.7	7.1	8.4	9.9	7.1	8.4	10.3	5.9	7.6	11.5	6.5	8.4
7	10.9	7.1	8.8	10.8	7.9	9.1	10.1	4.9	7.2	11.2	6.3	7.8
8	11.3	6.9	8.6	11.0	8.1	9.3	10.2	4.5	6.8	9.7	6.3	7.6
9	9.9	6.9	8.0	11.0	7.7	9.1	9.3	4.1	6.2	10.5	7.1	8.4
10	10.4	6.7	8.0	10.4	7.0	8.5	10.0	3.5	6.6	10.6	6.9	8.3
11	9.4	6.6	7.7	10.7	6.6	8.6	8.6	4.9	6.4	10.8	6.7	8.2
12	9.0	6.3	7.5	9.8	6.6	7.9	7.2	4.6	5.9	10.5	6.4	8.0
13	8.9	6.4	7.4	9.9	6.6	7.9	7.4	4.6	5.9	10.2	5.9	7.5
14	8.8	6.3	7.4	9.6	6.1	7.6	9.4	5.6	7.2	9.8	5.6	7.3
15	8.5	7.0	7.8	9.2	5.8	7.4	10.6	6.4	8.3	10.7	6.6	8.3
16	10.2	7.8	8.9	9.5	6.0	7.5	11.2	7.0	8.6	10.8	7.1	8.5
17	10.0	7.7	8.8	9.3	5.7	7.3	12.1	6.9	9.0	11.0	7.2	8.6
18	11.0	8.3	9.4	9.2	4.5	6.9	11.5	6.7	8.1	11.0	6.7	8.2
19	11.0	7.9	9.4	9.4	5.4	7.1	11.6	6.5	8.3	---	---	---
20	10.6	7.1	8.7	9.1	5.8	7.1	11.4	6.5	8.4	---	---	---
21	10.0	6.8	8.0	7.7	5.7	6.3	12.3	6.5	8.8	---	---	---
22	10.2	6.5	8.1	8.3	5.8	6.8	12.5	6.9	9.5	---	---	---
23	10.1	6.3	8.1	8.4	5.7	6.5	13.6	8.1	10.2	---	---	---
24	9.2	5.5	7.1	7.9	5.0	6.4	13.4	8.8	10.6	---	---	---
25	8.7	4.9	6.7	8.0	4.5	5.8	12.5	7.7	9.8	---	---	---
26	10.1	6.2	7.8	---	---	---	12.5	7.1	9.1	---	---	---
27	9.8	6.3	7.8	---	---	---	9.9	6.8	8.0	---	---	---
28	9.8	5.8	7.7	---	---	---	11.1	6.4	8.3	---	---	---
29	10.0	6.0	7.8	10.3	7.2	8.5	11.7	6.7	8.6	---	---	---
30	9.5	6.0	7.6	10.9	7.5	8.8	11.5	6.6	8.4	---	---	---
31	---	---	---	10.3	6.4	8.2	11.5	6.6	8.4	---	---	---
MONTH	13.3	4.9	8.3	11.0	4.5	7.8	13.6	3.5	8.0	11.8	5.5	8.2
YEAR	13.6	3.5	8.4									

04086000 SHEBOYGAN RIVER AT SHEBOYGAN, WI

LOCATION.--Lat 43°44'30", long 87°45'14", in SE 1/4 NW 1/4 sec.28, T.15 N., R.23 E., Sheboygan County, Hydrologic Unit 04030101, on left bank 0.5 mi upstream from bridge on State Highway 28, near west city limits of Sheboygan, and 3.9 mi upstream from mouth.

DRAINAGE AREA.--418 mi^2.

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

REVISED RECORDS.--WSP 1307: 1917(M), 1919(M), 1921(M), 1923(M). WSP 1727: 1951. WDR WI-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 580.49 ft, above NGVD of 1929. June 1916 to June 1924, nonrecording gage 0.4 mi downstream at different datum. November 1950 to June 1951, nonrecording gage near present site at different datum. July 1951 to September 1998, water-stage recorder at site 0.3 mi upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges and Oct. 1-5, which are poor (see Introduction). Diurnal fluctuation caused by numerous powerplants above station. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	167	210	e458	e100	e229	1,200	181	109	52	44	34
2	64	182	201	e470	e97	e216	1,080	174	101	51	43	32
3	63	170	187	e438	e98	e207	977	168	95	51	40	31
4	63	171	184	e403	e98	e202	899	159	92	63	39	32
5	63	165	164	e366	e103	e199	819	141	93	63	36	31
6	62	151	151	e328	e318	e512	744	132	90	61	34	32
7	60	145	223	e288	e930	e3,190	675	137	85	58	33	39
8	79	135	320	e259	e1,720	e2,730	596	134	80	82	32	49
9	86	122	347	e225	e1,410	e2,310	548	132	76	62	32	47
10	90	115	531	e196	e1,240	e1,680	497	134	73	51	34	43
11	84	113	771	e169	e1,130	e1,370	444	144	71	52	37	38
12	76	110	637	e332	e1,050	e1,040	386	148	73	51	47	36
13	74	108	513	e1,410	e1,050	e768	322	160	72	60	45	63
14	73	105	275	e1,440	e1,430	e646	271	183	72	61	42	89
15	73	107	e233	e1,200	e1,680	e512	207	205	71	50	40	46
16	75	111	e223	e1,050	e1,390	e379	226	198	69	47	38	41
17	76	115	e218	e961	e1,250	e350	231	193	66	44	37	37
18	75	122	e213	e922	e1,140	e334	224	183	66	43	37	34
19	74	133	e205	e782	e994	e325	219	260	64	40	39	42
20	78	155	e355	e681	e767	e311	244	331	62	40	39	44
21	79	165	e382	e596	e635	e303	250	334	59	48	35	e41
22	78	163	e361	e549	e472	e336	251	304	55	53	32	57
23	94	180	e377	e495	e400	e369	236	258	54	54	32	55
24	97	171	e433	e413	e340	e442	220	219	53	54	33	48
25	115	151	e495	e343	e305	e508	211	181	50	51	34	100
26	113	139	e512	e316	e289	e593	212	157	52	97	36	140
27	109	157	492	e277	e267	757	218	142	52	80	58	81
28	123	199	465	e270	e246	823	214	128	55	63	49	70
29	150	232	446	e219	---	987	166	124	54	53	43	66
30	158	228	424	e170	---	1,170	176	123	56	47	40	57
31	154	---	e443	e119	---	1,260	---	116	---	46	35	---
TOTAL	2,717	4,487	10,991	16,145	20,949	25,058	12,963	5,583	2,120	1,728	1,195	1,555
MEAN	87.6	150	355	521	748	808	432	180	70.7	55.7	38.5	51.8
MAX	158	232	771	1,440	1,720	3,190	1,200	334	109	97	58	140
MIN	59	105	151	119	97	199	166	116	50	40	32	31
CFSM	0.21	0.36	0.85	1.25	1.79	1.93	1.03	0.43	0.17	0.13	0.09	0.12
IN.	0.24	0.40	0.98	1.44	1.86	2.23	1.15	0.50	0.19	0.15	0.11	0.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	151	201	166	123	197	676	707	330	251	120	116	136
MAX	741	1,372	505	521	887	2,052	1,994	1,765	1,898	607	1,433	1,143
(WY)	(1987)	(1986)	(1983)	(2005)	(1984)	(1918)	(1993)	(2004)	(2004)	(1993)	(1924)	(1986)
MIN	29.5	31.7	19.7	17.1	20.9	110	141	41.5	25.2	19.8	11.2	20.3
(WY)	(1958)	(1951)	(1959)	(1959)	(1958)	(1968)	(1970)	(1958)	(1958)	(1958)	(1958)	(1958)

04086000 SHEBOYGAN RIVER AT SHEBOYGAN, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1916 - 2005	
ANNUAL TOTAL	197,585		105,491			
ANNUAL MEAN	540		289		264	
HIGHEST ANNUAL MEAN					542	2004
LOWEST ANNUAL MEAN					47.1	1958
HIGHEST DAILY MEAN	6,340	Jun 12	(a)3,190	Mar 7	7,000	Aug 6, 1924
LOWEST DAILY MEAN	54	Sep 26	31	Sep 3, 5	(b)1.0	Aug 27, 1922
ANNUAL SEVEN-DAY MINIMUM	56	Sep 24	32	Aug 31	(b)8.9	Aug 14, 1958
MAXIMUM PEAK FLOW			(c)	Jan 13	7,820	Aug 6, 1998
MAXIMUM PEAK STAGE			(a)8.76	Jan 13	(f)12.02	Aug 6, 1998
INSTANTANEOUS LOW FLOW			29	Sep 3-5	(b)1.0	Aug 27, 1922
ANNUAL RUNOFF (CFSM)	1.29		0.691		0.631	
ANNUAL RUNOFF (INCHES)	17.58		9.39		8.57	
10 PERCENT EXCEEDS	1,520		769		619	
50 PERCENT EXCEEDS	173		148		120	
90 PERCENT EXCEEDS	80		41		39	

(a) Ice affected
(b) Result of regulation
(c) Unknown
(e) Estimated
(f) Datum then in use

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 mi^2.

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 NGVD of 1929 (levels by Corps of Engineers). Nonrecording gage and crest-stage gage August 1930 to September 1970 at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	35	41	e34	e35	e62	442	47	34	19	15	8.5
2	18	46	38	e110	e38	e78	383	47	32	17	13	8.0
3	19	48	37	e88	e37	e70	330	45	31	16	12	7.6
4	18	43	41	e72	e38	e68	273	43	30	17	12	7.5
5	17	43	35	e58	e44	e66	224	42	32	23	12	7.5
6	17	41	41	e50	e56	e75	200	41	32	24	12	7.5
7	17	39	66	e48	e110	e270	190	43	29	20	11	7.9
8	19	38	114	e44	e250	e490	174	42	28	18	10	8.5
9	24	35	87	e46	e270	e420	156	41	26	16	9.8	9.5
10	22	34	80	e46	e220	e300	141	44	25	15	9.3	8.7
11	20	34	e75	e44	e190	e230	126	56	25	14	9.5	8.1
12	20	34	e66	e94	e150	e140	114	86	23	14	11	7.5
13	20	33	e53	e220	e130	e100	103	77	23	14	12	7.7
14	21	32	e45	e240	e270	e82	93	82	27	14	11	11
15	21	32	e47	e200	e360	e70	84	72	31	13	10	13
16	22	33	e41	e150	e410	e64	78	62	26	12	9.4	10
17	24	34	e42	e100	e290	e62	77	57	24	12	8.9	9.0
18	23	34	e38	e70	e230	e61	79	53	22	12	9.4	8.6
19	24	36	e33	e44	e200	e60	74	83	20	11	10	8.9
20	25	50	e33	e42	e170	e63	72	139	19	11	10	9.6
21	25	50	e33	e41	e140	e70	72	100	18	13	9.2	9.2
22	25	42	e31	e40	e120	e78	68	75	17	19	8.6	12
23	29	39	e27	e40	e110	e94	66	63	16	19	8.3	24
24	37	37	e25	e39	e90	e120	64	56	16	16	8.4	16
25	31	35	e24	e38	e78	220	59	51	16	18	8.3	14
26	29	34	e26	e37	e70	261	56	47	19	26	8.3	21
27	29	38	e29	e36	e66	294	56	44	30	43	13	21
28	29	58	e30	e35	e62	336	53	42	23	28	16	16
29	29	54	e28	e34	---	391	51	40	19	20	11	15
30	31	45	e29	e34	---	442	49	38	18	17	9.2	15
31	33	---	e32	e34	---	486	---	36	---	16	8.6	---
TOTAL	734	1,186	1,367	2,208	4,234	5,623	4,007	1,794	731	547	326.2	337.8
MEAN	23.7	39.5	44.1	71.2	151	181	134	57.9	24.4	17.6	10.5	11.3
MAX	37	58	114	240	410	490	442	139	34	43	16	24
MIN	16	32	24	34	35	60	49	36	16	11	8.3	7.5
CFSM	0.20	0.33	0.37	0.59	1.26	1.51	1.11	0.48	0.20	0.15	0.09	0.09
IN.	0.23	0.37	0.42	0.68	1.31	1.74	1.24	0.56	0.23	0.17	0.10	0.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	43.8	57.8	50.2	49.7	68.5	190	165	95.7	80.4	44.3	25.7	44.6
MAX	306	376	268	273	253	575	586	539	454	298	106	485
(WY)	(1955)	(1986)	(1992)	(1975)	(1984)	(1976)	(1993)	(2004)	(1996)	(1952)	(1960)	(1986)
MIN	5.65	6.66	4.92	3.74	5.32	19.9	38.9	14.0	3.34	1.40	1.45	2.48
(WY)	(1935)	(1938)	(1964)	(1940)	(1959)	(1940)	(1958)	(1958)	(1934)	(1936)	(1934)	(1932)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1930 - 2005	
ANNUAL TOTAL	47,051		23,095.0			
ANNUAL MEAN	129		63.3		76.3	
HIGHEST ANNUAL MEAN					168	1986
LOWEST ANNUAL MEAN					(a)13.5	1934
HIGHEST DAILY MEAN	2,120	May 24	(e)490	Mar 8	3,320	Mar 20, 1952
LOWEST DAILY MEAN	15	Sep 25	7.5	Sep 4	0.20	Aug 9, 1936
ANNUAL SEVEN-DAY MINIMUM	16	Sep 23	7.8	Sep 1	0.24	Aug 6, 1936
MAXIMUM PEAK FLOW			(d)498	Mar 31	3,600	Mar 30, 1960
MAXIMUM PEAK STAGE			(b)8.50	Mar 8	(c)12.25	Mar 30, 1960
INSTANTANEOUS LOW FLOW			7.0	Sep 13	0.20	Aug 9, 1936
ANNUAL RUNOFF (CFSM)	1.07		0.527		0.636	
ANNUAL RUNOFF (INCHES)	14.59		7.16		8.64	
10 PERCENT EXCEEDS	348		150		170	
50 PERCENT EXCEEDS	40		35		34	
90 PERCENT EXCEEDS	18		10		7.8	

04086500 CEDAR CREEK NEAR CEDARBURG, WI—Continued

(a) Published erroneously at 7.16, 1930, in 1999-2001
(b) Ice affected
(c) From graph based on gage readings, backwater from ice
(d) Gage height, 7.41 ft
(e) Estimated

04086600 MILWAUKEE RIVER NEAR CEDARBURG, WI

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 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 653.56 ft above NGVD of 1929 (Southeastern Wisconsin Regional Planning Commission bench mark).

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134	242	354	e350	e170	e300	1,870	237	180	84	76	62
2	139	262	333	e440	e180	e350	1,750	225	162	93	71	51
3	147	285	302	e410	e180	e320	1,590	206	147	92	66	48
4	133	285	283	e350	e200	e320	1,370	198	144	121	65	46
5	124	280	261	e330	e230	e310	1,180	190	162	118	58	47
6	125	285	283	e300	e290	e340	1,030	194	194	146	68	49
7	123	275	385	e280	e440	e900	929	209	152	110	56	64
8	133	264	494	e260	e800	1,750	847	244	134	93	53	64
9	167	250	527	e240	e760	1,640	763	275	129	85	50	108
10	171	235	580	e220	e650	1,250	737	256	133	78	48	81
11	162	216	657	e220	e550	848	681	301	121	74	48	67
12	156	210	650	e400	e500	639	577	364	119	71	74	63
13	153	199	588	e600	e400	504	515	387	111	85	72	60
14	148	184	456	e780	e900	447	448	409	131	72	82	79
15	151	178	465	e700	e1,100	400	393	407	172	82	69	79
16	151	182	526	e600	e1,100	375	353	391	109	75	65	69
17	149	188	457	e500	e900	372	331	368	95	68	58	56
18	151	199	408	e380	e800	366	321	333	90	64	67	55
19	152	225	e370	e250	e700	358	314	399	87	61	63	64
20	153	262	e340	e220	e650	369	319	565	88	59	64	59
21	156	293	e310	e220	e600	356	324	572	90	97	60	65
22	152	293	e290	e220	e460	374	349	536	85	125	55	109
23	196	283	e310	e220	e390	466	353	477	81	176	54	136
24	208	264	e320	e210	e370	598	327	398	89	109	52	133
25	220	247	e330	e200	e340	789	312	333	82	100	53	135
26	222	233	e300	e200	e320	911	300	290	136	153	53	185
27	218	257	e300	e200	e310	1,010	295	257	127	323	189	237
28	219	315	e300	e200	e300	1,190	293	238	109	202	96	193
29	223	364	e300	e180	---	1,430	287	229	91	136	98	160
30	230	365	e300	e170	---	1,700	259	208	96	102	75	151
31	244	---	e300	e170	---	1,940	---	195	---	91	62	---
TOTAL	5,210	7,620	12,079	10,020	14,590	22,922	19,417	9,891	3,646	3,345	2,120	2,775
MEAN	168	254	390	323	521	739	647	319	122	108	68.4	92.5
MAX	244	365	657	780	1,100	1,940	1,870	572	194	323	189	237
MIN	123	178	261	170	170	300	259	190	81	59	48	46
CFSM	0.28	0.42	0.64	0.53	0.86	1.22	1.07	0.53	0.20	0.18	0.11	0.15
IN.	0.32	0.47	0.74	0.61	0.89	1.40	1.19	0.61	0.22	0.20	0.13	0.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	280	424	353	249	421	873	902	566	545	265	210	276
MAX	1,157	1,565	757	406	997	1,793	2,501	1,986	2,229	767	349	1,593
(WY)	(1987)	(1986)	(1983)	(1985)	(1984)	(1986)	(1993)	(2004)	(2004)	(1993)	(1987)	(1986)
MIN	73.7	121	120	81.6	89.4	270	328	219	89.5	69.7	68.4	73.5
(WY)	(2004)	(2003)	(1990)	(2003)	(2003)	(2003)	(2003)	(1988)	(1988)	(1988)	(2005)	(2003)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1982 - 2005	
ANNUAL TOTAL	249,255		113,635			
ANNUAL MEAN	681		311		447	
HIGHEST ANNUAL MEAN					720	1986
LOWEST ANNUAL MEAN					203	2003
HIGHEST DAILY MEAN	5,490	May 24	1,940	Mar 31	5,490	May 24, 2004
LOWEST DAILY MEAN	(a)120	(b)Jan 29-31	46	Sep 4	32	Sep 5, 2003
ANNUAL SEVEN-DAY MINIMUM	(a)120	Jan 29	52	Aug 31	36	Sep 3, 2003
MAXIMUM PEAK FLOW			(c)1,970	Mar 31	5,720	May 23, 2004
MAXIMUM PEAK STAGE			(a)10.05	Feb 15	13.11	May 23, 2004
INSTANTANEOUS LOW FLOW			(d)42	Aug 11	28	Sep 5, 2003
ANNUAL RUNOFF (CFSM)	1.12		0.513		0.736	
ANNUAL RUNOFF (INCHES)	15.28		6.96		10.00	
10 PERCENT EXCEEDS	1,630		650		965	
50 PERCENT EXCEEDS	300		225		276	
90 PERCENT EXCEEDS	140		66		113	

04086600 MILWAUKEE RIVER NEAR CEDARBURG, WI—Continued

(a) Ice affected
(b) Also occurred Feb. 1-16
(c) Gage height, 8.47 ft
(d) Also occurred Sept. 5
(e) Estimated

04086600 MILWAUKEE RIVER NEAR CEDARBURG, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1982 to September 1984, June 2004 to September 2005.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: July 1982 to September 1984, June 2004 to September 2005.
TOTAL PHOSPHORUS DISCHARGE: June 2004 to September 2005.
CHLORIDE DISCHARGE: June 2004 to September 2005.

INSTRUMENTATION.--Automatic pumping sampler July 1982 to September 1984, June 2004 to September 2005.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 864 tons, June 18, 1984; minimum daily, 0.66 tons, Sept. 12, 2005.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 5,320 lbs, June 13, 2004; minimum daily, 19.1 lbs, Sept. 30, 2005.
CHLORIDE DISCHARGE: Maximum daily, 264 tons, Mar. 8, 2005; minimum daily, 13.2 tons, Aug. 11, 24, 2005.

EXTREMES FOR WATER YEAR 2004.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 660 tons, June 13, 2004; minimum daily, 1.0 tons, Sept. 30, 2004.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 5,320 lbs, June 13, 2004; minimum daily, 34.6 lbs, Sept. 30, 2004.
CHLORIDE DISCHARGE: Maximum daily, 308 tons, June 13, 2004; minimum daily, 18.7 tons, Sept. 30, 2004.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 544 tons, Dec. 10; minimum daily, 0.66 tons, Sept. 12.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 3,520 lbs, Mar. 8; minimum daily, 19.1 lbs, Sept. 30.
CHLORIDE DISCHARGE: Maximum daily, 264 tons, Mar. 8; minimum daily, 13.2 tons, Aug. 11, 24.

SUSPENDED SEDIMENT DISCHARGE, TONS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	201	31	9.3	5.0
2	---	---	---	---	---	---	---	---	175	27	9.9	4.6
3	---	---	---	---	---	---	---	---	168	24	11	4.2
4	---	---	---	---	---	---	---	---	141	170	12	3.8
5	---	---	---	---	---	---	---	---	166	127	12	3.4
6	---	---	---	---	---	---	---	---	186	63	10	3.2
7	---	---	---	---	---	---	---	---	143	53	8.3	2.8
8	---	---	---	---	---	---	---	---	93	49	7.0	2.5
9	---	---	---	---	---	---	---	---	64	45	6.4	2.3
10	---	---	---	---	---	---	---	---	86	43	6.0	2.2
11	---	---	---	---	---	---	---	---	518	40	5.4	2.0
12	---	---	---	---	---	---	---	---	634	38	5.2	1.9
13	---	---	---	---	---	---	---	---	660	37	5.3	1.7
14	---	---	---	---	---	---	---	---	439	31	5.2	1.6
15	---	---	---	---	---	---	---	---	256	27	4.6	1.4
16	---	---	---	---	---	---	---	---	377	26	3.9	1.3
17	---	---	---	---	---	---	---	---	363	23	3.6	1.3
18	---	---	---	---	---	---	---	---	274	21	3.8	1.2
19	---	---	---	---	---	---	---	---	235	19	4.4	1.3
20	---	---	---	---	---	---	---	---	197	18	4.6	1.2
21	---	---	---	---	---	---	---	---	134	16	4.6	1.2
22	---	---	---	---	---	---	---	---	92	15	4.6	1.2
23	---	---	---	---	---	---	---	---	66	13	4.5	1.2
24	---	---	---	---	---	---	---	---	60	11	5.7	1.2
25	---	---	---	---	---	---	---	---	56	11	13	1.1
26	---	---	---	---	---	---	---	---	52	9.0	9.0	1.1
27	---	---	---	---	---	---	---	---	47	8.1	8.0	1.2
28	---	---	---	---	---	---	---	---	44	7.7	7.7	1.1
29	---	---	---	---	---	---	---	---	41	7.2	6.9	1.1
30	---	---	---	---	---	---	---	---	36	7.0	6.3	1.0
31	---	---	---	---	---	---	---	---	---	7.3	5.5	---
TOTAL	---	---	---	---	---	---	---	---	6,004	1,024.3	213.7	60.3

04086600 MILWAUKEE RIVER NEAR CEDARBURG, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	2,030	563	211	111
2	---	---	---	---	---	---	---	---	1,800	486	225	106
3	---	---	---	---	---	---	---	---	1,680	443	239	99.9
4	---	---	---	---	---	---	---	---	1,480	1,220	260	91.2
5	---	---	---	---	---	---	---	---	1,350	1,080	263	84.2
6	---	---	---	---	---	---	---	---	1,240	883	238	80.7
7	---	---	---	---	---	---	---	---	1,020	789	207	74.3
8	---	---	---	---	---	---	---	---	792	712	184	68.6
9	---	---	---	---	---	---	---	---	642	630	176	63.5
10	---	---	---	---	---	---	---	---	793	593	173	61.4
11	---	---	---	---	---	---	---	---	3,360	533	164	59.5
12	---	---	---	---	---	---	---	---	5,280	494	164	57.1
13	---	---	---	---	---	---	---	---	5,320	459	177	53.8
14	---	---	---	---	---	---	---	---	4,650	402	181	49.4
15	---	---	---	---	---	---	---	---	3,930	372	167	45.5
16	---	---	---	---	---	---	---	---	3,810	376	150	42.3
17	---	---	---	---	---	---	---	---	3,680	344	145	43.5
18	---	---	---	---	---	---	---	---	3,120	328	153	41.1
19	---	---	---	---	---	---	---	---	2,530	307	177	41.9
20	---	---	---	---	---	---	---	---	2,040	302	187	40.9
21	---	---	---	---	---	---	---	---	1,630	289	186	40.0
22	---	---	---	---	---	---	---	---	1,340	271	183	39.0
23	---	---	---	---	---	---	---	---	1,150	251	180	39.0
24	---	---	---	---	---	---	---	---	1,110	230	187	39.5
25	---	---	---	---	---	---	---	---	1,030	233	168	37.4
26	---	---	---	---	---	---	---	---	953	201	151	38.0
27	---	---	---	---	---	---	---	---	860	187	156	38.6
28	---	---	---	---	---	---	---	---	800	177	154	36.5
29	---	---	---	---	---	---	---	---	744	167	143	36.0
30	---	---	---	---	---	---	---	---	653	161	133	34.6
31	---	---	---	---	---	---	---	---	---	168	119	---
TOTAL	---	---	---	---	---	---	---	---	60,817	13,651	5,601	1,694.4

CHLORIDE, WATER, FILTERED, TONS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	228	98.2	50.8	55.7
2	---	---	---	---	---	---	---	---	225	90.2	52.4	55.0
3	---	---	---	---	---	---	---	---	222	84.7	53.7	53.5
4	---	---	---	---	---	---	---	---	210	143	56.4	50.5
5	---	---	---	---	---	---	---	---	191	134	55.9	48.2
6	---	---	---	---	---	---	---	---	166	121	52.0	47.8
7	---	---	---	---	---	---	---	---	146	114	46.7	45.5
8	---	---	---	---	---	---	---	---	133	107	42.9	43.4
9	---	---	---	---	---	---	---	---	126	98.3	42.4	41.5
10	---	---	---	---	---	---	---	---	144	96.1	43.0	41.5
11	---	---	---	---	---	---	---	---	251	89.8	42.2	41.6
12	---	---	---	---	---	---	---	---	295	86.5	43.6	41.3
13	---	---	---	---	---	---	---	---	308	83.5	48.5	40.2
14	---	---	---	---	---	---	---	---	287	75.3	51.2	38.2
15	---	---	---	---	---	---	---	---	259	71.5	48.7	36.3
16	---	---	---	---	---	---	---	---	266	74.3	45.3	34.7
17	---	---	---	---	---	---	---	---	273	69.7	45.3	35.8
18	---	---	---	---	---	---	---	---	243	68.4	48.4	33.8
19	---	---	---	---	---	---	---	---	214	65.7	56.7	34.5
20	---	---	---	---	---	---	---	---	187	66.4	60.8	33.7
21	---	---	---	---	---	---	---	---	157	65.3	61.5	32.9
22	---	---	---	---	---	---	---	---	137	63.0	61.4	32.1
23	---	---	---	---	---	---	---	---	124	59.9	61.2	32.1
24	---	---	---	---	---	---	---	---	126	56.4	65.2	32.5
25	---	---	---	---	---	---	---	---	125	58.6	63.9	30.8
26	---	---	---	---	---	---	---	---	122	52.1	60.5	31.3
27	---	---	---	---	---	---	---	---	117	49.2	65.0	31.8
28	---	---	---	---	---	---	---	---	116	46.2	67.3	30.0
29	---	---	---	---	---	---	---	---	115	43.0	64.6	29.6
30	---	---	---	---	---	---	---	---	107	40.9	62.4	18.7
31	---	---	---	---	---	---	---	---	---	41.9	57.7	---
TOTAL	---	---	---	---	---	---	---	---	5,620	2,414.1	1,677.6	1,154.5

04086600 MILWAUKEE RIVER NEAR CEDARBURG, WI—Continued

WATER-QUALITY RECORDS--Continued

SUSPENDED SEDIMENT DISCHARGE, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	2.1	5.4	5.4	5.1	21	75	5.1	3.8	0.85	5.0	2.2
2	1.4	2.1	4.9	9.4	5.6	24	65	5.0	3.2	0.96	4.8	1.6
3	1.4	2.3	4.3	6.2	5.8	22	55	4.6	2.7	0.96	4.6	1.4
4	1.2	2.1	4.0	5.2	6.7	22	43	4.5	2.5	1.3	4.6	1.2
5	1.1	1.9	3.6	4.9	9.3	21	29	4.3	2.6	1.3	4.2	1.1
6	1.0	1.8	7.3	4.4	46	27	45	4.5	47	29	5.0	1.1
7	0.95	1.6	26	4.0	269	153	78	4.9	2.2	1.3	4.3	1.2
8	0.98	1.4	88	3.7	259	412	71	5.8	1.8	1.2	4.1	1.1
9	1.9	1.4	241	3.4	72	386	57	6.6	1.6	1.2	4.0	1.7
10	2.0	1.4	544	3.0	47	240	48	6.4	1.6	1.2	3.9	17
11	1.0	1.3	243	3.0	40	132	39	9.2	1.4	1.2	4.1	10
12	0.94	1.3	100	5.4	36	84	30	13	1.2	1.2	6.4	0.75
13	0.87	1.3	53	8.4	29	59	23	14	1.1	1.5	6.3	0.66
14	0.81	1.3	25	44	64	46	18	175	1.2	1.4	7.4	0.88
15	0.85	1.3	15	11	200	36	14	173	38	1.6	6.4	0.92
16	0.89	1.3	15	9.5	200	22	11	162	0.89	1.6	6.2	0.83
17	0.92	1.4	10	8.2	64	6.4	9.1	9.9	0.78	1.5	5.7	0.71
18	0.98	1.6	7.7	6.5	57	6.7	7.8	8.4	0.75	1.5	6.7	0.73
19	1.0	3.5	6.7	4.5	49	7.0	6.7	13	0.74	1.5	6.4	0.88
20	1.1	4.8	6.1	4.1	46	7.6	6.1	34	0.76	1.5	5.9	0.84
21	1.2	6.0	5.5	4.2	42	7.9	6.2	38	0.79	2.8	4.9	0.98
22	1.2	6.0	5.1	4.4	32	8.8	6.8	32	0.75	22	4.0	17
23	2.8	5.6	5.4	4.6	27	12	6.9	25	0.73	40	3.5	25
24	3.6	2.4	5.5	4.6	26	16	6.5	18	0.81	9.0	3.0	2.2
25	3.5	4.3	5.6	4.5	24	27	6.3	14	0.76	12	2.7	2.4
26	3.2	1.9	5.0	4.7	22	41	6.1	10	25	21	6.9	43
27	2.9	2.6	4.9	4.9	21	60	6.1	8.1	1.2	69	160	67
28	2.7	4.6	4.9	5.1	21	86	6.1	6.7	1.1	30	6.1	47
29	2.5	5.8	4.8	4.8	---	59	6.1	5.9	0.89	16	5.5	3.3
30	2.4	5.7	4.8	4.7	---	62	5.6	5.0	0.96	9.5	3.6	1.7
31	2.3	---	4.7	4.9	---	81	---	4.4	---	6.8	2.5	---
TOTAL	50.99	82.1	1,466.2	205.6	1,725.5	2,195.4	793.4	830.3	148.81	291.87	308.7	256.38

WTR YR 2005 TOTAL 8,355.25

04086600 MILWAUKEE RIVER NEAR CEDARBURG, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.8	58.8	92.2	141	55.2	212	1,100	118	115	72.4	82.2	34.1
2	30.6	82.6	89.6	182	58.1	247	1,010	112	106	80.2	76.9	27.3
3	31.4	92.9	84.2	160	57.7	226	903	103	98.8	78.4	72.2	25.6
4	28.0	88.2	81.6	137	65.4	225	749	98.0	99.2	139	71.0	23.8
5	25.5	81.2	77.9	128	95.5	218	548	94.2	114	100	63.8	23.7
6	25.0	77.4	121	116	161	248	475	95.8	309	191	74.8	24.3
7	24.1	70.0	289	107	816	1,380	444	103	112	89.6	62.6	47.0
8	25.6	63.4	644	98.7	2,360	3,520	409	120	101	74.1	58.8	47.0
9	31.0	59.4	1,180	90.4	1,710	3,210	370	135	100	65.8	56.1	115
10	32.3	55.7	2,130	82.2	1,120	2,140	358	127	106	59.3	54.5	37.6
11	29.0	51.3	2,230	81.4	731	1,250	333	155	99.0	55.0	54.8	30.3
12	27.3	49.9	626	147	511	813	283	195	99.5	51.4	84.4	28.0
13	26.2	47.3	470	219	316	552	254	209	95.1	59.8	82.5	26.2
14	24.8	43.7	304	517	644	422	222	279	115	49.9	94.9	68.0
15	25.3	42.2	255	252	2,330	325	195	277	252	58.9	79.8	68.0
16	25.4	43.2	246	215	2,330	237	176	263	100	56.0	76.2	54.0
17	25.2	44.7	208	178	645	178	166	242	86.6	52.2	68.5	21.8
18	25.6	47.2	184	135	572	177	162	213	82.1	50.8	79.0	20.7
19	26.0	53.5	166	88.2	500	174	159	246	78.7	50.2	74.1	23.1
20	26.2	70.6	151	77.0	464	181	162	445	79.6	50.9	71.1	20.7
21	26.9	86.6	137	76.4	428	176	164	464	80.8	90.2	62.0	22.3
22	26.4	86.6	127	76.0	328	186	177	405	76.0	120	52.9	117
23	47.5	81.2	134	75.5	277	240	178	336	72.5	198	47.5	170
24	47.5	71.6	137	71.6	263	349	165	261	78.9	122	42.5	163
25	42.6	63.4	141	67.8	241	528	157	203	72.4	154	40.5	40.9
26	42.8	55.4	127	67.4	227	698	151	165	170	320	37.6	286
27	43.0	61.0	126	67.0	219	890	148	146	111	644	930	434
28	43.9	74.9	125	66.6	212	1,150	147	138	95.2	323	145	307
29	45.8	88.4	124	59.6	---	1,010	144	136	78.9	179	64.1	42.7
30	48.0	91.9	123	55.9	---	1,010	130	127	82.7	112	42.7	19.1
31	52.1	---	122	55.5	---	1,150	---	121	---	97.1	34.6	---
TOTAL	1,009.8	1,984.2	11,052.5	3,891.2	17,736.9	23,322	10,039	6,132.0	3,267.0	3,844.2	2,937.6	2,368.2

WTR YR 2005 TOTAL 87,584.6

04086600 MILWAUKEE RIVER NEAR CEDARBURG, WI—Continued

CHLORIDE, WATER, FILTERED, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.7	49.2	68.7	70.6	38.3	46.2	189	44.0	40.9	25.2	22.4	21.8
2	30.8	53.3	64.4	90.1	40.6	54.0	185	42.1	37.2	28.2	20.7	17.9
3	32.7	58.8	58.4	85.3	40.7	49.5	175	38.7	34.4	27.9	19.2	17.3
4	30.1	58.2	54.6	74.0	45.2	49.6	158	37.3	34.1	36.9	18.6	16.5
5	28.3	56.1	50.1	70.8	52.9	48.9	139	36.1	43.3	36.4	16.6	16.9
6	28.7	56.0	54.4	65.4	78.0	58.1	119	37.0	48.5	50.5	19.2	17.8
7	28.5	53.0	73.7	62.0	132	158	105	40.2	37.4	34.1	15.9	23.6
8	31.3	50.0	94.6	58.4	167	264	98.5	47.1	33.3	29.0	14.7	23.9
9	39.7	47.2	101	54.7	119	232	91.8	53.3	32.5	26.4	13.9	36.9
10	41.0	44.4	110	51.0	96.8	169	91.7	49.7	34.1	24.5	13.3	30.6
11	39.2	40.9	121	51.7	82.0	123	87.7	58.1	31.4	23.3	13.2	25.3
12	38.1	39.9	115	95.0	74.7	101	76.8	69.9	31.2	22.3	20.1	24.1
13	37.7	37.9	101	142	59.9	86.3	70.9	75.7	29.5	26.6	19.4	23.1
14	36.7	35.1	76.4	184	134	83.0	63.9	82.1	37.9	22.6	22.1	30.1
15	37.0	33.9	75.5	165	170	80.6	58.0	82.7	44.9	26.0	18.4	30.0
16	36.4	34.7	83.6	141	170	79.7	53.9	78.8	30.1	23.9	17.3	25.9
17	35.3	36.0	73.3	117	136	77.2	52.2	73.7	26.2	21.5	15.4	21.1
18	35.1	38.1	66.6	88.6	121	76.2	52.5	66.3	25.1	20.2	17.5	20.5
19	34.9	47.7	61.3	58.1	106	74.7	53.2	78.8	24.3	19.3	16.4	23.4
20	34.5	53.3	57.2	50.8	98.6	77.0	55.7	111	24.9	18.8	16.7	21.5
21	34.5	57.8	52.9	50.5	91.1	74.5	57.0	113	25.5	33.0	15.5	23.7
22	33.5	57.8	50.3	50.3	70.1	77.4	61.7	107	24.2	39.1	14.2	37.2
23	46.5	56.4	54.5	50.1	59.5	90.3	62.8	96.6	23.3	55.8	13.7	46.9
24	50.0	53.6	57.2	47.6	56.5	108	58.5	81.7	25.7	37.3	13.2	45.8
25	48.2	51.1	59.8	45.2	52.0	132	56.1	69.2	23.8	36.0	13.5	46.5
26	47.2	45.3	55.3	45.0	49.1	142	54.2	61.0	39.7	50.2	14.7	64.6
27	46.1	49.9	56.1	44.9	47.6	147	53.5	54.9	37.2	99.0	64.2	83.6
28	45.9	61.4	57.0	44.9	46.2	160	53.5	51.5	32.2	60.7	32.6	67.5
29	46.5	70.8	57.8	40.5	---	167	52.8	50.2	27.0	40.6	33.8	54.6
30	47.4	71.0	58.7	38.3	---	176	47.9	46.2	28.6	30.1	25.9	49.1
31	50.1	---	59.6	38.3	---	188	---	43.7	---	26.8	21.5	---
TOTAL	1,180.6	1,498.8	2,180.0	2,271.1	2,434.8	3,450.2	2,534.8	1,977.6	968.4	1,052.2	613.8	987.7

WTR YR 2005 TOTAL 21,150.0

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI
(NATIONAL WATER-QUALITY ASSESSMENT PROGRAM STATION)

LOCATION.--Lat 43°06'00", long 87°54'32", in NE $^1/_4$ 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 mi^2.

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 NGVD of 1929 (levels by U. S. Army Corps of Engineers). Prior to Apr. 6, 1929, nonrecording gage near present site at different datum. Apr. 6, 1929, to Jan. 8, 1934, nonrecording gage at bridge 0.5 mi upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Occasional regulation caused by recreation dam approximately 1,200 ft upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	303	398	e330	e290	e300	2,090	279	205	89	96	62
2	160	344	381	e340	e290	e340	2,010	265	189	84	88	59
3	131	294	354	e320	e290	492	1,800	255	177	78	81	53
4	140	341	317	e300	e300	428	1,590	248	187	175	76	51
5	132	301	310	e290	e300	317	1,380	239	163	166	74	49
6	128	305	374	e280	e310	402	1,280	314	211	137	68	48
7	129	301	571	e270	e500	974	1,200	243	206	141	69	49
8	138	289	516	e270	e900	1,600	1,030	234	191	111	65	66
9	142	279	575	e260	e1,100	1,570	913	293	163	94	59	69
10	172	263	652	e250	e1,000	1,370	819	290	128	82	56	108
11	168	262	719	e250	e900	1,020	753	415	108	75	56	82
12	163	238	704	e500	e800	731	681	405	119	83	159	68
13	159	233	665	e1,000	e790	664	634	451	197	103	77	75
14	156	224	558	e1,100	e1,200	591	545	465	133	88	80	96
15	406	217	395	e700	e1,400	473	487	463	173	76	84	90
16	158	216	482	e500	e1,600	487	439	446	162	82	74	98
17	154	e220	581	e400	e1,300	499	414	425	129	73	68	77
18	155	e230	409	e350	e1,100	452	405	399	119	65	144	65
19	160	e250	e400	e290	e900	500	383	533	105	60	90	132
20	161	e290	e380	e250	e640	478	396	567	97	75	87	78
21	165	e320	e350	e250	e560	460	367	641	94	192	70	70
22	165	e320	e350	e240	e500	482	377	631	91	155	64	335
23	261	e310	e350	e250	e470	540	381	475	85	193	60	129
24	220	e290	e360	e270	e420	673	367	472	86	170	57	152
25	225	e270	e340	e280	e390	895	342	386	151	128	53	398
26	234	e260	e330	e280	e370	1,040	316	321	350	239	53	249
27	236	e290	e330	e260	e350	1,160	301	284	163	225	183	181
28	225	e330	e330	e220	e320	1,320	300	265	190	258	112	181
29	230	e400	e330	e250	---	1,550	300	250	128	180	103	159
30	254	e400	e330	e280	---	1,810	290	241	130	131	94	139
31	235	---	e340	e290	---	2,070	---	222	---	106	72	---
TOTAL	5,691	8,590	13,481	11,120	19,290	25,688	22,590	11,417	4,630	3,914	2,572	3,468
MEAN	184	286	435	359	689	829	753	368	154	126	83.0	116
MAX	406	400	719	1,100	1,600	2,070	2,090	641	350	258	183	398
MIN	128	216	310	220	290	300	290	222	85	60	53	48
CFSM	0.26	0.41	0.62	0.52	0.99	1.19	1.08	0.53	0.22	0.18	0.12	0.17
IN.	0.30	0.46	0.72	0.59	1.03	1.37	1.21	0.61	0.25	0.21	0.14	0.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	275	348	300	253	394	1,030	964	539	433	232	210	264
MAX	1,316	1,955	981	864	2,200	3,545	3,024	2,597	2,629	1,200	2,936	2,304
(WY)	(1987)	(1986)	(1929)	(1916)	(1938)	(1929)	(1993)	(2004)	(2004)	(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)

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	293,104		132,451			
ANNUAL MEAN	801		363		436	
HIGHEST ANNUAL MEAN					874	1986
LOWEST ANNUAL MEAN					112	1958
HIGHEST DAILY MEAN	7,050	May 24	2,090	Apr 1	14,800	Mar 20, 1918
LOWEST DAILY MEAN	(a)110	(b)Jan 26	48	Sep 6	(c)0.00	Sep 8, 1943
ANNUAL SEVEN-DAY MINIMUM	(a)110	(d)Jan 26	53	Sep 1	8.3	Aug 3, 1936
MAXIMUM PEAK FLOW			2,440	Mar 9	16,500	Jun 21, 1997
MAXIMUM PEAK STAGE			(f)4.37	Mar 9	10.00	Jun 21, 1997
INSTANTANEOUS LOW FLOW			44	Sep 6	(c)0.00	Sep 8, 1943
ANNUAL RUNOFF (CFSM)	1.15		0.521		0.627	
ANNUAL RUNOFF (INCHES)	15.67		7.08		8.51	
10 PERCENT EXCEEDS	2,090		768		985	
50 PERCENT EXCEEDS	350		270		231	
90 PERCENT EXCEEDS	129		77		73	

(a) Ice effect
(b) Also occurred Feb. 1-17
(c) Result of regulation
(d) Also occurred Feb. 2, 9
(e) Estimated due to ice effect or missing record
(f) Also occurred Jan. 12, ice affected
(g) Also occurred Mar. 9 (not ice affected)

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-65, 1967-69, 1971, 1973 to 1984, October 2004 to September 2005.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: July 1982 to September 1984, June 2004 to September 2005.
TOTAL PHOSPHORUS DISCHARGE: June 2004 to September 2005.
CHLORIDE DISCHARGE: June 2004 to September 2005.

INSTRUMENTATION.--Automatic pumping sampler July 1982 to September 1984, June 2004 to September 2005.

EXTREMES FOR PERIOD OF RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 3,200 tons, June 19, 1984; minimum daily, 1.2 tons, Sept. 4-7, 2005.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 6,530 lbs, June 13, 2004; minimum daily, 32.5 lbs, Sept. 7, 2005.
CHLORIDE DISCHARGE: Maximum daily, 763 tons, Jan. 13, 2005; minimum daily, 18.2 tons, Sept. 6, 2005.

EXTREMES FOR WATER YEAR 2004.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 896 tons, June 13, 2004; minimum daily, 4.7 tons, Sept. 30, 2004.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 6,530 lbs, June 13, 2004; minimum daily, 62.6 lbs, Sept. 30, 2004.
CHLORIDE DISCHARGE: Maximum daily, 342 tons, June 12, 2004; minimum daily, 28.1 tons, Sept. 30, 2004.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 214 tons, Apr. 1; minimum daily, 1.2 tons, Sept. 4-7.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 2,790 lbs, Mar. 8; minimum daily, 32.5 lbs, Sept. 7.
CHLORIDE DISCHARGE: Maximum daily, 763 tons, Jan. 13; minimum daily, 18.2 tons, Sept. 6.

SUSPENDED SEDIMENT DISCHARGE, TONS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	527	27	12	18
2	---	---	---	---	---	---	---	---	255	23	12	17
3	---	---	---	---	---	---	---	---	225	25	13	16
4	---	---	---	---	---	---	---	---	207	63	16	15
5	---	---	---	---	---	---	---	---	160	70	14	13
6	---	---	---	---	---	---	---	---	116	95	17	12
7	---	---	---	---	---	---	---	---	87	149	20	11
8	---	---	---	---	---	---	---	---	66	193	25	11
9	---	---	---	---	---	---	---	---	52	136	32	10
10	---	---	---	---	---	---	---	---	65	86	40	9.3
11	---	---	---	---	---	---	---	---	140	57	52	8.7
12	---	---	---	---	---	---	---	---	771	41	63	8.1
13	---	---	---	---	---	---	---	---	896	30	56	7.5
14	---	---	---	---	---	---	---	---	805	26	47	7.0
15	---	---	---	---	---	---	---	---	611	23	37	6.8
16	---	---	---	---	---	---	---	---	414	24	28	7.0
17	---	---	---	---	---	---	---	---	334	24	24	6.0
18	---	---	---	---	---	---	---	---	300	22	24	6.0
19	---	---	---	---	---	---	---	---	224	21	25	5.8
20	---	---	---	---	---	---	---	---	156	20	25	5.7
21	---	---	---	---	---	---	---	---	110	20	23	5.5
22	---	---	---	---	---	---	---	---	80	20	21	5.5
23	---	---	---	---	---	---	---	---	60	18	19	5.3
24	---	---	---	---	---	---	---	---	56	17	28	5.0
25	---	---	---	---	---	---	---	---	50	16	29	4.9
26	---	---	---	---	---	---	---	---	46	15	25	4.8
27	---	---	---	---	---	---	---	---	41	14	27	4.8
28	---	---	---	---	---	---	---	---	38	13	28	4.9
29	---	---	---	---	---	---	---	---	35	12	27	4.8
30	---	---	---	---	---	---	---	---	31	11	22	4.7
31	---	---	---	---	---	---	---	---	---	11	20	---
TOTAL	---	---	---	---	---	---	---	---	6,958	1,322	851	251.1

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	2,800	603	146	203
2	---	---	---	---	---	---	---	---	2,510	520	186	191
3	---	---	---	---	---	---	---	---	2,260	562	238	181
4	---	---	---	---	---	---	---	---	2,030	1,250	332	170
5	---	---	---	---	---	---	---	---	1,790	1,160	323	158
6	---	---	---	---	---	---	---	---	1,480	1,170	319	146
7	---	---	---	---	---	---	---	---	1,190	1,050	291	140
8	---	---	---	---	---	---	---	---	952	852	269	133
9	---	---	---	---	---	---	---	---	802	732	264	125
10	---	---	---	---	---	---	---	---	1,030	631	252	118
11	---	---	---	---	---	---	---	---	1,970	562	251	112
12	---	---	---	---	---	---	---	---	5,800	553	253	106
13	---	---	---	---	---	---	---	---	6,530	518	264	100
14	---	---	---	---	---	---	---	---	6,170	427	278	94.8
15	---	---	---	---	---	---	---	---	5,600	358	273	93.5
16	---	---	---	---	---	---	---	---	4,480	330	255	96.8
17	---	---	---	---	---	---	---	---	4,410	307	274	82.9
18	---	---	---	---	---	---	---	---	4,070	255	286	83.3
19	---	---	---	---	---	---	---	---	3,340	221	307	79.3
20	---	---	---	---	---	---	---	---	2,590	198	314	78.3
21	---	---	---	---	---	---	---	---	1,980	177	305	75.6
22	---	---	---	---	---	---	---	---	1,570	159	290	74.5
23	---	---	---	---	---	---	---	---	1,260	136	263	72.3
24	---	---	---	---	---	---	---	---	1,210	115	281	68.3
25	---	---	---	---	---	---	---	---	1,090	97.7	311	66.5
26	---	---	---	---	---	---	---	---	998	84.4	264	65.1
27	---	---	---	---	---	---	---	---	906	77.0	286	65.1
28	---	---	---	---	---	---	---	---	847	82.5	299	66.0
29	---	---	---	---	---	---	---	---	769	89.1	289	63.7
30	---	---	---	---	---	---	---	---	684	99.5	239	62.6
31	---	---	---	---	---	---	---	---	---	111	222	---
TOTAL	---	---	---	---	---	---	---	---	73,118	13,487.2	8,424	3,171.6

CHLORIDE, WATER, FILTERED, TONS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	288	131	54.4	56.9
2	---	---	---	---	---	---	---	---	271	121	60.7	55.1
3	---	---	---	---	---	---	---	---	255	124	66.9	53.8
4	---	---	---	---	---	---	---	---	245	162	81.7	51.9
5	---	---	---	---	---	---	---	---	242	162	72.4	49.5
6	---	---	---	---	---	---	---	---	225	152	71.1	47.0
7	---	---	---	---	---	---	---	---	204	132	65.1	46.4
8	---	---	---	---	---	---	---	---	183	120	60.5	45.4
9	---	---	---	---	---	---	---	---	174	111	59.6	43.8
10	---	---	---	---	---	---	---	---	232	103	57.3	42.5
11	---	---	---	---	---	---	---	---	293	98.1	57.2	41.8
12	---	---	---	---	---	---	---	---	342	103	58.3	40.7
13	---	---	---	---	---	---	---	---	330	104	62.7	39.4
14	---	---	---	---	---	---	---	---	340	94.4	68.2	38.3
15	---	---	---	---	---	---	---	---	319	87.4	69.2	38.9
16	---	---	---	---	---	---	---	---	280	88.8	66.8	41.2
17	---	---	---	---	---	---	---	---	274	90.9	66.9	35.5
18	---	---	---	---	---	---	---	---	270	83.6	74.5	35.8
19	---	---	---	---	---	---	---	---	242	80.0	80.4	34.2
20	---	---	---	---	---	---	---	---	211	79.0	82.7	33.9
21	---	---	---	---	---	---	---	---	183	77.9	80.6	32.9
22	---	---	---	---	---	---	---	---	165	77.2	77.1	32.5
23	---	---	---	---	---	---	---	---	150	73.0	70.3	31.6
24	---	---	---	---	---	---	---	---	157	67.8	68.9	30.0
25	---	---	---	---	---	---	---	---	152	63.6	66.7	29.3
26	---	---	---	---	---	---	---	---	150	60.6	59.8	28.8
27	---	---	---	---	---	---	---	---	146	59.1	67.4	28.9
28	---	---	---	---	---	---	---	---	147	56.9	73.7	29.4
29	---	---	---	---	---	---	---	---	144	54.1	74.0	28.5
30	---	---	---	---	---	---	---	---	138	53.1	63.5	28.1
31	---	---	---	---	---	---	---	---	---	51.9	60.5	---
TOTAL	---	---	---	---	---	---	---	---	6,752	2,922.4	2,099.1	1,172.0

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

WATER-QUALITY RECORDS--Continued

SUSPENDED SEDIMENT DISCHARGE, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	12	17	16	9.0	11	214	14	7.4	3.1	5.2	1.5
2	6.8	179	17	15	9.1	13	186	13	7.0	2.4	4.6	1.4
3	4.8	172	17	14	9.1	22	134	13	6.6	1.9	4.0	1.3
4	5.0	7.8	16	12	9.5	18	101	12	7.1	12	3.6	1.2
5	4.5	5.7	17	11	9.6	11	110	12	6.3	11	3.3	1.2
6	4.2	4.8	22	10	10	17	104	18	8.2	7.1	2.9	1.2
7	4.1	3.9	35	9.4	17	64	94	12	8.1	7.6	2.9	1.2
8	4.2	3.2	34	8.9	48	174	78	11	7.7	2.7	2.6	1.6
9	4.2	3.2	40	8.2	90	147	67	14	6.6	2.6	2.2	1.7
10	4.9	3.2	48	7.5	83	97	58	14	5.3	2.6	2.0	2.6
11	4.6	3.4	56	7.1	69	55	52	17	4.5	2.7	1.9	2.0
12	4.3	3.3	58	14	56	30	45	17	5.0	3.5	9.9	1.7
13	4.0	3.4	59	65	56	21	41	12	13	3.7	2.5	1.8
14	3.9	3.5	52	76	92	14	34	13	6.4	4.7	2.4	2.4
15	21	3.6	39	19	118	8.7	29	13	7.2	3.9	2.4	2.4
16	4.1	3.8	50	14	143	7.0	26	13	6.2	4.1	2.1	2.8
17	4.3	4.1	58	11	108	7.7	23	12	4.9	3.5	1.8	2.3
18	4.6	4.5	39	9.9	83	8.0	22	12	4.5	3.0	8.0	2.0
19	5.1	5.2	36	8.2	62	10	20	25	4.0	2.6	2.2	6.5
20	5.5	6.4	33	7.1	40	11	20	28	3.7	3.1	2.1	2.7
21	6.0	7.5	29	7.2	32	13	19	34	3.6	15	1.7	2.6
22	6.5	8.0	27	7.0	26	15	19	33	3.4	9.4	1.5	48
23	143	8.2	26	7.3	22	20	19	15	3.2	15	1.5	10
24	65	8.2	25	7.9	18	28	19	15	3.3	12	1.4	9.7
25	35	8.1	23	8.3	16	44	17	13	8.9	4.5	1.3	87
26	28	8.3	21	8.3	15	59	16	11	103	13	1.3	23
27	24	9.8	20	7.8	14	76	15	9.6	12	22	4.5	10
28	19	12	19	6.7	12	99	15	9.0	15	30	4.5	8.2
29	32	15	18	7.6	---	121	15	8.7	6.1	11	3.7	5.9
30	49	16	17	8.6	---	158	14	8.5	6.3	7.7	2.3	4.1
31	11	---	17	8.9	---	200	---	7.9	---	6.0	1.7	---
TOTAL	527.6	537.1	985	428.9	1,276.3	1,579.4	1,626	459.7	294.5	233.4	94.0	250.0

WTR YR 2005 TOTAL 8,291.9

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62.5	94.8	153	159	167	216	1,530	177	116	101	113	45.5
2	76.5	155	148	164	168	413	1,320	169	109	96.5	103	43.1
3	61.2	126	139	155	170	548	1,060	163	103	90.6	92.8	38.1
4	63.4	153	125	145	177	493	859	160	110	231	85.7	35.7
5	58.4	130	123	140	178	145	768	155	98.0	210	82.5	33.7
6	55.1	132	148	136	186	251	710	541	128	172	74.3	32.6
7	54.1	130	301	131	332	826	658	160	127	177	75.0	32.5
8	56.7	90.6	254	131	1,050	2,790	562	155	119	141	69.5	43.4
9	56.6	88.2	287	126	2,220	2,440	504	195	103	120	61.7	44.7
10	66.9	83.9	481	121	2,120	1,820	455	488	82.3	106	57.9	82.0
11	63.7	84.3	636	121	1,800	1,170	421	777	70.4	97.4	57.5	50.9
12	60.3	77.4	560	243	1,510	727	383	753	78.3	109	160	41.5
13	57.4	76.5	476	622	1,410	568	359	197	231	136	76.8	44.9
14	55.1	74.1	360	1,020	2,020	435	310	206	128	117	78.5	58.4
15	192	72.5	246	723	2,230	299	279	208	243	98.5	81.1	56.2
16	59.4	72.6	347	557	2,400	269	253	203	242	104	70.6	62.0
17	59.9	74.7	608	469	1,850	278	240	197	171	90.0	64.4	49.9
18	62.3	78.8	364	422	1,480	265	236	187	139	78.0	133	42.5
19	66.4	86.4	299	150	1,140	307	225	1,080	110	70.0	82.6	106
20	69.5	101	238	130	768	307	234	1,160	89.8	85.6	78.1	53.0
21	73.5	113	184	131	634	522	218	1,370	81.6	214	61.8	48.6
22	76.2	114	168	127	535	340	226	1,340	75.3	170	55.4	353
23	414	111	168	133	475	400	229	926	66.7	205	51.4	109
24	176	105	173	145	401	523	222	240	72.1	177	48.1	120
25	78.8	98.6	163	152	352	730	209	199	209	133	44.3	469
26	73.3	95.8	159	153	315	887	194	168	672	272	43.5	218
27	74.0	108	159	143	282	1,040	186	151	231	282	162	115
28	70.5	124	159	122	243	1,240	187	142	210	323	88.5	94.6
29	72.1	151	159	140	---	1,340	187	136	142	222	80.4	67.6
30	79.7	153	159	158	---	1,490	183	133	172	160	72.1	47.8
31	73.8	---	164	165	---	1,690	---	124	---	127	53.9	---
TOTAL	2,619.3	3,155.2	8,108	7,434	26,613	24,769	13,407	12,260	4,529.5	4,715.6	2,459.4	2,639.2

WTR YR 2005 TOTAL 112,709.2

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

CHLORIDE, WATER, FILTERED, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.1	66.0	69.8	70.5	76.0	65.9	295	65.6	72.7	27.3	30.4	23.2
2	43.0	72.0	66.5	73.7	76.4	74.1	278	63.0	65.6	26.4	28.2	22.3
3	32.7	60.4	61.6	70.5	78.3	107	228	61.4	59.8	24.9	25.9	20.1
4	35.1	71.4	55.0	67.2	80.0	92.1	185	60.5	55.2	57.1	24.4	19.2
5	33.5	60.0	67.0	65.9	82.8	67.8	158	59.1	52.7	54.8	23.9	18.4
6	32.8	59.9	76.0	64.7	127	86.4	157	78.3	66.6	44.3	22.0	18.2
7	33.3	58.3	98.0	63.4	287	216	173	61.3	63.5	45.3	22.6	18.5
8	36.2	55.3	88.2	64.3	366	310	155	59.8	57.7	36.1	21.3	25.1
9	37.5	53.1	98.0	63.0	297	276	141	75.8	48.1	30.5	19.3	26.3
10	45.9	49.8	111	61.5	249	262	130	79.0	37.0	26.9	18.4	41.1
11	45.3	49.5	118	69.8	223	213	123	163	30.4	24.6	18.7	31.1
12	44.4	44.8	119	374	197	168	114	216	32.6	27.7	51.3	25.8
13	43.9	43.7	112	763	193	167	109	249	55.7	35.2	25.9	28.3
14	43.3	41.8	93.4	701	290	162	96.1	251	37.9	30.7	27.0	35.3
15	80.0	40.4	65.8	373	337	142	88.2	244	47.8	26.2	28.4	32.0
16	43.4	40.0	90.3	221	383	158	81.5	230	43.9	27.9	25.2	33.5
17	42.0	40.6	102	147	309	157	78.9	214	35.0	24.4	23.4	25.5
18	42.0	42.3	70.1	107	260	133	79.2	196	32.3	21.3	46.4	20.6
19	43.0	45.8	69.8	74.8	211	138	76.8	256	28.8	19.3	28.8	42.4
20	43.2	52.9	67.2	62.0	149	124	81.5	266	26.7	24.0	27.8	23.0
21	44.1	58.2	62.9	62.2	130	112	76.6	293	26.0	62.1	24.5	19.9
22	44.8	58.0	63.9	60.0	115	110	79.7	282	25.3	49.6	22.5	86.8
23	67.1	56.0	64.9	62.8	107	116	81.3	208	23.7	62.4	21.4	29.8
24	51.9	52.2	67.8	68.1	95.4	135	79.3	202	24.1	54.9	20.4	36.1
25	52.6	48.4	65.1	71.0	88.0	169	74.8	161	41.5	42.7	19.3	111
26	54.0	46.5	64.1	71.4	82.9	184	70.1	131	100	79.8	19.4	65.0
27	53.8	51.6	65.1	66.6	77.9	193	67.4	113	46.2	70.6	59.1	48.9
28	50.5	58.5	66.2	56.6	70.8	206	68.1	103	56.0	82.9	35.9	51.8
29	55.0	70.6	67.2	64.6	---	216	68.8	95.1	38.6	56.6	33.0	47.7
30	58.0	70.4	68.3	72.7	---	241	67.5	89.7	39.2	41.3	30.1	43.5
31	50.6	---	71.5	75.7	---	277	---	80.7	---	33.5	26.9	---
TOTAL	1,414.0	1,618.4	2,425.7	4,289.0	5,038.5	5,078.3	3,561.8	4,707.3	1,370.6	1,271.3	851.8	1,070.4

WTR YR 2005 TOTAL 32,697.1

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

WATER-QUALITY RECORDS--Continued

SUSPENDED SEDIMENT DISCHARGE, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	12	17	16	9.0	11	214	14	7.4	3.1	5.2	1.5
2	6.8	179	17	15	9.1	13	186	13	7.0	2.4	4.6	1.4
3	4.8	172	17	14	9.1	22	134	13	6.6	1.9	4.0	1.3
4	5.0	7.8	16	12	9.5	18	101	12	7.1	12	3.6	1.2
5	4.5	5.7	17	11	9.6	11	110	12	6.3	11	3.3	1.2
6	4.2	4.8	22	10	10	17	104	18	8.2	7.1	2.9	1.2
7	4.1	3.9	35	9.4	17	64	94	12	8.1	7.6	2.9	1.2
8	4.2	3.2	34	8.9	48	174	78	11	7.7	2.7	2.6	1.6
9	4.2	3.2	40	8.2	90	147	67	14	6.6	2.6	2.2	1.7
10	4.9	3.2	48	7.5	83	97	58	14	5.3	2.6	2.0	2.6
11	4.6	3.4	56	7.1	69	55	52	17	4.5	2.7	1.9	2.0
12	4.3	3.3	58	14	56	30	45	17	5.0	3.5	9.9	1.7
13	4.0	3.4	59	65	56	21	41	12	13	3.7	2.5	1.8
14	3.9	3.5	52	76	92	14	34	13	6.4	4.7	2.4	2.4
15	21	3.6	39	19	118	8.7	29	13	7.2	3.9	2.4	2.4
16	4.1	3.8	50	14	143	7.0	26	13	6.2	4.1	2.1	2.8
17	4.3	4.1	58	11	108	7.7	23	12	4.9	3.5	1.8	2.3
18	4.6	4.5	39	9.9	83	8.0	22	12	4.5	3.0	8.0	2.0
19	5.1	5.2	36	8.2	62	10	20	25	4.0	2.6	2.2	6.5
20	5.5	6.4	33	7.1	40	11	20	28	3.7	3.1	2.1	2.7
21	6.0	7.5	29	7.2	32	13	19	34	3.6	15	1.7	2.6
22	6.5	8.0	27	7.0	26	15	19	33	3.4	9.4	1.5	48
23	143	8.2	26	7.3	22	20	19	15	3.2	15	1.5	10
24	65	8.2	25	7.9	18	28	19	15	3.3	12	1.4	9.7
25	35	8.1	23	8.3	16	44	17	13	8.9	4.5	1.3	87
26	28	8.3	21	8.3	15	59	16	11	103	13	1.3	23
27	24	9.8	20	7.8	14	76	15	9.6	12	22	4.5	10
28	19	12	19	6.7	12	99	15	9.0	15	30	4.5	8.2
29	32	15	18	7.6	---	121	15	8.7	6.1	11	3.7	5.9
30	49	16	17	8.6	---	158	14	8.5	6.3	7.7	2.3	4.1
31	11	---	17	8.9	---	200	---	7.9	---	6.0	1.7	---
TOTAL	527.6	537.1	985	428.9	1,276.3	1,579.4	1,626	459.7	294.5	233.4	94.0	250.0

WTR YR 2005 TOTAL 8,291.9

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62.5	94.8	153	159	167	216	1,530	177	116	101	113	45.5
2	76.5	155	148	164	168	413	1,320	169	109	96.5	103	43.1
3	61.2	126	139	155	170	548	1,060	163	103	90.6	92.8	38.1
4	63.4	153	125	145	177	493	859	160	110	231	85.7	35.7
5	58.4	130	123	140	178	145	768	155	98.0	210	82.5	33.7
6	55.1	132	148	136	186	251	710	541	128	172	74.3	32.6
7	54.1	130	301	131	332	826	658	160	127	177	75.0	32.5
8	56.7	90.6	254	131	1,050	2,790	562	155	119	141	69.5	43.4
9	56.6	88.2	287	126	2,220	2,440	504	195	103	120	61.7	44.7
10	66.9	83.9	481	121	2,120	1,820	455	488	82.3	106	57.9	82.0
11	63.7	84.3	636	121	1,800	1,170	421	777	70.4	97.4	57.5	50.9
12	60.3	77.4	560	243	1,510	727	383	753	78.3	109	160	41.5
13	57.4	76.5	476	622	1,410	568	359	197	231	136	76.8	44.9
14	55.1	74.1	360	1,020	2,020	435	310	206	128	117	78.5	58.4
15	192	72.5	246	723	2,230	299	279	208	243	98.5	81.1	56.2
16	59.4	72.6	347	557	2,400	269	253	203	242	104	70.6	62.0
17	59.9	74.7	608	469	1,850	278	240	197	171	90.0	64.4	49.9
18	62.3	78.8	364	422	1,480	265	236	187	139	78.0	133	42.5
19	66.4	86.4	299	150	1,140	307	225	1,080	110	70.0	82.6	106
20	69.5	101	238	130	768	307	234	1,160	89.8	85.6	78.1	53.0
21	73.5	113	184	131	634	522	218	1,370	81.6	214	61.8	48.6
22	76.2	114	168	127	535	340	226	1,340	75.3	170	55.4	353
23	414	111	168	133	475	400	229	926	66.7	205	51.4	109
24	176	105	173	145	401	523	222	240	72.1	177	48.1	120
25	78.8	98.6	163	152	352	730	209	199	209	133	44.3	469
26	73.3	95.8	159	153	315	887	194	168	672	272	43.5	218
27	74.0	108	159	143	282	1,040	186	151	231	282	162	115
28	70.5	124	159	122	243	1,240	187	142	210	323	88.5	94.6
29	72.1	151	159	140	---	1,340	187	136	142	222	80.4	67.6
30	79.7	153	159	158	---	1,490	183	133	172	160	72.1	47.8
31	73.8	---	164	165	---	1,690	---	124	---	127	53.9	---
TOTAL	2,619.3	3,155.2	8,108	7,434	26,613	24,769	13,407	12,260	4,529.5	4,715.6	2,459.4	2,639.2

WTR YR 2005 TOTAL 112,709.2

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

CHLORIDE, WATER, FILTERED, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.1	66.0	69.8	70.5	76.0	65.9	295	65.6	72.7	27.3	30.4	23.2
2	43.0	72.0	66.5	73.7	76.4	74.1	278	63.0	65.6	26.4	28.2	22.3
3	32.7	60.4	61.6	70.5	78.3	107	228	61.4	59.8	24.9	25.9	20.1
4	35.1	71.4	55.0	67.2	80.0	92.1	185	60.5	55.2	57.1	24.4	19.2
5	33.5	60.0	67.0	65.9	82.8	67.8	158	59.1	52.7	54.8	23.9	18.4
6	32.8	59.9	76.0	64.7	127	86.4	157	78.3	66.6	44.3	22.0	18.2
7	33.3	58.3	98.0	63.4	287	216	173	61.3	63.5	45.3	22.6	18.5
8	36.2	55.3	88.2	64.3	366	310	155	59.8	57.7	36.1	21.3	25.1
9	37.5	53.1	98.0	63.0	297	276	141	75.8	48.1	30.5	19.3	26.3
10	45.9	49.8	111	61.5	249	262	130	79.0	37.0	26.9	18.4	41.1
11	45.3	49.5	118	69.8	223	213	123	163	30.4	24.6	18.7	31.1
12	44.4	44.8	119	374	197	168	114	216	32.6	27.7	51.3	25.8
13	43.9	43.7	112	763	193	167	109	249	55.7	35.2	25.9	28.3
14	43.3	41.8	93.4	701	290	162	96.1	251	37.9	30.7	27.0	35.3
15	80.0	40.4	65.8	373	337	142	88.2	244	47.8	26.2	28.4	32.0
16	43.4	40.0	90.3	221	383	158	81.5	230	43.9	27.9	25.2	33.5
17	42.0	40.6	102	147	309	157	78.9	214	35.0	24.4	23.4	25.5
18	42.0	42.3	70.1	107	260	133	79.2	196	32.3	21.3	46.4	20.6
19	43.0	45.8	69.8	74.8	211	138	76.8	256	28.8	19.3	28.8	42.4
20	43.2	52.9	67.2	62.0	149	124	81.5	266	26.7	24.0	27.8	23.0
21	44.1	58.2	62.9	62.2	130	112	76.6	293	26.0	62.1	24.5	19.9
22	44.8	58.0	63.9	60.0	115	110	79.7	282	25.3	49.6	22.5	86.8
23	67.1	56.0	64.9	62.8	107	116	81.3	208	23.7	62.4	21.4	29.8
24	51.9	52.2	67.8	68.1	95.4	135	79.3	202	24.1	54.9	20.4	36.1
25	52.6	48.4	65.1	71.0	88.0	169	74.8	161	41.5	42.7	19.3	111
26	54.0	46.5	64.1	71.4	82.9	184	70.1	131	100	79.8	19.4	65.0
27	53.8	51.6	65.1	66.6	77.9	193	67.4	113	46.2	70.6	59.1	48.9
28	50.5	58.5	66.2	56.6	70.8	206	68.1	103	56.0	82.9	35.9	51.8
29	55.0	70.6	67.2	64.6	---	216	68.8	95.1	38.6	56.6	33.0	47.7
30	58.0	70.4	68.3	72.7	---	241	67.5	89.7	39.2	41.3	30.1	43.5
31	50.6	---	71.5	75.7	---	277	---	80.7	---	33.5	26.9	---
TOTAL	1,414.0	1,618.4	2,425.7	4,289.0	5,038.5	5,078.3	3,561.8	4,707.3	1,370.6	1,271.3	851.8	1,070.4

WTR YR 2005 TOTAL 32,697.1

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-65, 1967-69, 1971, 1973 to 1984, October 2004 to September 2005.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: July 1982 to September 1984, June 2004 to September 2005.
TOTAL PHOSPHORUS DISCHARGE: June 2004 to September 2005.
CHLORIDE DISCHARGE: June 2004 to September 2005.

INSTRUMENTATION.--Automatic pumping sampler July 1982 to September 1984, June 2004 to September 2005.

EXTREMES FOR PERIOD OF RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 3,200 tons, June 19, 1984; minimum daily, 1.2 tons, Sept. 4-7, 2005.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 6,530 lbs, June 13, 2004; minimum daily, 32.5 lbs, Sept. 7, 2005.
CHLORIDE DISCHARGE: Maximum daily, 763 tons, Jan. 13, 2005; minimum daily, 18.2 tons, Sept. 6, 2005.

EXTREMES FOR WATER YEAR 2004.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 896 tons, June 13, 2004; minimum daily, 4.7 tons, Sept. 30, 2004.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 6,530 lbs, June 13, 2004; minimum daily, 62.6 lbs, Sept. 30, 2004.
CHLORIDE DISCHARGE: Maximum daily, 342 tons, June 12, 2004; minimum daily, 28.1 tons, Sept. 30, 2004.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 214 tons, Apr. 1; minimum daily, 1.2 tons, Sept. 4-7.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 2,790 lbs, Mar. 8; minimum daily, 32.5 lbs, Sept. 7.
CHLORIDE DISCHARGE: Maximum daily, 763 tons, Jan. 13; minimum daily, 18.2 tons, Sept. 6.

SUSPENDED SEDIMENT DISCHARGE, TONS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	527	27	12	18
2	---	---	---	---	---	---	---	---	255	23	12	17
3	---	---	---	---	---	---	---	---	225	25	13	16
4	---	---	---	---	---	---	---	---	207	63	16	15
5	---	---	---	---	---	---	---	---	160	70	14	13
6	---	---	---	---	---	---	---	---	116	95	17	12
7	---	---	---	---	---	---	---	---	87	149	20	11
8	---	---	---	---	---	---	---	---	66	193	25	11
9	---	---	---	---	---	---	---	---	52	136	32	10
10	---	---	---	---	---	---	---	---	65	86	40	9.3
11	---	---	---	---	---	---	---	---	140	57	52	8.7
12	---	---	---	---	---	---	---	---	771	41	63	8.1
13	---	---	---	---	---	---	---	---	896	30	56	7.5
14	---	---	---	---	---	---	---	---	805	26	47	7.0
15	---	---	---	---	---	---	---	---	611	23	37	6.8
16	---	---	---	---	---	---	---	---	414	24	28	7.0
17	---	---	---	---	---	---	---	---	334	24	24	6.0
18	---	---	---	---	---	---	---	---	300	22	24	6.0
19	---	---	---	---	---	---	---	---	224	21	25	5.8
20	---	---	---	---	---	---	---	---	156	20	25	5.7
21	---	---	---	---	---	---	---	---	110	20	23	5.5
22	---	---	---	---	---	---	---	---	80	20	21	5.5
23	---	---	---	---	---	---	---	---	60	18	19	5.3
24	---	---	---	---	---	---	---	---	56	17	28	5.0
25	---	---	---	---	---	---	---	---	50	16	29	4.9
26	---	---	---	---	---	---	---	---	46	15	25	4.8
27	---	---	---	---	---	---	---	---	41	14	27	4.8
28	---	---	---	---	---	---	---	---	38	13	28	4.9
29	---	---	---	---	---	---	---	---	35	12	27	4.8
30	---	---	---	---	---	---	---	---	31	11	22	4.7
31	---	---	---	---	---	---	---	---	---	11	20	---
TOTAL	---	---	---	---	---	---	---	---	6,958	1,322	851	251.1

04087000 MILWAUKEE RIVER AT MILWAUKEE, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	2,800	603	146	203
2	---	---	---	---	---	---	---	---	2,510	520	186	191
3	---	---	---	---	---	---	---	---	2,260	562	238	181
4	---	---	---	---	---	---	---	---	2,030	1,250	332	170
5	---	---	---	---	---	---	---	---	1,790	1,160	323	158
6	---	---	---	---	---	---	---	---	1,480	1,170	319	146
7	---	---	---	---	---	---	---	---	1,190	1,050	291	140
8	---	---	---	---	---	---	---	---	952	852	269	133
9	---	---	---	---	---	---	---	---	802	732	264	125
10	---	---	---	---	---	---	---	---	1,030	631	252	118
11	---	---	---	---	---	---	---	---	1,970	562	251	112
12	---	---	---	---	---	---	---	---	5,800	553	253	106
13	---	---	---	---	---	---	---	---	6,530	518	264	100
14	---	---	---	---	---	---	---	---	6,170	427	278	94.8
15	---	---	---	---	---	---	---	---	5,600	358	273	93.5
16	---	---	---	---	---	---	---	---	4,480	330	255	96.8
17	---	---	---	---	---	---	---	---	4,410	307	274	82.9
18	---	---	---	---	---	---	---	---	4,070	255	286	83.3
19	---	---	---	---	---	---	---	---	3,340	221	307	79.3
20	---	---	---	---	---	---	---	---	2,590	198	314	78.3
21	---	---	---	---	---	---	---	---	1,980	177	305	75.6
22	---	---	---	---	---	---	---	---	1,570	159	290	74.5
23	---	---	---	---	---	---	---	---	1,260	136	263	72.3
24	---	---	---	---	---	---	---	---	1,210	115	281	68.3
25	---	---	---	---	---	---	---	---	1,090	97.7	311	66.5
26	---	---	---	---	---	---	---	---	998	84.4	264	65.1
27	---	---	---	---	---	---	---	---	906	77.0	286	65.1
28	---	---	---	---	---	---	---	---	847	82.5	299	66.0
29	---	---	---	---	---	---	---	---	769	89.1	289	63.7
30	---	---	---	---	---	---	---	---	684	99.5	239	62.6
31	---	---	---	---	---	---	---	---	---	111	222	---
TOTAL	---	---	---	---	---	---	---	---	73,118	13,487.2	8,424	3,171.6

CHLORIDE, WATER, FILTERED, TONS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	288	131	54.4	56.9
2	---	---	---	---	---	---	---	---	271	121	60.7	55.1
3	---	---	---	---	---	---	---	---	255	124	66.9	53.8
4	---	---	---	---	---	---	---	---	245	162	81.7	51.9
5	---	---	---	---	---	---	---	---	242	162	72.4	49.5
6	---	---	---	---	---	---	---	---	225	152	71.1	47.0
7	---	---	---	---	---	---	---	---	204	132	65.1	46.4
8	---	---	---	---	---	---	---	---	183	120	60.5	45.4
9	---	---	---	---	---	---	---	---	174	111	59.6	43.8
10	---	---	---	---	---	---	---	---	232	103	57.3	42.5
11	---	---	---	---	---	---	---	---	293	98.1	57.2	41.8
12	---	---	---	---	---	---	---	---	342	103	58.3	40.7
13	---	---	---	---	---	---	---	---	330	104	62.7	39.4
14	---	---	---	---	---	---	---	---	340	94.4	68.2	38.3
15	---	---	---	---	---	---	---	---	319	87.4	69.2	38.9
16	---	---	---	---	---	---	---	---	280	88.8	66.8	41.2
17	---	---	---	---	---	---	---	---	274	90.9	66.9	35.5
18	---	---	---	---	---	---	---	---	270	83.6	74.5	35.8
19	---	---	---	---	---	---	---	---	242	80.0	80.4	34.2
20	---	---	---	---	---	---	---	---	211	79.0	82.7	33.9
21	---	---	---	---	---	---	---	---	183	77.9	80.6	32.9
22	---	---	---	---	---	---	---	---	165	77.2	77.1	32.5
23	---	---	---	---	---	---	---	---	150	73.0	70.3	31.6
24	---	---	---	---	---	---	---	---	157	67.8	68.9	30.0
25	---	---	---	---	---	---	---	---	152	63.6	66.7	29.3
26	---	---	---	---	---	---	---	---	150	60.6	59.8	28.8
27	---	---	---	---	---	---	---	---	146	59.1	67.4	28.9
28	---	---	---	---	---	---	---	---	147	56.9	73.7	29.4
29	---	---	---	---	---	---	---	---	144	54.1	74.0	28.5
30	---	---	---	---	---	---	---	---	138	53.1	63.5	28.1
31	---	---	---	---	---	---	---	---	---	51.9	60.5	---
TOTAL	---	---	---	---	---	---	---	---	6,752	2,922.4	2,099.1	1,172.0

04087030 MENOMONEE RIVER AT MENOMONEE FALLS, WI

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

DRAINAGE AREA.--34.7 mi^2.

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 and crest-stage gage. Datum of gage is 755.51 ft above NGVD of 1929 (Wisconsin Department of Transportation benchmark). Prior to Aug. 20, 1996, water-stage recorder at present site at datum 2.01 ft lower.

REMARKS.--Records fair except those for estimated daily discharges, which are poor (see Introduction). 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	11	7.3	e8.6	e5.3	e11	126	11	6.9	2.4	2.0	2.0
2	4.4	14	6.7	e45	e5.8	e11	111	11	6.4	2.0	2.1	1.7
3	3.6	8.9	6.5	e30	e5.7	e10	91	11	6.1	1.8	2.3	1.5
4	3.8	10	6.3	e22	e5.9	e9.8	70	11	6.3	39	2.3	1.4
5	3.9	7.7	6.2	e18	e6.8	e10	57	9.7	6.6	20	2.2	1.3
6	3.4	6.7	13	e14	e8.8	e14	63	18	5.7	6.6	1.9	1.2
7	3.4	6.3	37	e12	e16	e70	78	13	5.0	3.3	1.7	1.3
8	4.7	5.9	28	e11	e26	e100	58	12	4.5	2.7	1.6	2.0
9	4.4	5.8	18	e10	e18	81	46	15	4.1	2.4	1.5	2.0
10	4.5	6.0	22	e10	e15	47	40	17	3.9	2.0	1.4	1.9
11	4.4	6.4	23	e10	e12	35	35	46	3.7	1.9	1.5	1.8
12	4.4	6.0	17	e33	e10	30	31	34	4.0	2.1	4.2	2.1
13	4.5	5.8	13	e90	e12	26	27	39	5.1	2.4	2.7	6.5
14	4.6	5.8	e12	e28	e26	22	24	33	5.3	2.1	2.4	4.5
15	5.0	6.3	12	e26	e60	21	21	26	4.8	1.9	2.0	3.7
16	5.3	6.4	10	e20	e43	21	20	22	4.6	1.8	1.7	2.9
17	5.4	6.4	e10	e14	e35	23	19	19	4.2	1.6	1.6	2.2
18	5.5	6.0	e9.0	e9.8	e25	23	19	17	3.8	1.4	4.1	2.0
19	6.2	11	e8.0	e6.9	e20	25	18	49	3.5	1.2	2.7	4.2
20	6.2	12	e8.0	e6.4	e17	24	21	40	3.2	1.4	2.5	2.5
21	6.3	8.4	e7.8	e6.2	e16	27	18	31	3.0	12	2.0	2.1
22	6.7	6.9	e7.3	e6.1	e15	30	16	25	2.8	4.0	1.7	22
23	15	6.4	e6.6	e6.0	e14	34	15	19	2.5	6.4	1.6	7.4
24	9.5	6.2	e6.0	e5.9	e13	43	14	16	2.4	4.7	1.5	3.9
25	6.9	5.8	e5.8	e5.8	e13	59	13	13	3.3	3.7	1.2	7.2
26	6.2	6.0	e6.2	e5.7	e13	65	13	12	7.7	12	1.0	6.9
27	6.0	14	e6.9	e5.6	e12	82	13	10	4.8	5.5	35	4.4
28	5.8	14	e7.3	e5.5	e12	98	12	9.7	3.6	3.8	8.1	3.5
29	5.8	9.5	e6.8	e5.1	---	115	12	9.0	3.2	2.9	3.9	3.4
30	6.3	7.9	e6.8	e5.2	---	131	11	8.4	2.9	2.6	2.7	2.9
31	5.7	---	e7.6	e5.1	---	139	---	7.4	---	2.2	2.2	---
TOTAL	172.2	239.5	348.1	486.9	481.3	1,436.8	1,112	614.2	133.9	159.8	105.3	112.4
MEAN	5.55	7.98	11.2	15.7	17.2	46.3	37.1	19.8	4.46	5.15	3.40	3.75
MAX	15	14	37	90	60	139	126	49	7.7	39	35	22
MIN	3.4	5.8	5.8	5.1	5.3	9.8	11	7.4	2.4	1.2	1.0	1.2
CFSM	0.16	0.23	0.32	0.45	0.50	1.34	1.07	0.57	0.13	0.15	0.10	0.11
IN.	0.18	0.26	0.37	0.52	0.52	1.54	1.19	0.66	0.14	0.17	0.11	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2005, BY WATER YEAR (WY)

MEAN	18.4	26.1	22.2	17.3	32.0	57.1	62.4	40.3	33.5	18.4	13.6	17.6
MAX	94.3	137	70.4	72.8	95.9	124	193	207	142	86.1	34.9	151
(WY)	(1982)	(1986)	(1985)	(1988)	(2001)	(1976)	(1993)	(2004)	(1997)	(1994)	(1986)	(1986)
MIN	2.87	3.38	3.00	2.29	1.66	12.8	20.8	3.80	3.33	1.55	1.47	1.86
(WY)	(2004)	(1977)	(1977)	(1977)	(2003)	(2003)	(2003)	(1977)	(1988)	(1988)	(1988)	(1976)

04087030 MENOMONEE RIVER AT MENOMONEE FALLS, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1975 - 2005	
ANNUAL TOTAL	15,286.7		5,402.4			
ANNUAL MEAN	41.8		14.8		29.7	
HIGHEST ANNUAL MEAN					53.4	1986
LOWEST ANNUAL MEAN					7.32	1979
HIGHEST DAILY MEAN	748	May 24	139	Mar 31	(e)960	Jun 21, 1997
LOWEST DAILY MEAN	2.6	Sep 23	1.0	Aug 26	0.63	Aug 17, 1988
ANNUAL SEVEN-DAY MINIMUM	2.9	Sep 18	1.5	Sep 1	0.82	Aug 11, 1988
MAXIMUM PEAK FLOW			301	Jul 4	(a)1,500	Jun 21, 1997
MAXIMUM PEAK STAGE			5.54	Jul 4	(b)8.31	Jun 21, 1997
ANNUAL RUNOFF (CFSM)	1.20		0.427		0.857	
ANNUAL RUNOFF (INCHES)	16.39		5.79		11.64	
10 PERCENT EXCEEDS	112		34		65	
50 PERCENT EXCEEDS	10		6.9		14	
90 PERCENT EXCEEDS	4.2		2.0		4.0	

(a) From rating curve extended above 717 ft^3/s
(b) From floodmark
(e) Estimated

04087070 LITTLE MENOMONEE RIVER AT MILWAUKEE, WI

LOCATION.--Lat 43°07'25", long 88°02'37", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.27, T.8 N., R.21 E., Milwaukee County, Hydrologic Unit 04040003, on right bank about 250 ft downstream from bridge on U.S. Highway 41.

DRAINAGE AREA.--19.7 mi^2.

PERIOD OF RECORD.--November 1974 to September 1977, April to September 2004.

GAGE.--Water-stage recorder. Datum of gage is 700 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.94	11	3.4	2.7	4.0	7.4	54	3.0	2.8	0.82	0.78	0.43
2	6.4	17	2.6	58	4.0	6.7	52	3.0	2.3	0.58	0.50	0.21
3	1.2	3.3	2.3	8.3	4.7	6.4	30	2.9	2.6	0.32	0.59	0.11
4	0.62	7.9	2.1	4.6	8.0	6.2	21	2.9	3.0	19	1.3	0.04
5	0.78	3.3	2.1	3.6	19	8.5	17	3.0	6.1	3.8	0.61	0.02
6	0.81	1.8	15	3.3	20	45	20	14	2.5	1.5	0.23	0.01
7	0.49	1.7	50	3.3	e76	124	35	5.5	5.5	1.1	0.06	0.01
8	1.5	1.8	13	2.9	e43	98	21	3.6	4.4	0.63	0.04	0.31
9	1.5	1.6	7.6	2.8	e16	36	15	14	2.2	0.42	0.06	0.15
10	0.48	1.2	16	2.7	e13	17	12	8.0	2.2	0.27	0.08	0.07
11	0.37	2.4	11	2.6	e10	12	12	37	2.1	0.20	0.17	0.05
12	1.1	1.6	6.6	76	11	11	9.3	9.3	1.9	1.9	7.1	0.03
13	0.61	1.1	4.9	224	31	8.8	7.6	24	9.8	2.4	0.65	7.2
14	0.39	0.95	3.8	128	e110	8.0	7.4	10	4.2	1.1	0.22	10
15	3.7	1.1	3.5	61	e66	7.8	6.4	7.9	1.2	0.76	0.08	1.2
16	3.2	1.5	3.1	19	e30	8.4	6.1	6.7	1.3	0.84	0.08	1.6
17	1.9	1.3	2.8	8.1	e17	10	7.1	5.9	1.3	0.94	0.07	1.1
18	1.2	1.3	2.6	5.9	e12	12	6.2	5.0	1.6	1.1	10	0.84
19	2.4	16	2.2	5.0	e9.2	17	4.7	36	0.98	0.87	2.1	9.0
20	3.5	11	2.3	4.5	10	16	8.7	13	0.42	3.2	2.5	1.9
21	2.5	3.4	2.2	4.3	14	18	4.9	10	0.55	24	0.79	1.0
22	1.6	2.8	1.9	4.8	11	21	4.6	12	0.83	4.9	0.18	44
23	16	2.5	e1.7	5.3	8.9	21	4.3	8.7	1.3	9.2	0.09	3.1
24	6.6	2.3	e1.4	5.2	e8.0	30	3.8	6.4	7.6	6.5	0.09	1.5
25	1.9	2.2	1.2	5.2	8.6	47	3.6	4.8	16	3.7	0.09	29
26	1.5	1.9	1.4	4.7	7.4	40	3.8	3.9	24	20	0.11	20
27	1.9	12	1.5	4.1	7.4	44	3.8	3.6	5.4	2.0	14	3.0
28	1.2	6.4	1.5	4.6	e7.3	50	3.3	3.6	9.1	1.0	1.3	2.5
29	1.1	3.2	1.6	4.6	---	56	3.2	3.0	5.1	1.0	0.62	2.6
30	3.7	3.0	1.7	4.2	---	61	3.2	3.0	7.8	0.90	0.49	1.8
31	1.8	---	4.2	4.1	---	65	---	2.9	---	1.2	0.55	---
TOTAL	72.89	128.55	177.2	677.4	586.5	919.2	391.0	276.6	136.08	116.15	45.53	142.78
MEAN	2.35	4.29	5.72	21.9	20.9	29.7	13.0	8.92	4.54	3.75	1.47	4.76
MAX	16	17	50	224	110	124	54	37	24	24	14	44
MIN	0.37	0.95	1.2	2.6	4.0	6.2	3.2	2.9	0.42	0.20	0.04	0.01
CFSM	0.12	0.22	0.29	1.11	1.06	1.51	0.66	0.45	0.23	0.19	0.07	0.24
IN.	0.14	0.24	0.33	1.28	1.11	1.74	0.74	0.52	0.26	0.22	0.09	0.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2005, BY WATER YEAR (WY)

MEAN	4.61	6.70	9.40	10.9	17.0	46.1	24.2	33.5	16.5	8.64	6.12	3.55
MAX	11.2	12.8	23.9	21.9	39.0	76.5	37.2	127	44.5	23.7	15.9	6.13
(WY)	(1978)	(1978)	(1978)	(2005)	(1976)	(1976)	(1975)	(2004)	(2004)	(2004)	(1975)	(1977)
MIN	2.04	0.82	0.25	0.00	2.37	17.9	13.0	1.73	4.54	2.44	1.30	0.96
(WY)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(2005)	(1977)	(2005)	(1976)	(1976)	(2004)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR (April - December)		FOR 2005 WATER YEAR		WATER YEARS 1975 - 2005	
ANNUAL TOTAL	7186.84		3,669.88			
ANNUAL MEAN	26.1		10.1		15.4	
HIGHEST ANNUAL MEAN					37.2	2004
LOWEST ANNUAL MEAN					5.92	1977
HIGHEST DAILY MEAN	449	May 22	224	Jan 13	449	May 22, 2004
LOWEST DAILY MEAN	0.08	Sep 24	0.01	Sep 6	(a)0.00	Dec 31, 1976
ANNUAL SEVEN-DAY MINIMUM	0.18	Sep 24	0.09	Sep 4	0.00	Dec 31, 1976
MAXIMUM PEAK FLOW			381	Jan 12	(b)581	May 22, 2004
MAXIMUM PEAK STAGE			8.43	Jan 12	(c)10.35	Mar 4, 1976
ANNUAL RUNOFF (CFSM)	1.33		0.510		0.780	
ANNUAL RUNOFF (INCHES)	13.57		6.93		10.60	
10 PERCENT EXCEEDS	83		21		37	
50 PERCENT EXCEEDS	5.1		3.6		4.3	
90 PERCENT EXCEEDS	0.95		0.49		0.54	

04087070 LITTLE MENOMONEE RIVER AT MILWAUKEE, WI—Continued

(a) Also occurred Jan. 1 - Feb. 8, 1977
(b) Gage height, 9.30 ft
(c) Discharge, 467 ft^3/s, datum then in use
(e) Estimated

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 mi^2.

PERIOD OF RECORD.--November 1974 to November 1979, July 1980 to current year. Unpublished daily discharge records from November 1974 to February 1975 in District files.

REVISED RECORDS.--WDR WI-77-1: Drainage area. WRD WI-85-1: 1984. WRD WI-94-1: 1993(M). WRD WI-98-1: 1978(M, date).

GAGE.--Water-stage recorder, crest-stage gage, and steel plate weir. Datum of gage is 683.78 ft above NGVD of 1929 (Southeastern Wisconsin Regional Planning Commission bench mark). 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 datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	20	4.3	e7.0	e3.0	e4.0	29	4.5	3.8	4.1	2.3	2.1
2	5.6	14	3.3	62	e2.8	e4.0	26	4.3	3.9	3.0	2.3	2.2
3	2.1	4.6	2.8	8.4	e3.3	4.4	17	4.1	3.7	2.6	2.4	2.0
4	2.0	13	3.0	e5.8	e5.2	5.9	14	4.0	3.7	10	3.7	2.1
5	1.9	4.6	2.7	e4.9	11	7.3	12	3.9	13	5.2	2.2	2.1
6	2.1	3.5	19	e3.8	14	30	36	24	4.5	3.5	1.9	2.2
7	2.1	3.1	52	e3.4	48	47	32	9.7	6.4	3.1	2.0	2.4
8	3.9	2.9	12	e3.1	16	18	17	6.4	3.7	2.7	1.9	2.8
9	2.3	2.8	6.9	e2.9	9.8	12	13	19	3.3	2.7	2.0	2.2
10	2.1	2.8	17	e2.9	7.3	12	11	12	3.1	2.4	2.1	2.1
11	2.2	3.5	9.8	e3.2	6.3	10	9.6	45	3.1	2.6	2.3	2.2
12	2.3	2.5	6.0	154	7.0	9.5	9.2	12	3.1	5.0	17	2.1
13	2.3	2.5	4.4	82	33	7.2	8.2	20	22	4.3	2.8	3.0
14	2.2	2.4	4.1	21	90	5.5	7.3	11	6.7	2.8	2.2	1.9
15	4.3	2.6	e3.3	e10	33	6.1	6.9	8.1	4.0	2.5	2.0	2.0
16	3.6	2.6	e3.1	e8.0	17	6.9	6.6	6.7	3.3	2.6	2.0	4.6
17	2.4	2.7	e2.8	e7.0	11	6.7	6.8	6.0	3.1	2.6	2.0	1.8
18	2.2	2.7	e2.7	e6.6	8.0	9.0	6.2	5.7	3.2	2.6	18	1.8
19	2.4	23	e2.7	e6.0	6.5	31	5.9	68	3.1	2.6	3.7	15
20	2.1	8.5	e2.5	e4.8	8.5	19	10	17	2.7	16	6.1	2.4
21	2.3	4.0	e2.4	e4.4	11	19	6.6	10	2.9	23	2.4	1.8
22	2.4	3.2	e2.3	e4.3	7.8	17	12	8.2	2.9	4.9	2.1	59
23	24	2.8	e2.2	e4.2	6.2	14	7.0	7.2	2.7	16	2.0	6.5
24	4.5	2.6	e2.1	e5.3	5.7	14	6.0	6.1	2.8	6.1	2.0	4.4
25	2.9	2.4	e2.0	e5.1	5.8	14	5.8	5.5	3.9	3.8	2.3	144
26	2.9	2.4	e2.0	e4.6	5.5	14	5.7	5.1	42	22	2.5	40
27	3.2	15	e2.0	e4.4	e4.5	16	5.8	7.0	9.7	5.2	5.9	11
28	2.4	5.9	e2.1	e3.8	e4.2	17	5.0	6.7	8.7	3.9	2.8	8.0
29	3.9	3.4	e2.3	e3.4	---	18	4.9	4.7	3.9	2.8	2.2	4.7
30	15	3.2	e2.7	e3.2	---	30	4.9	4.4	17	2.5	2.1	3.3
31	3.5	---	e4.0	e3.1	---	24	---	4.1	---	2.4	2.1	---
TOTAL	122.1	169.2	190.5	452.6	391.4	452.5	347.4	360.4	199.9	175.5	109.3	341.7
MEAN	3.94	5.64	6.15	14.6	14.0	14.6	11.6	11.6	6.66	5.66	3.53	11.4
MAX	24	23	52	154	90	47	36	68	42	23	18	144
MIN	1.9	2.4	2.0	2.9	2.8	4.0	4.9	3.9	2.7	2.4	1.9	1.8
CFSM	0.22	0.31	0.34	0.80	0.77	0.80	0.64	0.64	0.37	0.31	0.19	0.63
IN.	0.25	0.35	0.39	0.93	0.80	0.92	0.71	0.74	0.41	0.36	0.22	0.70

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.66	10.7	9.91	8.61	13.6	22.1	26.2	18.9	17.1	12.9	15.7	12.6
MAX	26.9	42.1	27.2	39.1	37.9	73.4	73.6	59.4	68.8	37.5	98.1	56.0
(WY)	(1987)	(1986)	(1983)	(1988)	(2001)	(1979)	(1993)	(2004)	(1997)	(1999)	(1998)	(1986)
MIN	2.43	1.81	1.57	0.03	1.83	6.74	6.24	2.28	4.80	3.29	3.49	2.94
(WY)	(1976)	(1977)	(1977)	(1977)	(1977)	(1981)	(1977)	(1977)	(1976)	(1976)	(1976)	(2004)

04087088 UNDERWOOD CREEK AT WAUWATOSA, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1975 - 2005	
ANNUAL TOTAL	5,298.1		3,312.5			
ANNUAL MEAN	14.5		9.08		14.8	
HIGHEST ANNUAL MEAN					23.2	1993
LOWEST ANNUAL MEAN					4.21	1977
HIGHEST DAILY MEAN	335	May 22	154	Jan 12	1,420	Aug 6, 1998
LOWEST DAILY MEAN	1.9	Oct 5	1.8	(a)Sep 17	0.00	(b)
ANNUAL SEVEN-DAY MINIMUM	(c)2.1	Jan 26	2.1	Aug 5	0.00	Jan 11, 1977
MAXIMUM PEAK FLOW			1,130	Sep 25	(d)7,500	Aug 6, 1998
MAXIMUM PEAK STAGE			6.51	Sep 25	13.10	Aug 6, 1998
ANNUAL RUNOFF (CFSM)	0.795		0.499		0.811	
ANNUAL RUNOFF (INCHES)	10.83		6.77		11.02	
10 PERCENT EXCEEDS	31		18		30	
50 PERCENT EXCEEDS	5.2		4.4		6.9	
90 PERCENT EXCEEDS	2.2		2.2		3.0	

(a) Also occurred Sept. 18, 21
(b) No flow on all or part of many days during 1977 winter period
(c) Ice affected
(d) From rating curve extended above 96 ft^3/s based on slope-area measurement of peak flow
(e) Estimated

04087119 HONEY CREEK AT WAUWATOSA, WI

LOCATION.--Lat 43°02'38", long 88°00'10", in NW 1/4 NW 1/4 sec.27, T.7 N., R.21 E., Milwaukee County, Hydrologic Unit 04040003, on right bank in Honey Creek Parkway, 150 ft west of intersection of Honey Creek Parkway and 72nd Street, at Wauwatosa, and 260 ft upstream from Menomonee River.

DRAINAGE AREA.--10.3 mi^2.

PERIOD OF RECORD.--December 1974 to December 1979, July 1980 through April 14, 1981, April 2004 to current year.

GAGE.--Water-stage recorder. Datum of gage is 635 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good, except those periods of discharge over 500 ft^3/s, which are fair, and estimated daily discharges, which are poor (see Introduction).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	27	3.9	8.3	2.0	3.3	32	1.6	1.6	e3.0	2.2	1.4
2	6.1	16	2.9	106	2.1	2.9	12	1.6	1.5	e1.7	2.1	1.2
3	1.3	3.4	1.8	4.8	3.4	2.7	6.2	1.6	1.5	e1.8	2.4	1.2
4	1.3	14	1.8	3.4	7.3	2.5	4.6	1.6	1.6	e11	9.4	1.2
5	1.3	2.4	1.7	2.6	14	6.2	3.6	1.6	17	e5.0	1.9	1.3
6	1.3	1.7	20	2.5	16	28	39	23	1.8	e3.0	1.8	1.4
7	1.3	1.5	68	2.3	55	25	20	3.7	18	e1.8	1.6	1.5
8	3.8	1.5	6.2	2.1	10	7.0	6.1	2.2	3.0	e1.5	1.7	1.7
9	1.4	1.6	3.4	1.9	6.2	4.5	4.1	14	1.6	e1.1	1.8	1.3
10	1.2	1.5	16	2.2	4.5	5.9	3.4	4.2	1.6	e1.2	1.8	1.3
11	1.2	3.3	5.9	2.4	3.7	5.0	3.0	52	1.6	e1.6	1.8	1.2
12	1.3	1.6	2.9	224	5.4	4.4	3.2	3.5	1.5	e5.4	27	1.3
13	1.3	1.5	2.3	46	52	3.0	2.5	11	e28	e3.7	1.7	1.3
14	1.3	1.4	2.3	7.7	80	2.7	2.3	3.1	e8.7	e1.2	1.7	1.5
15	4.5	1.5	1.8	4.2	19	2.7	2.2	2.0	e3.4	e1.2	1.4	1.4
16	2.2	1.6	1.8	3.1	8.4	3.3	2.1	1.8	e2.3	e1.2	1.5	5.8
17	1.4	1.6	1.7	3.3	5.0	3.1	2.4	1.8	e1.6	e1.2	1.5	1.6
18	1.5	1.5	1.7	3.6	4.0	6.3	1.9	2.3	e1.7	e1.2	24	1.4
19	1.8	29	1.5	2.8	3.6	41	2.0	79	e1.7	e1.2	2.8	17
20	1.5	5.6	1.6	2.7	6.3	11	5.0	5.0	e1.2	e20	7.1	1.6
21	1.4	2.1	1.7	2.5	14	6.6	2.2	2.7	e1.2	e31	1.5	1.4
22	1.4	1.8	1.6	2.3	6.8	5.5	7.1	2.2	e1.5	3.6	1.5	83
23	35	1.7	1.6	2.1	4.6	4.8	2.4	2.5	e1.5	27	1.4	1.9
24	2.4	1.7	1.7	5.5	4.0	4.5	1.8	2.3	e1.5	4.6	1.3	1.5
25	1.6	1.9	1.8	3.4	3.9	4.6	1.8	1.8	e2.5	3.3	1.4	322
26	1.8	1.5	1.6	2.8	2.8	4.1	1.9	2.2	e58	30	1.3	79
27	2.3	18	1.9	2.4	2.7	3.9	2.2	4.2	e12	2.6	2.1	3.9
28	1.5	3.9	1.6	2.1	4.8	4.1	1.8	3.0	e7.1	2.0	1.2	6.3
29	2.9	2.0	1.8	2.0	---	4.2	1.7	1.6	e2.3	2.1	1.3	3.1
30	13	1.9	2.3	2.1	---	19	1.6	1.5	e18	1.8	1.6	1.9
31	1.8	---	3.2	2.0	---	7.4	---	1.9	---	1.8	1.4	---
TOTAL	107.6	155.7	170.0	465.1	351.5	239.2	182.1	242.5	206.5	178.8	113.2	551.6
MEAN	3.47	5.19	5.48	15.0	12.6	7.72	6.07	7.82	6.88	5.77	3.65	18.4
MAX	35	29	68	224	80	41	39	79	58	31	27	322
MIN	1.2	1.4	1.5	1.9	2.0	2.5	1.6	1.5	1.2	1.1	1.2	1.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.29	5.13	5.27	3.92	8.32	18.3	15.0	13.7	9.92	9.18	10.3	8.79
MAX	6.32	7.92	8.91	15.0	16.4	45.0	32.7	42.0	19.4	16.5	17.6	20.6
(WY)	(1978)	(1976)	(1978)	(2005)	(1976)	(1979)	(1981)	(2004)	(2004)	(2004)	(1980)	(1978)
MIN	2.61	1.26	0.89	0.10	1.17	2.59	5.75	2.17	4.45	3.71	3.65	1.71
(WY)	(1976)	(1977)	(1977)	(1977)	(1978)	(1981)	(1977)	(1977)	(1976)	(1975)	(2005)	(2004)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR (April - December)		FOR 2005 WATER YEAR		WATER YEARS 1975 - 2005	
ANNUAL TOTAL	3675.1		2,963.8			
ANNUAL MEAN	13.4		8.12		9.32	
HIGHEST ANNUAL MEAN					17.7	2004
LOWEST ANNUAL MEAN					6.26	1977
HIGHEST DAILY MEAN	268	May 22	322	Sep 25	322	Sep 25, 2005
LOWEST DAILY MEAN	1.1	Sep 26	(e)1.1	Jul 9	0.02	Jan 16, 1977
ANNUAL SEVEN-DAY MINIMUM	1.2	Sep 23	1.3	Aug 31	0.02	Jan 15, 1977
MAXIMUM PEAK FLOW			2,010	Sep 25	(a)2,640	Jul 4, 2004
MAXIMUM PEAK STAGE			13.96	Sep 25	(b)15.84	Sep 9, 1980
10 PERCENT EXCEEDS	30		17		20	
50 PERCENT EXCEEDS	2.4		2.3		2.5	
90 PERCENT EXCEEDS	1.3		1.4		1.1	

(a) Gage height, 15.08 ft
(b) Discharge, 1,240 ft^3/s, datum then in use
(e) Estimated

04087120 MENOMONEE RIVER AT WAUWATOSA, WI

LOCATION.--Lat 43°02'44", long 87°59'59", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ 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 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 628.86 ft above NGVD of 1929. 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.--Records good except those for Nov. 16, 17, and Sept. 29 and 30, which are fair, and Dec. 17-27, Jan. 6-11, 16-24, 28-30, and Feb. 28 to Mar. 2, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	99	31	33	28	e40	373	27	25	22	12	11
2	45	116	26	359	28	e36	350	27	37	14	12	9.7
3	18	40	22	86	31	40	242	27	23	11	12	8.2
4	13	72	21	51	48	39	183	26	22	92	22	7.6
5	12	37	19	33	84	55	146	25	67	52	12	7.4
6	12	24	112	e27	116	202	240	149	25	25	11	7.0
7	13	20	334	e25	450	524	303	71	38	19	8.8	8.0
8	19	19	126	e23	396	346	181	37	29	15	8.3	11
9	16	18	63	e22	223	209	129	97	17	13	8.5	9.9
10	13	17	116	e22	126	141	100	81	16	11	8.7	8.1
11	12	23	96	e25	88	103	85	301	15	10	9.4	7.4
12	13	19	55	612	83	82	76	111	14	18	113	7.9
13	13	17	41	955	213	63	64	167	112	57	17	25
14	14	16	30	310	722	59	57	103	40	16	11	46
15	23	16	30	186	540	54	53	73	19	12	9.7	15
16	20	e17	28	e95	341	56	48	58	15	10	9.4	24
17	15	e17	e23	e70	183	62	48	48	14	9.2	8.4	11
18	14	18	e22	e54	108	77	51	45	14	10	101	8.5
19	15	117	e21	e44	95	193	44	370	12	9.0	35	78
20	15	78	e20	e35	80	132	77	131	11	58	32	23
21	15	34	e19	e33	109	129	46	86	11	140	14	15
22	14	24	e18	e30	83	140	56	74	10	57	9.8	336
23	140	21	e17	e28	63	134	41	63	10	92	8.7	52
24	55	19	e16	e30	58	146	36	51	10	61	7.9	25
25	25	18	e15	35	59	204	33	42	46	33	8.6	580
26	21	17	e14	35	48	192	33	39	244	167	8.5	300
27	22	80	e14	31	46	219	33	41	69	38	89	51
28	18	57	16	e28	e44	257	31	47	44	23	37	38
29	22	32	17	e26	---	295	30	35	37	17	21	e27
30	63	26	19	e25	---	369	29	28	85	14	15	e20
31	22	---	28	27	---	368	---	27	---	12	12	---
TOTAL	752	1,128	1,429	3,395	4,493	4,966	3,218	2,507	1,131	1,137.2	692.7	1,777.7
MEAN	24.3	37.6	46.1	110	160	160	107	80.9	37.7	36.7	22.3	59.3
MAX	140	117	334	955	722	524	373	370	244	167	113	580
MIN	12	16	14	22	28	36	29	25	10	9.0	7.9	7.0
CFSM	0.20	0.31	0.37	0.89	1.30	1.30	0.87	0.66	0.31	0.30	0.18	0.48
IN.	0.23	0.34	0.43	1.03	1.36	1.50	0.97	0.76	0.34	0.34	0.21	0.54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	62.5	77.4	74.0	57.9	98.5	196	202	130	115	77.6	75.0	80.6
MAX	232	422	222	191	277	582	715	665	566	257	278	562
(WY)	(1982)	(1986)	(1988)	(1974)	(2001)	(1979)	(1993)	(2004)	(1997)	(1964)	(1998)	(1986)
MIN	7.15	11.9	4.65	4.45	4.18	17.5	28.7	17.1	12.6	10.6	10.5	6.50
(WY)	(1964)	(1963)	(1964)	(1963)	(1963)	(1968)	(1963)	(1977)	(1962)	(1963)	(1962)	(1963)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1962 - 2005	
ANNUAL TOTAL	51,209		26,626.6			
ANNUAL MEAN	140		72.9		104	
HIGHEST ANNUAL MEAN					195	1986
LOWEST ANNUAL MEAN					24.0	1963
HIGHEST DAILY MEAN	2,400	May 22	955	Jan 13	7,520	Jun 21, 1997
LOWEST DAILY MEAN	11	Sep 25-30	7.0	Sep 6	(a)2.8	Jan 18, 1964
ANNUAL SEVEN-DAY MINIMUM	11	Sep 24	8.4	Sep 5	(a)3.1	Feb 22, 1963
MAXIMUM PEAK FLOW			3,200	Sep 25	(b)13,500	(c)Apr 21, 1973
MAXIMUM PEAK STAGE			9.22	Sep 25	(d)18.63	Jun 21, 1997
ANNUAL RUNOFF (CFSM)	1.14		0.593		0.844	
ANNUAL RUNOFF (INCHES)	15.49		8.05		11.46	
10 PERCENT EXCEEDS	356		184		235	
50 PERCENT EXCEEDS	38		32		44	
90 PERCENT EXCEEDS	14		11		14	

04087120 MENOMONEE RIVER AT WAUWATOSA, WI—Continued

(a) Ice affected
(b) From rating curve extended above 6,000 ft^3/s on basis of slope-area measurement of peak flow, gage height, 13.92 ft, datum then in use
(c) Also occurred June 21, 1997, discharge determined from rating curve extended above 9,430 ft^3/s on basis of slope-area measurement of peak flow
(d) High-water mark on gage-house door was 18.87 ft
(e) Estimated

04087120 MENOMONEE RIVER AT WAUWATOSA, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1966 to September 1977, June 1982 to September 1984, June 2004 to September 2005.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: January 1975 to September 1975, June 1982 to September 1984, June 2004 to September 2005.
TOTAL PHOSPHORUS DISCHARGE: June 2004 to September 2005.
CHLORIDE DISCHARGE: June 2004 to September 2005.

INSTRUMENTATION.--Automatic pumping sampler January 1975 to September 1977, June 1982 to September 1984, June 2004 to September 2005.

EXTREMES FOR PERIOD OF RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 2,500 tons, Mar. 22, 1975; minimum daily, 0.8 tons, Nov. 8, 2004.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 1,730 lbs, July 4, 2004; minimum daily, 4.38 lbs, Dec. 27, 2004.
CHLORIDE DISCHARGE: Maximum daily, 970 tons, Feb. 14, 2005; minimum daily, 3.12 tons, Jan. 1, 2005.

EXTREMES FOR WATER YEAR 2004.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 637 tons, June 13, 2004; minimum daily, 0.20 tons, Sept. 26-27, 2004.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 1,730 lbs, July 4, 2004; minimum daily, 4.82 lbs, Sept. 27, 2004.
CHLORIDE DISCHARGE: Maximum daily, 142 tons, July 4, 2004; minimum daily, 4.81 tons, Sept. 27, 2004.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 391 tons, Jan. 13; minimum daily, 0.08 tons, Nov. 18.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 1,020 lbs, Jan. 13; minimum daily, 4.38 lbs, Dec. 27.
CHLORIDE DISCHARGE: Maximum daily, 970 tons, Feb. 14; minimum daily, 3.12 tons, Jan. 1.

SUSPENDED SEDIMENT DISCHARGE, TONS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	88	1.8	0.47	0.58
2	---	---	---	---	---	---	---	---	55	1.5	0.52	0.52
3	---	---	---	---	---	---	---	---	31	129	218	0.48
4	---	---	---	---	---	---	---	---	16	637	27	0.44
5	---	---	---	---	---	---	---	---	8.5	42	1.4	0.41
6	---	---	---	---	---	---	---	---	5.6	24	0.95	0.36
7	---	---	---	---	---	---	---	---	3.7	64	0.79	0.34
8	---	---	---	---	---	---	---	---	3.1	9.4	0.68	0.34
9	---	---	---	---	---	---	---	---	3.1	5.8	3.1	0.32
10	---	---	---	---	---	---	---	---	62	3.9	0.68	0.30
11	---	---	---	---	---	---	---	---	109	50	0.58	0.31
12	---	---	---	---	---	---	---	---	54	24	0.56	0.29
13	---	---	---	---	---	---	---	---	42	4.0	0.54	0.28
14	---	---	---	---	---	---	---	---	94	2.8	0.50	0.28
15	---	---	---	---	---	---	---	---	34	2.1	0.47	1.1
16	---	---	---	---	---	---	---	---	43	1.7	0.47	1.9
17	---	---	---	---	---	---	---	---	63	1.6	1.8	0.32
18	---	---	---	---	---	---	---	---	30	1.3	0.82	0.26
19	---	---	---	---	---	---	---	---	17	1.2	0.50	0.24
20	---	---	---	---	---	---	---	---	9.8	1.1	0.44	0.25
21	---	---	---	---	---	---	---	---	35	3.2	0.40	0.23
22	---	---	---	---	---	---	---	---	9.0	1.0	0.35	0.23
23	---	---	---	---	---	---	---	---	5.5	0.84	0.34	0.24
24	---	---	---	---	---	---	---	---	14	0.72	25	0.22
25	---	---	---	---	---	---	---	---	6.8	0.62	19	0.21
26	---	---	---	---	---	---	---	---	4.1	0.55	0.63	0.20
27	---	---	---	---	---	---	---	---	3.7	0.53	55	0.20
28	---	---	---	---	---	---	---	---	7.5	0.52	40	0.21
29	---	---	---	---	---	---	---	---	2.9	0.50	15	0.21
30	---	---	---	---	---	---	---	---	2.2	0.50	2.2	0.21
31	---	---	---	---	---	---	---	---	---	0.49	0.70	---
TOTAL	---	---	---	---	---	---	---	---	862.5	1,017.67	418.89	11.48

04087120 MENOMONEE RIVER AT WAUWATOSA, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	480	28.2	6.45	12.2
2	---	---	---	---	---	---	---	---	318	25.1	7.12	11.1
3	---	---	---	---	---	---	---	---	196	345	612	10.5
4	---	---	---	---	---	---	---	---	110	1,730	155	9.79
5	---	---	---	---	---	---	---	---	64.0	275	17.5	9.25
6	---	---	---	---	---	---	---	---	45.0	180	11.3	8.19
7	---	---	---	---	---	---	---	---	31.4	277	9.43	7.76
8	---	---	---	---	---	---	---	---	28.0	97.4	8.26	7.88
9	---	---	---	---	---	---	---	---	29.8	73.2	26.8	7.52
10	---	---	---	---	---	---	---	---	304	59.3	8.42	7.18
11	---	---	---	---	---	---	---	---	509	173	7.28	7.51
12	---	---	---	---	---	---	---	---	389	130	7.11	7.04
13	---	---	---	---	---	---	---	---	312	41.5	7.03	7.04
14	---	---	---	---	---	---	---	---	508	29.8	6.61	7.12
15	---	---	---	---	---	---	---	---	229	32.0	6.28	13.0
16	---	---	---	---	---	---	---	---	212	17.8	6.29	20.8
17	---	---	---	---	---	---	---	---	281	17.0	18.4	10.2
18	---	---	---	---	---	---	---	---	170	14.6	10.4	7.43
19	---	---	---	---	---	---	---	---	123	13.6	6.97	6.70
20	---	---	---	---	---	---	---	---	87.7	12.6	6.20	6.95
21	---	---	---	---	---	---	---	---	191	32.2	5.72	6.25
22	---	---	---	---	---	---	---	---	85.9	12.7	5.06	6.06
23	---	---	---	---	---	---	---	---	58.6	10.6	4.98	6.19
24	---	---	---	---	---	---	---	---	108	9.26	149	5.75
25	---	---	---	---	---	---	---	---	69.0	8.25	115	5.19
26	---	---	---	---	---	---	---	---	51.0	7.53	10.7	4.96
27	---	---	---	---	---	---	---	---	48.4	7.26	263	4.82
28	---	---	---	---	---	---	---	---	74.0	7.11	208	5.09
29	---	---	---	---	---	---	---	---	41.1	6.82	96.2	4.83
30	---	---	---	---	---	---	---	---	33.5	6.81	21.4	4.92
31	---	---	---	---	---	---	---	---	---	6.70	14.7	---
TOTAL	---	---	---	---	---	---	---	---	5,187.4	3,687.34	1,838.61	239.22

CHLORIDE, WATER, FILTERED, TONS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	117	21.7	10.7	10.6
2	---	---	---	---	---	---	---	---	101	19.7	11.8	9.92
3	---	---	---	---	---	---	---	---	85.2	49.2	33.7	9.54
4	---	---	---	---	---	---	---	---	69.4	142	36.3	8.97
5	---	---	---	---	---	---	---	---	57.2	71.4	16.3	8.55
6	---	---	---	---	---	---	---	---	50.4	59.9	12.7	7.64
7	---	---	---	---	---	---	---	---	47.9	66.9	11.6	7.30
8	---	---	---	---	---	---	---	---	42.4	51.5	10.4	7.48
9	---	---	---	---	---	---	---	---	44.9	44.7	16.6	7.20
10	---	---	---	---	---	---	---	---	76.2	40.4	10.8	6.93
11	---	---	---	---	---	---	---	---	129	49.6	9.47	7.32
12	---	---	---	---	---	---	---	---	121	55.1	9.36	6.92
13	---	---	---	---	---	---	---	---	108	32.4	9.37	6.97
14	---	---	---	---	---	---	---	---	104	26.9	8.92	7.12
15	---	---	---	---	---	---	---	---	76.8	22.4	8.58	10.7
16	---	---	---	---	---	---	---	---	62.7	20.8	8.69	10.8
17	---	---	---	---	---	---	---	---	89.0	21.0	12.2	6.97
18	---	---	---	---	---	---	---	---	67.5	18.8	9.80	6.09
19	---	---	---	---	---	---	---	---	55.3	18.3	9.98	5.78
20	---	---	---	---	---	---	---	---	44.2	17.7	8.99	6.10
21	---	---	---	---	---	---	---	---	68.8	18.7	8.38	5.59
22	---	---	---	---	---	---	---	---	47.2	19.1	7.50	5.52
23	---	---	---	---	---	---	---	---	38.7	16.2	7.48	5.74
24	---	---	---	---	---	---	---	---	51.4	14.6	19.8	5.43
25	---	---	---	---	---	---	---	---	40.8	13.3	29.2	4.99
26	---	---	---	---	---	---	---	---	35.9	12.4	8.64	4.86
27	---	---	---	---	---	---	---	---	34.7	12.0	31.3	4.81
28	---	---	---	---	---	---	---	---	42.3	11.8	28.8	5.17
29	---	---	---	---	---	---	---	---	30.5	11.3	21.9	5.00
30	---	---	---	---	---	---	---	---	25.3	11.3	12.8	5.18
31	---	---	---	---	---	---	---	---	---	11.1	12.4	---
TOTAL	---	---	---	---	---	---	---	---	1,964.7	1,002.2	454.46	211.19

04087120 MENOMONEE RIVER AT WAUWATOSA, WI—Continued

WATER-QUALITY RECORDS--Continued

SUSPENDED SEDIMENT DISCHARGE, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	11	0.27	0.44	0.40	0.57	59	0.51	0.53	0.98	0.33	0.15
2	7.1	7.5	0.20	54	0.39	0.51	52	0.51	0.76	0.52	0.30	0.13
3	0.35	0.76	0.12	3.0	0.43	0.56	25	0.51	0.46	0.35	0.31	0.11
4	0.16	2.6	0.11	1.1	0.94	0.55	14	0.49	0.43	13	0.85	0.10
5	0.14	0.46	0.11	0.47	2.9	1.2	8.9	0.48	7.0	4.3	0.28	0.10
6	0.14	0.22	5.5	0.38	5.6	17	49	65	0.48	1.4	0.25	0.09
7	0.14	0.14	44	0.35	86	116	36	6.7	2.4	0.78	0.20	0.11
8	0.27	0.10	5.4	0.32	66	50	7.3	1.2	0.53	0.48	0.18	0.15
9	0.16	0.10	1.2	0.30	21	18	4.5	24	0.30	0.32	0.18	0.13
10	0.13	0.09	4.5	0.30	6.6	8.2	3.2	6.4	0.27	0.20	0.18	0.11
11	0.11	0.41	3.0	0.34	3.2	4.4	2.6	88	0.25	0.14	0.19	0.10
12	0.11	0.10	1.2	159	2.8	2.8	2.2	4.7	0.24	0.58	19	0.11
13	0.11	0.09	0.81	391	19	1.6	1.7	12	62	20	0.31	0.53
14	0.11	0.08	0.56	40	222	1.4	1.5	4.4	2.8	0.20	0.21	1.6
15	0.41	0.09	0.52	14	124	0.73	1.3	1.7	0.59	0.12	0.17	0.19
16	0.30	0.09	0.44	3.7	49	0.75	1.1	1.2	0.27	0.11	0.16	0.31
17	0.12	0.09	0.37	2.0	14	0.82	1.1	0.91	0.22	0.10	0.14	0.15
18	0.11	0.09	0.35	1.2	4.8	2.4	1.1	0.77	0.23	0.11	25	0.11
19	0.12	15	0.33	0.79	3.7	16	0.87	94	0.20	0.10	3.0	4.9
20	0.12	6.0	0.32	0.60	2.6	7.2	2.4	5.3	0.19	38	2.0	0.38
21	0.12	0.97	0.30	0.55	4.9	6.9	0.88	2.3	0.18	31	0.40	0.20
22	0.12	0.45	0.28	0.50	2.8	8.1	1.3	2.0	0.17	8.0	0.24	104
23	21	0.11	0.26	0.45	1.7	7.4	0.77	1.6	0.16	25	0.19	2.1
24	2.7	0.11	0.25	0.48	1.4	8.9	0.68	1.3	0.17	6.0	0.15	0.33
25	0.59	0.10	0.23	0.56	0.80	17	0.62	1.0	3.4	1.2	0.14	353
26	0.38	0.09	0.21	0.54	0.70	15	0.62	0.93	90	41	0.13	78
27	0.34	2.5	0.21	0.47	0.66	20	0.62	0.97	5.6	3.4	15	1.8
28	0.23	0.59	0.24	0.42	0.63	28	0.58	1.1	2.2	1.1	2.0	0.87
29	0.37	0.17	0.25	0.38	---	37	0.56	0.78	1.3	0.53	0.50	0.56
30	11	0.14	0.28	0.36	---	57	0.55	0.61	15	0.40	0.21	0.39
31	0.48	---	0.41	0.38	---	57	---	0.59	---	0.35	0.16	---
TOTAL	50.44	50.24	72.23	678.38	648.95	512.99	281.95	331.96	198.33	199.77	72.36	550.81

WTR YR 2005 TOTAL 3,648.41

04087120 MENOMONEE RIVER AT WAUWATOSA, WI—Continued

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.06	90.0	17.0	10.4	6.91	9.73	235	6.61	14.7	20.6	11.3	8.44
2	29.0	113	13.2	222	6.88	8.75	213	6.61	21.5	12.9	10.6	7.51
3	7.64	18.4	4.93	23.8	7.65	9.61	120	6.54	13.2	10.1	11.0	6.46
4	5.56	41.7	4.66	15.9	11.6	9.41	77.3	6.32	12.5	132	25.9	6.01
5	5.15	17.0	4.39	10.3	22.9	13.3	54.3	6.15	41.7	69.0	10.6	5.91
6	5.33	10.2	25.4	8.46	37.9	90.2	199	341	14.4	21.6	9.55	5.61
7	5.53	8.07	227	7.83	316	400	171	54.8	48.3	16.1	7.96	6.51
8	8.60	7.01	54.6	7.21	258	209	48.3	22.8	16.3	12.8	7.48	9.01
9	7.14	6.71	21.8	6.89	105	95.2	31.4	119	9.39	10.9	7.59	8.16
10	5.97	6.38	37.8	6.89	43.2	51.4	24.2	48.0	8.60	9.01	7.76	6.72
11	5.55	8.75	31.0	7.83	24.6	31.5	20.7	334	8.16	8.32	8.40	6.23
12	5.72	7.02	17.6	510	22.5	22.1	18.4	65.7	7.83	14.4	167	6.72
13	5.69	6.22	13.0	1,020	98.0	15.3	15.6	162	165	119	14.8	21.2
14	6.31	5.86	9.58	176	661	14.3	13.8	79.0	51.4	12.8	10.1	41.9
15	11.1	6.07	9.48	79.3	420	13.2	12.8	43.1	23.1	9.20	8.57	12.4
16	9.17	6.34	8.28	27.8	204	13.6	11.8	34.0	17.4	8.22	8.30	20.2
17	6.82	6.33	7.20	17.0	77.3	15.0	11.7	28.3	15.6	7.37	7.37	9.49
18	6.15	6.53	6.89	13.1	33.9	20.0	12.5	26.2	16.3	8.18	164	7.21
19	6.67	114	6.58	10.7	27.8	84.0	10.6	391	14.2	7.20	31.0	77.9
20	6.64	63.9	6.27	8.52	21.2	46.4	51.3	84.8	13.1	204	30.1	19.9
21	6.75	19.4	5.95	8.02	34.4	44.8	12.5	54.8	13.0	213	12.8	12.9
22	6.52	11.8	5.64	7.29	22.5	50.9	32.0	47.3	11.7	76.6	8.87	434
23	175	7.88	5.33	6.81	15.4	47.5	9.94	39.8	11.5	149	7.78	48.3
24	30.9	7.25	5.01	7.29	14.1	54.3	8.73	31.9	11.7	67.2	7.02	21.2
25	11.8	6.81	4.70	8.62	14.3	91.6	7.97	26.3	60.0	29.9	7.59	942
26	8.67	6.32	4.39	8.47	11.8	83.3	8.03	24.0	510	230	7.49	323
27	9.25	34.8	4.38	7.47	11.1	102	8.02	25.1	76.9	37.3	127	42.1
28	7.49	15.0	5.06	6.81	10.7	132	7.48	28.8	50.7	21.3	46.9	31.1
29	11.1	7.32	5.37	6.32	---	163	7.21	21.0	40.5	15.7	16.7	22.2
30	87.0	5.92	5.88	6.08	---	231	7.08	16.6	118	12.9	11.3	16.1
31	9.96	---	8.72	6.45	---	230	---	16.2	---	11.5	9.04	---
TOTAL	523.24	671.99	587.09	2,269.56	2,540.64	2,402.40	1,461.66	2,197.73	1,436.68	1,578.10	821.87	2,186.39

WTR YR 2005 TOTAL 18,677.35

04087120 MENOMONEE RIVER AT WAUWATOSA, WI—Continued

CHLORIDE, WATER, FILTERED, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.49	24.9	10.4	3.12	26.1	34.6	200	18.0	16.6	5.76	6.26	5.31
2	13.8	28.1	9.10	72.4	25.8	31.2	189	18.0	24.5	4.25	5.88	4.83
3	8.12	12.4	13.0	76.0	28.5	34.6	136	17.8	15.2	3.68	6.13	4.24
4	5.91	20.0	12.7	58.6	42.8	34.6	107	17.2	14.6	22.0	8.55	4.00
5	5.48	11.1	12.1	41.8	75.2	49.8	88.0	16.7	37.4	15.1	5.96	3.96
6	5.67	8.52	70.5	37.4	102	188	119	67.1	17.2	9.04	5.42	3.79
7	5.89	7.87	205	37.9	396	497	168	42.8	25.1	7.12	4.54	4.44
8	7.21	7.69	76.9	38.1	345	335	114	23.9	20.0	5.98	4.29	6.15
9	7.59	7.51	37.6	39.9	335	207	84.2	51.8	11.7	5.42	4.38	5.54
10	6.36	7.20	68.3	43.6	250	142	65.6	44.0	10.8	4.71	4.50	4.54
11	5.91	8.32	55.5	54.1	157	106	56.5	100	10.4	4.60	4.90	4.19
12	6.09	8.07	31.0	653	135	86.6	50.1	45.7	10.1	8.46	25.2	4.50
13	6.06	7.20	22.6	273	308	67.8	42.6	71.3	34.9	16.2	8.71	12.8
14	6.73	6.85	16.4	284	970	64.8	37.6	50.7	16.0	8.30	6.00	18.3
15	8.32	7.16	16.0	194	659	60.8	34.8	45.6	11.7	6.22	5.10	8.30
16	7.49	7.54	13.8	98.3	377	61.6	32.1	36.0	10.6	5.56	4.97	13.5
17	7.36	7.60	12.0	71.9	184	58.7	31.9	30.2	9.64	4.98	4.44	6.33
18	6.66	7.90	11.5	55.0	98.1	61.8	34.0	28.0	10.1	5.53	40.8	4.82
19	7.24	28.3	11.0	44.5	81.4	133	28.9	141	8.78	4.87	13.6	25.0
20	7.24	20.8	10.5	35.1	68.7	87.8	41.3	73.1	8.07	12.7	13.0	13.3
21	7.39	11.2	9.96	32.8	93.4	84.5	30.6	53.9	8.02	25.9	6.01	8.64
22	7.16	8.59	9.44	29.6	71.3	90.3	33.0	47.1	7.26	12.3	4.38	58.9
23	37.3	9.96	8.93	27.5	54.4	85.7	27.1	40.2	7.11	25.6	4.03	19.7
24	16.5	9.24	8.41	29.2	49.9	91.9	23.8	32.6	7.21	16.7	3.82	14.2
25	8.09	8.77	8.12	34.3	50.5	118	21.7	27.1	28.7	10.5	4.34	80.5
26	6.77	8.21	8.27	33.4	41.7	112	21.9	25.1	66.5	42.0	4.50	55.9
27	7.70	27.2	9.03	29.3	39.4	126	21.8	26.6	20.5	12.2	26.9	18.2
28	6.64	19.2	11.4	26.5	38.1	144	20.4	29.2	15.3	9.29	13.5	16.8
29	8.05	13.4	13.2	24.4	---	163	19.6	22.8	10.9	8.23	8.64	13.5
30	15.8	13.0	15.8	23.3	---	198	19.3	18.3	18.2	7.02	6.75	10.9
31	7.63	---	19.1	24.5	---	197	---	18.0	---	6.30	5.56	---
TOTAL	271.65	373.80	837.56	2,526.52	5,103.3	3,753.1	1,899.8	1,279.8	513.09	336.52	271.06	455.08

WTR YR 2005 TOTAL 17,621.28

040871473 WILSON PARK CREEK AT GMIA INFALL AT MILWAUKEE, WI

LOCATION.--Lat 42°56'42", long 87°53'10", in SW 1/4 SW 1/4 sec.27, T.6 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, 150 ft northwest of Grange Avenue gate on General Mitchell International Airport property, at Milwaukee.

DRAINAGE AREA.--0.89 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1996 to May 1997, November 1997 to current year.

REVISED RECORDS.--WDR WI-98-1: 1997 (M, February monthly).

GAGE.--Water-stage recorder. Elevation of gage is 665 ft above NGVD of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor (see Introduction).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.09	2.1	0.40	0.49	e0.06	0.39	2.2	0.03	0.06	0.07	0.00	0.00
2	0.31	1.1	0.10	6.7	e0.06	0.19	0.92	0.03	0.06	0.04	0.00	0.00
3	0.03	0.14	0.06	0.52	e0.08	0.20	0.48	0.03	0.06	0.03	0.00	0.00
4	0.03	1.2	0.10	0.29	e0.18	0.21	0.35	0.03	0.06	0.15	0.19	0.00
5	0.03	0.09	0.06	0.29	e0.40	0.59	0.32	0.02	0.47	0.07	0.05	0.00
6	0.03	0.06	1.2	0.20	0.71	2.5	0.85	0.67	0.05	0.03	0.02	0.00
7	0.03	0.05	4.2	0.14	2.7	2.1	1.00	0.16	7.0	0.03	0.00	0.00
8	0.24	0.03	0.37	0.11	0.84	0.62	0.34	0.06	2.6	0.01	0.00	0.00
9	0.06	0.03	0.18	0.11	0.59	0.53	0.26	0.43	0.24	0.00	0.00	0.00
10	0.03	0.03	1.7	0.11	0.51	0.57	0.23	0.11	0.15	0.00	0.00	0.00
11	0.03	0.27	0.61	0.16	0.38	0.52	0.18	3.0	0.11	0.00	0.01	0.00
12	0.03	0.03	0.24	7.3	0.53	0.43	0.16	0.16	0.09	0.28	1.7	0.00
13	0.03	0.03	0.12	5.3	3.0	0.28	0.13	1.9	0.06	3.8	0.05	0.00
14	0.03	0.02	0.08	0.56	6.9	0.26	0.12	0.23	0.10	0.13	0.03	0.02
15	0.65	0.01	0.08	e0.24	1.8	0.26	0.12	0.14	0.18	0.06	0.00	0.00
16	0.13	0.03	0.09	e0.16	0.88	0.41	0.10	0.09	0.05	0.05	0.00	1.0
17	0.06	0.03	0.06	e0.12	0.53	0.28	0.10	0.09	0.03	0.03	0.00	0.02
18	0.03	0.01	0.06	e0.10	0.37	0.51	0.07	0.08	0.03	0.00	0.91	0.00
19	0.05	2.0	0.01	e0.09	0.38	2.2	0.06	5.8	0.02	0.00	0.08	0.69
20	0.04	0.34	e0.01	e0.08	0.46	0.69	0.30	0.47	0.01	0.25	0.59	0.03
21	0.03	0.06	e0.01	e0.08	1.1	0.65	0.08	0.24	0.01	1.8	0.03	0.00
22	0.03	0.06	e0.01	e0.07	0.61	0.60	0.94	0.20	0.00	0.13	0.00	3.5
23	1.8	0.05	e0.01	e0.07	0.44	0.52	0.16	0.18	0.01	1.2	0.00	0.09
24	0.12	0.06	e0.01	e0.07	0.35	0.54	0.09	0.13	0.01	0.32	0.00	0.01
25	0.06	0.06	e0.01	e0.08	0.29	0.48	0.07	0.13	0.02	0.28	0.00	9.1
26	0.07	0.04	e0.01	e0.08	0.22	0.44	0.07	0.12	2.0	0.87	0.00	12
27	0.15	1.5	e0.01	e0.07	0.23	0.44	0.11	0.11	0.20	0.09	0.01	0.28
28	0.06	0.22	e0.01	e0.07	0.54	0.49	0.06	0.13	0.06	0.03	0.00	1.4
29	0.06	0.06	e0.01	e0.07	---	0.44	0.04	0.09	0.05	0.00	0.00	0.38
30	0.74	0.12	e0.06	e0.06	---	0.67	0.03	0.08	1.1	0.00	0.00	0.10
31	0.07	---	e0.14	e0.06	---	0.49	---	0.06	---	0.00	0.00	---
TOTAL	5.15	9.83	10.02	23.85	25.14	19.50	9.94	15.00	14.89	9.75	3.67	28.62
MEAN	0.17	0.33	0.32	0.77	0.90	0.63	0.33	0.48	0.50	0.31	0.12	0.95
MAX	1.8	2.1	4.2	7.3	6.9	2.5	2.2	5.8	7.0	3.8	1.7	12
MIN	0.03	0.01	0.01	0.06	0.06	0.19	0.03	0.02	0.00	0.00	0.00	0.00
CFSM	0.19	0.37	0.36	0.86	1.01	0.71	0.37	0.54	0.56	0.35	0.13	1.07
IN.	0.22	0.41	0.42	1.00	1.05	0.82	0.42	0.63	0.62	0.41	0.15	1.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.38	0.36	0.24	0.38	0.87	0.73	1.16	1.41	1.03	0.71	0.66	0.67
MAX	1.41	0.72	0.50	1.08	2.47	1.48	2.56	3.09	1.88	2.06	1.43	1.91
(WY)	(2002)	(1999)	(2002)	(1999)	(2001)	(1998)	(1999)	(2000)	(1999)	(2000)	(2000)	(2000)
MIN	0.16	0.09	0.08	0.02	0.05	0.27	0.33	0.48	0.24	0.17	0.03	0.05
(WY)	(2004)	(2000)	(2001)	(2003)	(2003)	(2003)	(2005)	(2005)	(2003)	(1998)	(2003)	(2004)

040871473 WILSON PARK CREEK AT GMIA INFALL AT MILWAUKEE, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1997 - 2005	
ANNUAL TOTAL	250.61		175.36			
ANNUAL MEAN	0.68		0.48		0.72	
HIGHEST ANNUAL MEAN					1.04	2000
LOWEST ANNUAL MEAN					0.24	2003
HIGHEST DAILY MEAN	20	May 23	12	Sep 26	32	Jul 3, 2000
LOWEST DAILY MEAN	0.00	many days	0.00	many days	0.00	many days
ANNUAL SEVEN-DAY MINIMUM	0.00	many periods	0.00	many periods	0.00	many periods
MAXIMUM PEAK FLOW			28	Sep 25-26	34	Jul 2-3, 2000
MAXIMUM PEAK STAGE			13.88	Sep 26	16.97	Jul 3, 2000
INSTANTANEOUS LOW FLOW			0.00	many days	0.00	many days
ANNUAL RUNOFF (CFSM)	0.769		0.540		0.810	
ANNUAL RUNOFF (INCHES)	10.47		7.33		11.00	
10 PERCENT EXCEEDS	1.6		1.0		1.4	
50 PERCENT EXCEEDS	0.11		0.09		0.17	
90 PERCENT EXCEEDS	0.01		0.00		0.00	

(e) Estimated

040871473 WILSON PARK CREEK AT GMIA INFALL AT MILWAUKEE, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1996 to May 1997, November 1997 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1996 to May 1997, November 1997 to current year.

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 PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum observed, 31.5°C, July 4, 2003; minimum observed, 0.0°C, many days during winter.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum observed, 25.5°C, July 25; minimum observed, 0.0°C, many days during winter.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.0	14.0	14.5	11.0	9.5	10.5	3.5	3.0	3.0	0.0	0.0	0.0
2	15.0	13.0	13.5	10.5	9.5	10.0	3.0	2.5	3.0	0.0	0.0	0.0
3	13.0	11.5	12.0	10.5	9.5	10.0	3.0	2.5	2.5	0.0	0.0	0.0
4	12.5	11.5	12.0	10.0	9.0	10.0	3.0	2.0	2.5	0.0	0.0	0.0
5	11.5	10.5	11.0	9.5	8.0	8.5	3.5	2.5	3.0	0.0	0.0	0.0
6	12.5	10.5	11.0	9.0	7.5	8.5	5.0	3.5	4.5	0.0	0.0	0.0
7	13.5	12.0	12.5	9.0	7.5	8.5	6.5	5.0	6.0	0.0	0.0	0.0
8	15.5	13.5	14.5	7.5	6.5	6.5	6.0	5.0	5.5	0.0	0.0	0.0
9	15.0	13.5	14.0	7.5	6.0	7.0	6.0	5.0	5.5	0.0	0.0	0.0
10	14.0	12.5	13.0	8.5	7.0	7.5	6.5	5.5	6.0	0.0	0.0	0.0
11	12.5	11.5	12.0	8.5	6.5	7.5	6.0	4.5	5.5	0.0	0.0	0.0
12	12.5	11.5	12.0	7.0	5.5	6.0	5.0	3.5	4.5	0.0	0.0	0.0
13	13.0	12.0	12.5	6.0	5.0	5.5	4.0	2.5	3.0	0.5	0.0	0.0
14	13.0	11.5	12.0	6.0	4.5	5.0	2.5	1.5	2.0	0.0	0.0	0.0
15	12.0	11.0	11.5	6.0	5.0	5.5	1.5	1.0	1.5	0.0	0.0	0.0
16	11.0	8.5	10.0	8.0	6.0	7.0	1.5	1.0	1.0	0.0	0.0	0.0
17	9.5	8.0	8.5	10.0	8.0	9.0	1.0	1.0	1.0	0.0	0.0	0.0
18	10.0	9.0	9.5	10.5	10.0	10.0	1.0	0.5	0.5	0.0	0.0	0.0
19	10.0	9.5	9.5	10.0	9.5	10.0	0.5	0.0	0.0	0.0	0.0	0.0
20	10.5	10.0	10.0	10.5	9.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0
21	11.0	10.0	10.5	9.0	6.5	7.5	0.0	0.0	0.0	0.0	0.0	0.0
22	11.5	10.5	11.0	7.0	6.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0
23	13.5	11.0	12.5	7.5	6.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0
24	13.0	12.0	12.5	6.5	4.5	5.5	0.0	0.0	0.0	0.0	0.0	0.0
25	12.5	11.0	11.5	4.5	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0
26	12.0	11.5	11.5	4.5	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0
27	12.0	11.5	11.5	7.0	4.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0
28	12.0	11.5	11.5	6.5	4.5	5.5	0.0	0.0	0.0	0.0	0.0	0.0
29	15.0	11.5	13.0	5.0	4.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0
30	16.0	12.5	14.0	4.0	3.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0
31	12.5	11.0	11.5	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
MONTH	16.0	8.0	11.8	11.0	3.5	7.2	6.5	0.0	2.0	0.5	0.0	0.0

040871473 WILSON PARK CREEK AT GMIA INFALL AT MILWAUKEE, WI—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	0.0	0.0	0.0	0.0	0.0	0.0	6.0	4.0	5.0	7.5	6.5	7.0
2	0.0	0.0	0.0	0.5	0.0	0.0	6.0	4.5	5.0	6.5	5.0	6.0
3	0.0	0.0	0.0	0.0	0.0	0.0	5.5	4.0	5.0	7.0	5.0	5.5
4	0.0	0.0	0.0	0.0	0.0	0.0	5.5	4.0	5.0	7.0	5.0	6.0
5	0.0	0.0	0.0	0.0	0.0	0.0	7.0	5.0	5.5	9.0	6.5	7.5
6	0.0	0.0	0.0	0.0	0.0	0.0	9.5	7.0	8.0	11.5	8.5	9.5
7	0.0	0.0	0.0	0.0	0.0	0.0	9.5	7.5	8.0	11.0	9.0	10.0
8	0.0	0.0	0.0	0.5	0.0	0.0	8.0	6.5	7.0	11.0	8.5	9.0
9	0.0	0.0	0.0	0.0	0.0	0.0	7.5	6.5	7.0	13.0	10.5	11.5
10	0.0	0.0	0.0	0.0	0.0	0.0	8.0	6.5	7.5	13.5	12.0	12.5
11	0.0	0.0	0.0	0.0	0.0	0.0	8.5	7.5	8.0	13.5	10.5	12.0
12	0.0	0.0	0.0	0.5	0.0	0.0	9.0	7.0	8.0	10.5	9.0	9.5
13	0.0	0.0	0.0	0.0	0.0	0.0	7.0	6.0	6.5	9.5	8.5	9.0
14	0.0	0.0	0.0	0.0	0.0	0.0	7.0	5.5	6.5	10.5	9.5	10.0
15	0.0	0.0	0.0	0.0	0.0	0.0	7.5	6.0	6.5	10.5	9.5	10.0
16	0.0	0.0	0.0	0.0	0.0	0.0	8.5	6.5	7.5	10.5	9.0	9.5
17	0.0	0.0	0.0	0.0	0.0	0.0	9.5	8.0	8.5	11.0	9.5	10.0
18	0.0	0.0	0.0	0.5	0.0	0.0	11.0	8.5	9.5	12.0	11.0	11.0
19	0.0	0.0	0.0	0.0	0.0	0.0	12.5	10.5	11.0	12.0	11.0	11.5
20	0.0	0.0	0.0	0.0	0.0	0.0	13.5	10.5	12.5	12.0	10.5	11.0
21	0.0	0.0	0.0	0.0	0.0	0.0	10.5	8.5	9.5	12.0	10.5	11.0
22	0.0	0.0	0.0	0.5	0.0	0.0	9.5	8.5	9.0	14.0	12.0	12.5
23	0.0	0.0	0.0	0.5	0.0	0.0	9.0	6.5	7.0	14.0	13.0	13.5
24	0.0	0.0	0.0	1.0	0.0	0.5	7.0	5.5	6.0	13.5	12.0	12.5
25	0.0	0.0	0.0	2.0	1.0	1.5	8.0	5.5	6.5	14.0	12.5	13.0
26	0.0	0.0	0.0	2.0	1.0	1.5	8.0	7.0	7.5	14.5	13.5	14.0
27	0.0	0.0	0.0	3.0	1.5	2.0	8.0	7.0	7.5	14.5	13.5	14.0
28	0.0	0.0	0.0	3.5	2.0	2.5	7.5	6.0	6.5	14.5	13.0	13.5
29	---	---	---	4.0	3.0	3.0	7.5	6.5	7.0	14.0	12.5	13.5
30	---	---	---	5.0	3.5	4.0	7.5	6.5	7.0	15.0	12.5	13.5
31	---	---	---	5.5	4.5	5.0	---	---	---	15.0	13.5	14.5
MONTH	0.0	0.0	0.0	5.5	0.0	0.6	13.5	4.0	7.4	15.0	5.0	10.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	16.0	14.0	15.0	23.0	19.0	20.5	23.0	21.5	22.0	20.0	19.0	19.5
2	16.5	14.5	15.5	19.5	17.5	18.5	23.5	22.5	23.0	19.0	18.0	18.5
3	17.0	15.5	16.0	20.0	18.5	19.0	23.5	22.5	23.0	18.5	17.5	18.0
4	18.0	16.0	17.0	20.5	19.5	20.0	24.0	23.0	23.5	19.0	18.0	18.0
5	19.0	17.5	18.0	20.0	19.0	19.5	23.5	21.0	22.0	19.0	18.0	18.5
6	19.5	17.5	18.5	20.0	19.0	19.5	22.0	20.5	21.0	19.5	18.5	19.0
7	22.0	17.5	19.5	20.5	19.5	20.0	21.5	20.5	21.0	19.5	19.0	19.5
8	19.0	16.0	17.5	20.5	19.0	20.0	22.0	21.0	21.5	19.5	19.0	19.5
9	20.0	18.0	19.0	20.0	19.0	20.0	22.5	21.5	22.0	20.0	19.0	19.5
10	21.5	18.5	20.0	21.0	19.5	20.0	22.5	21.5	22.0	20.5	19.5	20.0
11	23.0	20.0	21.0	21.0	20.0	20.5	22.5	21.5	22.0	21.0	20.0	20.5
12	22.5	20.5	21.5	21.5	20.5	21.0	23.5	21.5	22.5	21.0	20.0	20.5
13	23.0	20.5	21.5	21.5	20.5	21.0	22.5	20.5	21.0	20.5	20.0	20.5
14	22.5	20.0	21.0	22.0	20.5	21.5	20.5	19.5	20.0	20.5	19.0	20.0
15	20.0	17.5	19.0	23.0	21.0	22.0	21.5	19.5	20.5	19.5	17.0	18.0
16	18.5	16.5	17.5	23.0	22.0	22.5	21.5	20.5	21.0	19.0	17.0	18.0
17	18.5	16.0	17.0	24.0	22.5	23.0	21.5	20.0	20.5	19.0	17.5	18.0
18	17.5	15.0	16.0	24.0	22.5	23.5	23.0	21.0	21.5	19.0	17.5	18.0
19	20.0	15.5	17.5	22.5	21.5	22.0	24.0	21.0	22.0	20.0	18.5	19.0
20	21.5	17.5	19.0	22.5	21.5	22.0	23.5	22.0	23.0	20.0	18.0	19.0
21	21.5	19.0	20.0	23.0	21.5	22.0	22.5	20.0	21.0	19.5	18.5	19.0
22	21.0	18.5	19.5	22.5	21.0	21.5	20.5	19.0	19.5	20.0	18.5	19.5
23	22.5	19.0	20.5	23.0	21.5	22.0	19.0	18.5	19.0	19.0	16.5	17.5
24	23.5	21.5	22.0	25.0	22.0	23.0	20.0	19.0	19.0	18.0	16.5	17.0
25	23.0	22.0	22.5	25.5	22.5	24.0	20.0	19.5	19.5	20.0	17.5	18.5
26	23.0	21.0	21.5	23.0	21.5	22.5	21.0	19.5	20.0	20.0	18.5	19.5
27	23.5	21.5	22.0	21.5	19.0	20.0	21.0	20.5	21.0	18.5	16.0	17.0
28	23.5	22.0	22.5	20.5	19.0	19.5	21.0	20.0	20.5	17.5	16.0	17.0
29	23.5	21.5	22.5	20.5	19.5	20.0	20.5	19.5	20.0	17.0	14.0	15.0
30	23.5	22.0	22.5	21.5	20.0	20.5	20.5	19.5	20.0	14.5	12.5	13.5
31	---	---	---	22.0	21.0	21.5	20.0	19.5	19.5	---	---	---
MONTH	23.5	14.0	19.4	25.5	17.5	21.0	24.0	18.5	21.1	21.0	12.5	18.5
YEAR	25.5	0.0	10.0									

040871473 WILSON PARK CREEK AT GMIA INFALL AT MILWAUKEE, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sampling method, code (82398)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Calcium water unfltrd recover -able, mg/L (00916)	Magnesium, water, unfltrd recover -able, mg/L (00921)	Potassium, water, unfltrd recover -able, mg/L (00939)	Sodium, water, unfltrd recover -able, mg/L (00923)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)
JAN 03-04	20050104	1340	0000	50	8.1	1,880	--	--	5.0	300	155	506	--
JAN 05-06	20050106	0645	1215	50	8.1	3,520	--	--	10.0	600	256	1,040	--
JAN 11-13	20050113	2245	0725	50	7.2	958	25.8	6.9	5.0	150	54	259	31
FEB 19-21	20050221	2345	0030	50	8.2	2,660	--	--	6.0	470	241	751	--
MAR 17-18	20050318	1630	1135	50	8.1	3,100	--	--	11.0	510	257	885	--
MAR 18-19	20050319	1520	2110	50	7.6	1,730	--	--	11.0	280	119	472	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED
COMPOSITE SAMPLES

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	COD, low level, water, unfltrd mg/L (00335)	Copper, water, unfltrd recover -able, ug/L (01119)	Lead, water, unfltrd recover -able, ug/L (01114)	Zinc, water, unfltrd recover -able, ug/L (01094)	1,2-Propane -diol, water, unfltrd mg/L (91080)	5-Methyl-1H-benzo-tri-azole, wat unf ug/L (61944)	1,2-Ethane-diol, water, unfltrd mg/L (91075)	Runoff volume, thousands of cubic feet (99904)	Acetate, mg/L (99916)	Formate, mg/L (99917)
JAN 03-04	1.1	.306	<6.0	22	--	--	--	<18.0	<.040	<18.0	19	6.200	<2.500
JAN 05-06	1.6	.585	7.7	43	--	--	--	<18.0	<.040	<18.0	26	<5.000	<2.500
JAN 11-13	4.2	.441	<120	120	12	8	80	41.0	<.040	<18.0	990	<5.000	<2.500
FEB 19-21	1.1	.674	15.4	45	--	--	--	<18.0	<.040	<18.0	42	<5.000	<2.500
MAR 17-18	2.0	1.08	>73.3	140	--	--	--	62.0	<.040	<18.0	24	6.400	<2.500
MAR 18-19	2.9	1.09	233	460	--	--	--	180	<.040	<18.0	200	<5.000	<2.500

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DISCRETE SAMPLES

Date	Time	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Potassium, water, unfltrd recover -able, mg/L (00939)	Sodium, water, unfltrd recover -able, mg/L (00923)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	COD, low level, water, unfltrd mg/L (00335)
FEB 03...	1145	.09	10	7.8	2,310	7.0	350	274	581	3.2	2.15	3.3	29
APR 28...	1315	.06	10	8.2	1,280	11.0	110	257	219	.46	.063	4.3	32

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED
DISCRETE SAMPLES

Date	1,2-Propane -diol, water, unfltrd mg/L (91080)	5-Methyl-1H-benzo-tri-azole, wat unf ug/L (61944)	1,2-Ethane-diol, water, unfltrd mg/L (91075)	Acetate, mg/L (99916)	Formate, mg/L (99917)
FEB 03...	<18.0	<.040	<18.0	<5.000	<2.500
APR 28...	<18.0	--	<18.0	<5.000	<2.500

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, 200 ft upstream of Howell Avenue culverts on General Mitchell International Airport property, at Milwaukee.

DRAINAGE AREA.--2.25 mi^2.

PERIOD OF RECORD.--November 1996 to May 1997, October 1997 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1996 to May 1997, October 1997 to current year.
DISSOLVED OXYGEN: October 1997 to November 1998 (discontinued).

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 PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum observed, 27.5°C, Aug. 9, 2001; minimum observed, 0.0°C, many days during winter.
DISSOLVED OXYGEN: Maximum observed, 14.1 mg/L, Feb. 27, 1998; minimum observed, 0.0 mg/L, June 27 and July 7, 1998.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum observed, 24.5°C, July 23; minimum observed, 1.0°C, Dec. 23, Jan. 2, Feb. 6, 7, 13, and 14.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	17.0	15.5	16.0	13.5	11.0	12.5	8.5	7.0	8.0	5.0	2.0	4.0
2	17.0	15.0	15.5	12.5	11.0	12.0	8.5	7.5	8.0	3.5	1.0	2.5
3	15.5	15.0	15.5	12.5	12.5	12.5	8.5	7.5	8.0	4.5	3.5	3.5
4	15.5	13.5	14.5	12.5	10.5	11.5	8.5	8.0	8.0	4.5	3.5	4.0
5	14.5	13.5	14.0	12.0	11.5	11.5	8.5	8.0	8.0	5.0	4.0	4.0
6	15.0	14.5	14.5	12.0	11.5	12.0	8.5	6.0	7.0	5.0	3.5	4.5
7	15.0	14.5	15.0	12.0	10.5	11.5	8.0	7.0	7.5	6.0	3.5	4.5
8	17.5	15.0	16.0	11.0	10.5	10.5	8.0	7.5	8.0	5.0	4.5	5.0
9	16.0	15.0	15.5	11.5	10.5	11.0	8.5	8.0	8.0	5.5	4.5	5.0
10	15.5	14.5	15.0	11.5	11.0	11.5	8.5	7.0	8.0	6.5	3.5	5.0
11	15.0	14.0	14.5	11.5	10.5	11.0	7.5	7.0	7.0	5.5	4.5	5.0
12	14.5	14.0	14.0	11.0	10.0	10.5	7.5	6.5	7.0	6.5	1.5	3.0
13	14.5	14.0	14.5	10.5	9.5	10.0	7.0	6.0	6.5	3.0	1.5	2.5
14	14.5	13.5	14.0	10.5	10.0	10.5	7.0	6.0	6.5	3.5	2.5	3.0
15	14.5	12.5	13.5	11.0	10.0	10.5	7.0	6.5	6.5	3.5	3.0	3.5
16	13.5	12.5	13.0	11.0	11.0	11.0	7.0	6.0	6.5	3.5	3.0	3.0
17	13.0	12.0	12.5	11.0	11.0	11.0	7.0	5.5	6.0	3.0	2.5	3.0
18	13.5	13.0	13.0	11.5	11.0	11.0	7.5	5.5	6.5	4.0	2.5	3.0
19	13.5	13.0	13.0	11.5	10.5	11.0	6.0	3.5	4.5	4.0	3.0	3.5
20	13.5	13.0	13.5	11.5	11.0	11.0	5.5	3.5	5.0	4.5	3.0	4.0
21	13.5	13.0	13.5	11.0	10.5	11.0	6.0	5.0	5.5	5.0	4.0	4.5
22	13.5	13.5	13.5	11.0	10.5	10.5	5.5	2.0	3.5	5.0	3.0	4.5
23	14.5	13.0	14.0	11.0	10.0	10.5	2.5	1.0	1.5	4.5	4.0	4.0
24	14.0	14.0	14.0	10.0	9.0	9.5	3.5	1.5	3.0	4.5	4.0	4.0
25	14.0	14.0	14.0	9.5	9.0	9.5	4.5	3.0	3.5	4.5	4.0	4.0
26	14.0	13.5	14.0	10.0	9.5	9.5	4.5	3.0	4.0	4.5	3.0	4.0
27	14.0	13.5	14.0	10.0	8.5	9.0	4.5	3.5	4.0	6.5	3.5	4.5
28	13.5	13.5	13.5	9.0	8.5	8.5	4.5	4.0	4.0	6.0	4.5	4.5
29	14.0	13.5	13.5	9.0	9.0	9.0	5.0	4.0	4.5	6.0	4.5	5.0
30	16.5	13.5	14.5	9.0	8.5	9.0	6.0	4.0	4.5	6.5	4.5	5.0
31	14.0	13.5	13.5	---	---	---	6.0	4.0	4.5	6.5	4.5	5.0
MONTH	17.5	12.0	14.2	13.5	8.5	10.7	8.5	1.0	5.9	6.5	1.0	4.0

040871475 WILSON PARK CREEK AT GMIA OUTFALL #7 AT MILWAUKEE, WI—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	7.5	3.5	5.0	3.0	2.5	3.0	8.0	5.0	5.5	8.0	7.5	8.0
2	6.5	4.5	5.0	3.0	2.5	2.5	6.5	4.5	5.5	8.0	7.5	7.5
3	6.5	5.0	5.0	3.5	2.5	3.0	6.0	5.0	5.5	7.5	7.0	7.5
4	6.5	3.5	4.5	3.5	3.0	3.0	6.0	5.0	5.5	8.0	7.5	7.5
5	5.5	2.0	3.5	3.5	1.5	2.5	7.5	5.5	6.0	8.0	7.5	8.0
6	4.5	1.0	2.5	3.0	1.5	2.5	12.0	6.5	7.5	12.0	8.0	9.5
7	3.0	1.0	1.5	3.5	2.5	2.5	9.0	6.5	7.5	11.0	9.5	10.0
8	3.5	2.0	2.5	3.0	2.5	2.5	7.5	6.5	7.0	9.5	9.0	9.0
9	4.0	2.5	3.0	3.0	2.5	2.5	7.5	6.5	7.0	12.0	9.0	10.0
10	4.0	2.5	3.0	3.0	2.5	3.0	7.5	6.5	7.0	11.5	10.0	10.5
11	4.5	3.0	3.0	3.0	2.5	2.5	7.5	7.0	7.0	11.0	10.0	10.5
12	4.5	2.0	3.0	3.0	2.5	2.5	7.5	7.0	7.0	10.0	9.5	9.5
13	4.0	1.0	2.5	3.0	2.5	2.5	7.5	6.5	7.0	10.0	8.5	9.5
14	4.0	1.0	1.5	3.5	3.0	3.0	7.5	5.5	7.0	10.0	9.5	10.0
15	3.5	2.0	2.5	3.5	3.0	3.0	7.5	7.0	7.0	10.0	9.5	9.5
16	4.0	2.5	3.0	3.5	2.5	3.0	7.5	7.0	7.0	10.0	9.5	9.5
17	3.0	2.0	2.5	3.5	3.0	3.0	7.5	7.0	7.5	10.0	9.5	9.5
18	4.0	2.0	2.5	3.5	2.5	3.0	8.0	7.5	7.5	10.0	9.5	9.5
19	4.0	3.0	3.0	3.0	1.5	2.0	8.0	7.5	8.0	12.0	9.5	11.5
20	4.5	2.0	3.0	3.5	2.0	2.5	10.5	8.0	9.5	11.0	10.5	10.5
21	4.0	2.0	2.5	3.5	2.5	3.0	9.0	8.5	9.0	11.5	10.5	10.5
22	4.0	2.5	3.0	3.5	3.0	3.0	9.0	8.5	9.0	11.0	10.5	10.5
23	4.0	2.5	3.0	3.5	3.0	3.0	9.0	7.5	8.0	11.0	10.5	11.0
24	4.0	3.0	3.0	4.0	3.0	3.5	8.0	7.5	7.5	11.0	10.5	11.0
25	4.5	2.5	3.5	4.0	3.5	3.5	8.0	7.5	7.5	11.0	10.5	11.0
26	3.5	3.0	3.0	4.0	3.5	3.5	8.0	7.5	8.0	11.0	11.0	11.0
27	3.5	3.0	3.5	4.0	3.5	4.0	8.0	8.0	8.0	12.0	11.0	11.0
28	3.5	3.0	3.0	4.5	4.0	4.0	8.0	7.5	8.0	12.0	11.0	11.5
29	---	---	---	5.0	4.0	4.5	8.0	7.5	8.0	11.5	11.0	11.5
30	---	---	---	7.5	4.5	5.0	8.0	8.0	8.0	11.5	11.0	11.0
31	---	---	---	7.0	5.5	5.5	---	---	---	11.5	11.0	11.5
MONTH	7.5	1.0	3.1	7.5	1.5	3.1	12.0	4.5	7.3	12.0	7.0	10.0
	JUNE			JULY			AUGUST			SEPTEMBER		
1	12.0	11.5	11.5	---	---	---	18.5	18.0	18.5	19.0	18.0	18.5
2	11.5	11.5	11.5	17.5	17.0	17.0	18.5	18.0	18.5	18.5	18.5	18.5
3	12.0	11.5	11.5	17.0	16.5	17.0	18.5	18.0	18.5	18.5	18.0	18.0
4	12.0	11.5	11.5	18.5	16.5	17.5	23.5	18.0	20.0	18.5	18.0	18.0
5	17.0	11.5	14.0	17.5	17.0	17.0	19.5	19.0	19.0	18.5	18.0	18.0
6	14.0	13.0	13.5	17.0	16.5	17.0	19.0	18.5	19.0	18.5	18.0	18.0
7	23.0	13.0	14.5	16.5	16.5	16.5	19.0	18.5	18.5	20.5	18.0	18.5
8	16.0	15.0	15.0	16.5	16.5	16.5	19.0	18.5	18.5	19.5	18.5	19.0
9	15.0	14.5	15.0	16.5	16.0	16.5	18.5	18.5	18.5	18.5	18.5	18.5
10	14.5	14.5	14.5	16.5	16.0	16.5	18.5	18.5	18.5	18.5	18.5	18.5
11	14.5	14.0	14.5	16.5	16.0	16.5	20.5	18.5	19.0	18.5	18.5	18.5
12	14.5	14.0	14.5	20.0	16.0	17.5	22.5	19.5	21.0	18.5	18.0	18.5
13	14.5	14.0	14.5	21.5	17.5	20.5	20.5	19.5	20.0	22.0	18.0	18.5
14	18.0	14.5	14.5	20.5	18.5	19.5	19.5	19.0	19.5	20.5	19.0	19.5
15	17.5	15.0	16.0	18.5	18.0	18.5	19.5	19.0	19.0	19.0	18.5	18.5
16	15.0	14.5	15.0	18.0	18.0	18.0	19.0	18.5	19.0	19.5	18.0	19.0
17	14.5	14.5	14.5	18.0	17.5	18.0	19.0	18.5	18.5	19.5	18.5	19.0
18	14.5	14.0	14.5	18.0	17.5	17.5	23.0	18.5	20.5	19.0	18.5	18.5
19	14.5	14.0	14.0	17.5	17.5	17.5	22.0	20.0	20.5	20.0	18.5	19.5
20	14.5	14.0	14.5	22.5	17.5	19.0	22.5	20.0	21.0	20.0	19.0	19.5
21	14.5	14.0	14.5	23.5	19.0	20.5	20.5	19.5	20.0	19.0	18.5	19.0
22	14.5	14.0	14.5	21.5	19.0	20.0	19.5	19.0	19.5	20.5	18.5	19.5
23	14.5	14.5	14.5	24.5	19.0	20.0	19.5	18.5	19.0	19.5	19.0	19.0
24	15.0	14.5	14.5	22.0	19.5	20.5	19.0	18.5	18.5	19.0	18.5	18.5
25	15.0	14.5	14.5	20.5	19.5	20.0	18.5	18.5	18.5	22.0	18.5	19.5
26	21.0	14.5	18.5	23.5	20.0	21.0	18.5	18.5	18.5	20.5	19.0	19.5
27	18.5	17.0	17.5	20.5	19.5	19.5	19.0	18.5	18.5	19.5	18.5	18.5
28	17.0	16.5	17.0	19.5	19.0	19.0	18.5	18.5	18.5	19.5	17.0	18.5
29	---	---	---	19.0	18.5	18.5	19.0	18.5	18.5	17.0	16.5	17.0
30	---	---	---	18.5	18.5	18.5	18.5	18.0	18.5	17.5	17.0	17.0
31	---	---	---	18.5	18.5	18.5	18.5	18.0	18.0	---	---	---
MONTH	23.0	11.5	14.4	24.5	16.0	18.3	23.5	18.0	19.1	22.0	16.5	18.6
YEAR	24.5	1.0	10.7									

040871475 WILSON PARK CREEK AT GMIA OUTFALL #7 AT MILWAUKEE, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sam-pling method, code (82398)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Calcium water unfltrd recover -able, mg/L (00916)	Magnes-ium, water, unfltrd recover -able, mg/L (00921)	Potas-sium, water, unfltrd recover -able, mg/L (00939)	Sodium, water, unfltrd recover -able, mg/L (00923)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, sus-pended, mg/L (00530)
NOV 24-27	20041127	0755	0730	50	--	--	--	--	--	--	--	--	--
DEC 02-06	20041206	1502	1044	50	--	--	--	--	--	--	--	--	--
DEC 09-10	20041210	1406	1729	50	--	--	--	--	--	--	--	--	--
DEC 16-21	20041221	1927	1209	50	--	--	--	--	--	--	--	--	--
DEC 21-24	20041224	2350	0313	50	--	--	--	--	--	--	--	--	--
JAN 01-02	20050102	1655	0005	50	--	--	--	--	22.0	390	--	--	--
JAN 02-04	20050104	2320	0838	50	--	--	--	--	--	--	--	--	--
JAN 03-04	20050104	1330	0005	50	7.8	4,220	--	--	370	600	495	987	--
JAN 04-06	20050106	1338	1126	50	--	--	--	--	--	--	--	--	--
JAN 04-06	20050106	2245	1010	50	7.6	4,530	--	--	207	710	476	1,150	--
JAN 06-11	20050111	1453	1115	50	--	--	--	--	--	--	--	--	--
JAN 11-11	20050111	1431	2324	50	--	--	--	--	--	--	--	--	--
JAN 11-13	20050113	2235	0800	50	7.5	729	27.8	7.6	41.0	86	119	128	38
JAN 12-12	20050112	0129	0404	50	--	--	--	--	--	--	--	--	--
JAN 12-12	20050112	0416	1448	50	--	--	--	--	--	--	--	--	--
JAN 12-12	20050112	1557	1844	50	--	--	--	--	--	--	--	--	--
JAN 12-12	20050112	2001	2237	50	--	--	--	--	--	--	--	--	--
JAN 12-13	20050113	2307	1342	50	--	--	--	--	--	--	--	--	--
JAN 13-16	20050116	2026	0508	50	--	--	--	--	--	--	--	--	--
JAN 20-21	20050121	1704	0608	50	--	--	--	--	--	--	--	--	--
JAN 21-22	20050122	1056	0113	50	--	--	--	--	--	--	--	--	--
JAN 22-22	20050122	0559	1521	50	--	--	--	--	--	--	--	--	--
JAN 22-24	20050124	2007	1333	50	--	--	--	--	--	--	--	--	--
JAN 24-26	20050126	1754	2058	50	--	--	--	--	--	--	--	--	--
JAN 27-FEB 01	20050201	0317	1419	50	--	--	--	--	--	--	--	--	--
FEB 01-03	20050203	2045	1643	50	--	--	--	--	--	--	--	--	--
FEB 03-05	20050205	1915	0932	50	--	--	--	--	--	--	--	--	--
FEB 05-06	20050206	1108	0615	50	--	--	--	--	--	--	--	--	--
FEB 06-06	20050206	0715	1819	50	--	--	--	--	--	--	--	--	--
FEB 06-08	20050208	1932	2340	50	--	--	--	--	--	--	--	--	--
FEB 09-11	20050211	1208	1939	50	--	--	--	--	--	--	--	--	--
FEB 12-13	20050213	1445	0300	50	--	--	--	--	--	--	--	--	--
FEB 13-14	20050214	1354	2119	50	--	--	--	--	--	--	--	--	--
FEB 15-18	20050218	0147	1215	50	--	--	--	--	--	--	--	--	--
FEB 19-21	20050221	2335	0010	50	7.4	4,770	--	--	89.0	910	332	1,400	--
FEB 20-22	20050222	0901	0100	50	--	--	--	--	--	--	--	--	--
FEB 22-24	20050224	1353	1934	50	--	--	--	--	--	--	--	--	--
FEB 25-28	20050228	2232	0110	50	--	--	--	--	--	--	--	--	--

040871475 WILSON PARK CREEK AT GMIA OUTFALL #7 AT MILWAUKEE, WI—Continued

COMPOSITE SAMPLES

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	COD, low level, water, unfltrd mg/L (00335)	Copper, water, unfltrd recover -able, ug/L (01119)	Lead, water, unfltrd recover -able, ug/L (01114)	Zinc, water, unfltrd recover -able, ug/L (01094)	1,2-Propane -diol, water, unfltrd mg/L (91080)	5-Methyl-1H-benzo-tri-azole, wat unf ug/L (61944)	1,2-Ethane-diol, water, unfltrd mg/L (91075)	Acetate, mg/L (99916)	Formate, mg/L (99917)
NOV 24-27	--	--	--	97	--	--	--	--	--	--	--	--
DEC 02-06	--	--	--	710	--	--	--	--	--	--	--	--
DEC 09-10	--	--	--	160	--	--	--	--	--	--	--	--
DEC 16-21	--	--	--	150	--	--	--	--	--	--	--	--
DEC 21-24	--	--	--	390	--	--	--	--	--	--	--	--
JAN 01-02	--	--	--	1,500	--	--	--	--	--	--	11.000	<2.500
JAN 02-04	--	--	--	4,000	--	--	--	--	--	--	--	--
JAN 03-04	3.1	.374	2,970	4,400	--	--	--	1,400	M	<18.0	600.00	7.300
JAN 04-06	--	--	--	2,500	--	--	--	--	--	--	--	--
JAN 04-06	2.1	.618	1,040	2,200	--	--	--	610	M	<18.0	400.00	11.000
JAN 06-11	--	--	--	2,000	--	--	--	--	--	--	--	--
JAN 11-11	--	--	--	3,700	--	--	--	--	--	--	--	--
JAN 11-13	2.7	.351	283	620	12	7	100	200	<.040	<18.0	73.000	23.000
JAN 12-12	--	--	--	2,500	--	--	--	--	--	--	--	--
JAN 12-12	--	--	--	1,200	--	--	--	--	--	--	--	--
JAN 12-12	--	--	--	44	--	--	--	--	--	--	--	--
JAN 12-12	--	--	--	450	--	--	--	--	--	--	--	--
JAN 12-13	--	--	--	840	--	--	--	--	--	--	--	--
JAN 13-16	--	--	--	860	--	--	--	--	--	--	--	--
JAN 20-21	--	--	--	5,800	--	--	--	--	--	--	--	--
JAN 21-22	--	--	--	1,500	--	--	--	--	--	--	--	--
JAN 22-22	--	--	--	1,900	--	--	--	--	--	--	--	--
JAN 22-24	--	--	--	3,100	--	--	--	--	--	--	--	--
JAN 24-26	--	--	--	5,000	--	--	--	--	--	--	--	--
JAN 27-FEB 01	--	--	--	4,800	--	--	--	--	--	--	--	--
FEB 01-03	--	--	--	1,900	--	--	--	--	--	--	--	--
FEB 03-05	--	--	--	2,400	--	--	--	--	--	--	--	--
FEB 05-06	--	--	--	1,900	--	--	--	--	--	--	--	--
FEB 06-06	--	--	--	1,900	--	--	--	--	--	--	--	--
FEB 06-08	--	--	--	870	--	--	--	--	--	--	--	--
FEB 09-11	--	--	--	3,300	--	--	--	--	--	--	--	--
FEB 12-13	--	--	--	1,100	--	--	--	--	--	--	--	--
FEB 13-14	--	--	--	650	--	--	--	--	--	--	--	--
FEB 15-18	--	--	--	590	--	--	--	--	--	--	--	--
FEB 19-21	5.3	.780	5,850	9,300	--	--	--	5,200	1	<18.0	140.00	29.000
FEB 20-22	--	--	--	4,100	--	--	--	--	--	--	--	--
FEB 22-24	--	--	--	1,800	--	--	--	--	--	--	--	--
FEB 25-28	--	--	--	1,800	--	--	--	--	--	--	--	--

040871475 WILSON PARK CREEK AT GMIA OUTFALL #7 AT MILWAUKEE, WI—Continued

COMPOSITE SAMPLES

Date	End date	Time	End time	Sam-pling method, code (82398)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Potas-sium, water, unfltrd recover -able, mg/L (00939)	Sodium, water, unfltrd recover -able, mg/L (00923)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)
FEB 28-28	20050228	0334	1708	50	--	--	--	--	--	--	--	--	--
FEB 28-MAR 04	20050304	1901	1606	50	--	--	--	--	--	--	--	--	--
MAR 04-05	20050305	1933	1134	50	--	--	--	--	--	--	--	--	--
MAR 05-05	20050305	1348	1604	50	--	--	--	--	--	--	--	--	--
MAR 05-06	20050306	1613	0414	50	--	--	--	--	--	--	--	--	--
MAR 06-06	20050306	0545	1334	50	--	--	--	--	--	--	--	--	--
MAR 06-06	20050306	1340	1421	50	--	--	--	--	--	--	--	--	--
MAR 06-06	20050306	1427	1602	50	--	--	--	--	--	--	--	--	--
MAR 10-11	20050311	1905	1203	50	--	--	--	--	--	--	--	--	--
MAR 11-14	20050314	1707	1948	50	--	--	--	--	--	--	--	--	--
MAR 15-16	20050316	0427	1733	50	--	--	--	--	--	--	--	--	--
MAR 16-17	20050317	2038	1618	50	--	--	--	--	--	--	--	--	--
MAR 17-18	20050318	1620	1045	50	7.5	12,400	59.0	2,600	352	4,260	2.5	.864	1,410
MAR 17-18	20050318	2325	1300	50	--	--	--	--	--	--	--	--	--
MAR 18-19	20050319	1155	2015	50	7.3	1,650	96.0	220	227	343	2.7	.586	600
MAR 18-19	20050319	1551	0058	50	--	--	--	--	--	--	--	--	--
MAR 19-19	20050319	0215	0305	50	--	--	--	--	--	--	--	--	--
MAR 19-19	20050319	0322	0630	50	--	--	--	--	--	--	--	--	--
MAR 19-19	20050319	0641	1010	50	--	--	--	--	--	--	--	--	--
MAR 19-19	20050319	1051	1925	50	--	--	--	--	--	--	--	--	--
MAR 19-20	20050320	2201	0627	50	--	--	--	--	--	--	--	--	--
MAR 20-21	20050321	1222	0422	50	--	--	--	--	--	--	--	--	--
MAR 21-22	20050322	1221	0649	50	--	--	--	--	--	--	--	--	--
MAR 22-23	20050323	1502	1348	50	--	--	--	--	--	--	--	--	--
MAR 23-29	20050329	2214	1358	50	--	--	--	--	--	--	--	--	--
MAR 29-APR 01	20050401	2122	1646	50	--	--	--	--	--	--	--	--	--
APR 01-02	20050402	1720	1530	50	--	--	--	--	--	--	--	--	--
APR 02-06	20050406	2007	1849	50	--	--	--	--	--	--	--	--	--
APR 06-07	20050407	2039	1513	50	--	--	--	--	--	--	--	--	--
APR 07-13	20050413	1940	1324	50	--	--	--	--	--	--	--	--	--
APR 14-20	20050420	0200	1702	50	--	--	--	--	--	--	--	--	--
APR 21-27	20050427	2254	2242	50	--	--	--	--	--	--	--	--	--
APR 29-MAY 09	20050509	1128	0945	50	--	--	--	--	--	--	--	--	--

040871475 WILSON PARK CREEK AT GMIA OUTFALL #7 AT MILWAUKEE, WI—Continued

COMPOSITE SAMPLES

Date	COD, low level, water, unfltrd mg/L (00335)	1,2-Propane -diol, water, unfltrd mg/L (91080)	5-Methyl-1H-benzotriazole, wat unf ug/L (61944)	1,2-Ethanediol, water, unfltrd mg/L (91075)	Acetate, mg/L (99916)	Formate, mg/L (99917)
FEB 28-28	7,100	--	--	--	--	--
FEB 28-MAR 04	1,800	--	--	--	--	--
MAR 04-05	1,200	--	--	--	--	--
MAR 05-05	770	--	--	--	--	--
MAR 05-06	520	--	--	--	--	--
MAR 06-06	390	--	--	--	--	--
MAR 06-06	190	--	--	--	--	--
MAR 06-06	360	--	--	--	--	--
MAR 10-11	2,100	--	--	--	--	--
MAR 11-14	2,400	--	--	--	--	--
MAR 15-16	1,100	--	--	--	--	--
MAR 16-17	860	--	--	--	--	--
MAR 17-18	3,100	900	M	<18.0	48.000	<2.500
MAR 17-18	4,700	--	--	--	--	--
MAR 18-19	1,100	440	M	<18.0	130.00	22.000
MAR 18-19	2,100	--	--	--	--	--
MAR 19-19	2,800	--	--	--	--	--
MAR 19-19	820	--	--	--	--	--
MAR 19-19	540	--	--	--	--	--
MAR 19-19	390	--	--	--	--	--
MAR 19-20	610	--	--	--	--	--
MAR 20-21	610	--	--	--	--	--
MAR 21-22	660	--	--	--	--	--
MAR 22-23	530	--	--	--	--	--
MAR 23-29	490	--	--	--	--	--
MAR 29-APR 01	500	--	--	--	--	--
APR 01-02	180	--	--	--	--	--
APR 02-06	320	--	--	--	--	--
APR 06-07	160	--	--	--	--	--
APR 07-13	27	--	--	--	--	--
APR 14-20	310	--	--	--	--	--
APR 21-27	240	--	--	--	--	--
APR 29-MAY 09	180	--	--	--	--	--

040871475 WILSON PARK CREEK AT GMIA OUTFALL #7 AT MILWAUKEE, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DISCRETE SAMPLES

Date	Time	Sampling method, code (82398)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Potassium, water, unfltrd recover -able, mg/L (00939)	Sodium, water, unfltrd recover -able, mg/L (00923)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	COD, low level, water, unfltrd mg/L (00335)	1,2-Propane -diol, water, unfltrd mg/L (91080)
FEB													
03...	1150	10	7.5	6,210	38.0	1,200	364	1,950	3.5	1.48	1,310	2,300	870
APR													
28...	1200	10	7.6	1,650	62.0	160	372	252	1.9	1.09	311	580	22.0

DISCRETE SAMPLES

Date	5-Methyl-1H-benzotriazole, wat unf ug/L (61944)	1,2-Ethanediol, water, unfltrd mg/L (91075)	Acetate, mg/L (99916)	Formate, mg/L (99917)
FEB				
03...	M	<18.0	64.000	<2.500
APR				
28...	--	<18.0	78.000	<2.500

040871476 HOLMES AVENUE CREEK TRIB AT GMIA OUTFALL #1 AT MILWAUKEE, WI

LOCATION.--Lat 42°56'40", long 87°54'37", in NE 1/4 NE 1/4 sec.32, T.6 N., R.22 E., Milwaukee County, Hydrologic Unit 04040003, 100 ft west of intersection at corner of Air Cargo Way and Howell Avenue, at Milwaukee.

DRAINAGE AREA.--0.03 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1996 through May 1997, November 1997 to current year.

GAGE.--Water-stage recorder in culvert. Elevation of gage is 695 ft above NGVD of 1929, from topographic map.

REMARKS.--Records poor (see Introduction).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.08	0.48	0.08	0.25	0.02	0.07	0.47	0.00	0.00	0.00	0.00	0.00
2	0.01	0.12	0.01	0.64	0.02	0.03	0.06	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.02	0.01	0.02	0.03	0.00	0.00	0.00	0.00	0.00
4	0.00	0.24	0.00	0.04	0.04	0.04	0.03	0.00	0.00	0.05	0.07	0.00
5	0.00	0.00	0.00	0.00	0.12	0.17	0.03	0.00	0.17	0.00	0.00	0.00
6	0.00	0.00	0.29	0.00	0.20	0.38	0.28	0.22	0.00	0.00	0.00	0.00
7	0.00	0.00	0.58	0.00	0.31	0.34	0.17	0.00	0.47	0.00	0.00	0.02
8	0.10	0.00	0.01	0.00	0.04	0.07	0.03	0.00	0.01	0.00	0.00	0.00
9	0.00	0.00	0.03	0.00	0.03	0.05	0.02	0.13	0.00	0.00	0.00	0.00
10	0.00	0.01	0.32	0.00	0.03	0.08	0.02	0.00	0.00	0.00	0.00	0.00
11	0.00	0.03	0.02	0.05	0.02	0.07	0.02	0.52	0.00	0.00	e0.02	0.00
12	0.00	0.00	0.00	0.87	0.05	0.06	0.02	0.00	0.00	0.05	e0.25	0.00
13	0.00	0.00	0.00	0.23	0.55	0.03	0.01	0.24	0.01	0.87	0.00	0.03
14	0.00	0.00	0.00	0.02	0.39	0.03	0.01	0.00	0.04	0.00	0.00	0.00
15	0.15	0.00	0.00	0.00	0.10	0.04	0.01	0.00	0.00	0.00	0.00	0.06
16	0.01	0.00	0.00	0.00	0.04	0.05	0.01	0.00	0.00	0.00	0.00	0.15
17	0.00	0.00	0.00	0.00	0.02	0.03	0.02	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.01	0.10	0.01	0.00	0.00	0.00	0.23	0.00
19	0.01	0.44	0.00	0.00	0.02	0.31	0.01	0.76	0.00	0.00	0.00	0.17
20	0.00	0.02	0.00	0.00	0.06	0.04	0.09	0.01	0.00	0.06	0.16	0.00
21	0.00	0.00	0.00	0.00	0.22	0.04	0.01	0.00	0.00	0.21	0.00	0.00
22	0.00	0.00	0.00	0.00	0.08	0.03	0.22	0.01	0.00	0.00	0.00	0.52
23	0.31	0.00	0.00	0.00	0.05	0.03	0.01	0.01	0.00	0.27	0.00	0.00
24	0.00	0.00	0.00	0.01	0.05	0.03	0.01	0.00	0.00	0.01	0.00	0.01
25	0.00	0.00	0.00	0.05	0.07	0.03	0.00	0.00	0.00	0.03	0.00	1.6
26	0.03	0.01	0.00	0.00	0.04	0.04	0.03	0.00	0.31	0.16	0.00	0.15
27	0.00	0.37	0.00	0.02	0.06	0.05	0.00	0.03	0.01	0.00	0.01	0.00
28	0.00	0.00	0.00	0.02	0.17	0.04	0.00	0.02	0.01	0.00	0.00	0.23
29	0.00	0.00	0.00	0.02	---	0.04	0.00	0.00	0.02	0.00	0.00	0.01
30	0.18	0.03	0.04	0.02	---	0.10	0.00	0.00	0.18	0.00	0.00	0.00
31	0.00	---	0.02	0.02	---	0.04	---	0.00	---	0.00	0.00	---
TOTAL	0.88	1.75	1.40	2.28	2.82	2.48	1.63	1.95	1.23	1.71	0.74	2.95
MEAN	0.03	0.06	0.05	0.07	0.10	0.08	0.05	0.06	0.04	0.06	0.02	0.10
MAX	0.31	0.48	0.58	0.87	0.55	0.38	0.47	0.76	0.47	0.87	0.25	1.6
MIN	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00
CFSM	0.95	1.94	1.51	2.45	3.36	2.67	1.81	2.10	1.37	1.84	0.80	3.28
IN.	1.09	2.17	1.74	2.83	3.50	3.08	2.02	2.42	1.53	2.12	0.92	3.66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	0.04	0.04	0.02	0.03	0.06	0.05	0.06	0.09	0.06	0.06	0.07	0.06
MAX	0.08	0.12	0.06	0.07	0.12	0.16	0.10	0.18	0.12	0.16	0.12	0.16
(WY)	(2002)	(2004)	(2004)	(2005)	(2001)	(2004)	(1999)	(2000)	(1999)	(2000)	(2001)	(2000)
MIN	0.01	0.01	0.00	0.00	0.01	0.00	0.04	0.03	0.02	0.02	0.01	0.01
(WY)	(2000)	(2000)	(2001)	(2003)	(2003)	(1999)	(2003)	(1998)	(2003)	(1998)	(2003)	(2004)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1997 - 2005	
ANNUAL TOTAL	26.81		21.82			
ANNUAL MEAN	0.07		0.06		0.06	
HIGHEST ANNUAL MEAN					0.08	2004
LOWEST ANNUAL MEAN					0.02	2003
HIGHEST DAILY MEAN	(a)1.1	May 14	1.6	Sep 25	(e)2.9	Jul 2, 2000
LOWEST DAILY MEAN	0.00	many days	0.00	many days	0.00	many days
ANNUAL SEVEN-DAY MINIMUM	0.00	many periods	0.00	many periods	0.00	many periods
MAXIMUM PEAK FLOW			15	Jun 7	(e)34	Aug 5, 1998
MAXIMUM PEAK STAGE			2.12	Jun 7	4.45	Jul 2, 2000
INSTANTANEOUS LOW FLOW			0.00	many days	0.00	many days
ANNUAL RUNOFF (CFSM)	2.44		1.99		1.85	
ANNUAL RUNOFF (INCHES)	33.24		27.06		25.12	
10 PERCENT EXCEEDS	0.24		0.20		0.16	
50 PERCENT EXCEEDS	0.01		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

040871476 HOLMES AVENUE CREEK TRIB AT GMIA OUTFALL #1 AT MILWAUKEE, WI—Continued

(a) Also occurred May 22 and Aug. 3
(e) Estimated

040871476 HOLMES AVENUE CREEK TRIB AT GMIA OUTFALL #1 AT MILWAUKEE, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1996 to May 1997, November 1997 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1996 to May 1997, November 1997 to Sept. 6, 1999, November 2000 to current year.

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 PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum observed, 29.5°C, July 20-21, 2001; minimum observed, 0.0°C, many days during winter.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE; Maximum observed, 26.0°C, Aug. 18; minimum observed, 0.0°C, many days during winter.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.5	14.0	14.5	13.5	7.5	10.0	8.0	1.0	4.5	9.0	0.0	6.0
2	15.5	13.5	14.5	12.0	8.0	10.0	10.0	6.0	8.0	6.5	0.0	3.5
3	14.5	13.0	13.5	13.0	11.0	11.5	10.0	7.5	9.0	7.5	0.0	5.0
4	14.5	12.0	13.0	13.0	7.5	10.0	11.0	8.0	9.5	6.5	0.0	4.0
5	14.0	12.5	13.0	13.0	11.0	11.5	11.0	7.5	10.0	6.0	1.0	4.5
6	14.5	12.0	13.0	13.0	11.5	12.0	8.5	3.0	5.5	---	---	---
7	14.5	13.0	13.5	13.0	9.5	11.0	8.5	5.0	6.5	9.0	7.0	7.5
8	18.0	13.5	15.5	12.0	9.5	11.0	10.0	7.5	9.0	9.0	6.5	7.5
9	15.0	13.5	14.5	12.5	10.5	11.5	11.0	6.0	9.5	9.0	7.0	8.0
10	14.5	12.5	13.5	12.5	9.0	11.5	8.5	3.5	6.0	9.0	7.0	7.5
11	14.0	12.5	13.5	10.5	7.5	8.5	9.5	4.5	7.5	9.0	1.5	6.0
12	14.0	12.5	13.0	11.5	8.0	9.5	10.5	8.0	9.0	4.5	0.0	1.5
13	14.0	12.5	13.0	11.5	9.0	10.0	10.0	6.5	7.5	4.0	0.0	1.0
14	13.0	11.5	12.5	11.5	9.5	10.5	8.5	6.0	7.0	6.5	2.5	4.5
15	13.5	9.5	12.0	12.0	9.5	10.5	8.5	6.5	7.0	7.5	5.0	6.0
16	14.5	12.0	13.0	12.0	10.5	11.0	10.0	7.5	9.0	7.5	5.5	6.5
17	13.5	12.0	12.5	12.5	11.0	11.5	10.0	8.0	8.5	7.5	5.0	6.0
18	13.5	11.0	12.0	13.0	11.0	12.0	10.0	5.5	8.5	7.0	5.0	6.0
19	14.0	10.0	12.0	12.5	8.5	9.5	7.5	3.5	5.0	7.5	3.0	5.5
20	13.0	11.5	12.0	12.5	10.0	11.0	9.0	5.0	6.5	7.0	0.0	3.0
21	13.5	11.5	12.5	12.0	10.5	11.0	9.5	5.0	7.5	5.5	0.0	2.5
22	14.0	12.5	13.0	11.5	10.0	10.5	9.0	6.0	7.5	7.0	4.0	5.0
23	15.0	11.5	13.0	11.5	10.0	10.5	8.0	5.5	6.5	7.0	3.0	5.0
24	14.5	12.5	13.5	10.5	5.0	8.0	8.0	4.5	6.0	8.0	5.5	6.0
25	14.0	12.0	13.0	10.0	7.0	8.5	6.5	4.5	5.5	8.0	3.0	5.5
26	13.0	11.0	12.0	10.5	8.5	9.5	8.0	5.0	6.5	7.0	3.0	5.0
27	13.5	11.5	12.5	8.5	4.5	6.0	8.0	6.0	6.5	6.0	2.0	4.5
28	13.5	12.0	12.5	10.0	7.0	9.0	8.5	5.5	7.0	8.0	4.0	5.5
29	14.0	12.5	13.0	10.5	9.0	9.0	8.5	6.5	7.0	7.5	5.0	6.0
30	16.5	13.0	14.0	10.5	1.0	8.5	12.0	5.0	8.0	7.5	5.0	6.0
31	14.5	12.5	13.0	---	---	---	9.5	5.0	8.0	7.5	5.0	6.0
MONTH	18.0	9.5	13.1	13.5	1.0	10.2	12.0	1.0	7.4	9.0	0.0	5.2

040871476 HOLMES AVENUE CREEK TRIB AT GMIA OUTFALL #1 AT MILWAUKEE, WI—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	8.0	5.0	6.0	5.0	0.0	2.5	9.5	4.5	6.0	7.5	6.0	7.0
2	8.0	5.0	6.0	6.0	3.0	4.0	7.0	4.5	5.0	7.5	6.0	6.5
3	7.5	4.0	6.0	6.0	3.5	4.5	6.0	5.0	5.5	7.5	6.0	6.5
4	8.5	2.0	5.5	6.0	4.0	5.0	6.5	5.0	5.5	7.5	6.0	6.5
5	5.0	0.0	2.0	6.0	0.0	3.5	6.5	5.0	5.5	8.0	6.5	6.5
6	3.0	0.0	1.5	4.0	0.0	1.5	14.5	5.5	7.0	15.5	6.5	10.0
7	2.5	0.0	1.0	4.5	0.5	1.5	9.0	6.0	7.0	11.0	7.5	9.0
8	4.5	1.0	2.5	5.0	1.5	3.5	8.5	5.5	6.0	9.0	7.5	8.0
9	4.5	1.0	3.5	5.5	3.0	4.0	7.0	5.5	6.0	17.5	7.5	11.5
10	6.0	2.5	4.5	5.5	1.0	3.5	7.0	5.5	6.0	11.5	8.5	9.5
11	6.0	3.5	5.0	5.5	0.0	3.0	7.0	5.5	6.0	11.0	7.5	9.0
12	6.5	1.0	4.0	5.0	0.0	3.0	7.0	5.5	6.0	8.5	7.0	7.5
13	5.0	0.0	2.5	6.0	3.0	4.5	6.5	5.0	5.5	12.0	5.5	9.0
14	2.5	0.0	1.0	5.5	3.0	4.5	6.5	5.0	6.0	9.5	8.0	9.0
15	3.0	0.0	1.5	6.0	2.0	4.0	6.5	5.0	5.5	9.0	8.0	8.5
16	4.0	2.5	3.0	6.0	2.0	3.0	7.0	5.5	6.0	9.0	7.5	8.0
17	6.0	3.5	4.5	5.0	2.5	3.5	8.5	5.5	7.0	9.0	7.5	8.0
18	6.0	4.0	5.0	4.0	0.0	2.0	7.5	6.0	6.5	9.5	7.5	8.0
19	5.5	4.5	5.0	4.5	0.0	1.5	8.0	6.5	7.0	13.5	8.5	11.5
20	5.5	0.0	4.0	5.0	2.5	3.5	15.5	6.5	9.5	11.0	9.0	9.5
21	5.5	0.0	1.5	5.5	2.5	4.0	8.0	6.5	7.0	9.5	8.5	9.0
22	4.5	1.0	2.0	5.5	3.0	4.0	10.5	6.5	7.5	11.0	8.5	9.0
23	5.5	2.0	4.0	5.5	2.5	3.5	8.0	5.5	6.0	11.5	8.5	9.0
24	6.0	2.5	4.0	6.0	2.5	4.0	7.0	5.0	5.5	9.5	8.5	9.0
25	5.0	2.0	3.5	5.5	3.0	4.0	8.0	5.5	6.5	9.5	8.5	8.5
26	6.0	3.0	4.0	6.5	2.5	4.0	10.0	5.5	7.0	9.5	8.5	9.0
27	6.0	2.0	5.0	6.0	2.5	4.0	9.0	6.5	7.5	15.0	8.5	9.5
28	4.0	0.0	1.5	10.0	2.5	4.0	7.5	6.5	7.0	16.5	9.5	11.0
29	---	---	---	6.0	3.0	4.0	7.5	6.5	7.0	10.5	9.0	9.5
30	---	---	---	11.0	3.5	5.0	7.5	6.5	7.0	10.0	9.0	9.5
31	---	---	---	8.5	5.0	6.0	---	---	---	10.0	9.0	9.5
MONTH	8.5	0.0	3.6	11.0	0.0	3.6	15.5	4.5	6.4	17.5	5.5	8.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	10.0	9.0	9.0	14.5	12.5	13.5	15.5	14.5	15.0	16.5	15.5	16.0
2	10.0	9.0	9.0	13.5	12.5	12.5	15.5	14.5	15.0	16.5	15.0	15.5
3	10.0	9.0	9.5	13.0	12.0	12.5	15.5	14.5	15.0	16.0	15.0	15.5
4	10.0	9.0	9.5	22.0	12.0	15.0	24.5	15.5	17.0	16.0	15.0	15.5
5	18.5	9.5	12.0	14.0	13.0	13.5	16.0	15.0	15.5	16.0	15.5	15.5
6	11.0	10.0	10.0	13.5	12.5	13.0	17.0	15.0	15.5	16.0	15.5	15.5
7	23.5	9.5	13.0	13.5	12.5	13.0	16.0	15.0	15.5	21.5	15.5	16.5
8	16.5	11.0	13.0	13.5	12.5	13.0	15.5	14.5	15.0	17.5	16.0	16.5
9	12.0	10.5	11.5	14.5	12.5	13.0	16.0	14.5	15.0	16.5	15.5	16.0
10	11.5	10.5	11.0	13.5	12.5	13.0	15.5	15.0	15.0	17.0	15.5	16.0
11	11.5	10.5	11.0	13.5	12.5	13.0	21.0	15.0	17.0	16.5	15.5	16.0
12	11.0	10.0	10.5	22.5	12.5	15.5	21.5	16.0	18.0	16.5	15.5	16.0
13	17.5	10.0	11.5	21.5	14.5	18.0	16.5	15.5	16.0	22.5	15.5	17.0
14	20.5	10.5	12.0	16.0	14.5	15.0	16.0	15.0	15.5	19.0	16.0	16.5
15	17.0	11.0	12.5	15.0	14.0	14.5	16.0	15.0	15.5	17.5	15.0	16.0
16	12.0	10.5	11.0	15.0	14.0	14.5	16.0	15.0	15.5	18.0	15.0	16.5
17	11.5	10.5	10.5	14.5	13.5	14.0	16.0	15.0	15.5	16.5	15.5	16.0
18	12.0	10.5	10.5	14.5	13.5	14.0	26.0	15.0	19.0	16.5	15.5	16.0
19	11.0	10.5	10.5	14.0	13.5	13.5	18.5	16.0	17.0	20.5	15.5	17.5
20	11.5	10.5	11.0	25.0	13.5	16.0	22.5	16.0	18.5	17.0	16.0	16.5
21	11.5	10.5	11.0	23.5	14.5	17.5	17.0	15.5	16.5	17.0	16.0	16.0
22	11.5	10.5	11.0	17.0	14.5	15.5	16.5	15.0	15.5	20.0	16.0	18.0
23	11.5	10.5	11.0	24.5	14.5	17.0	16.0	15.0	15.5	16.5	15.0	15.5
24	11.5	11.0	11.0	19.0	15.5	16.5	16.0	15.0	15.5	18.0	15.5	16.0
25	14.5	11.0	11.5	21.5	15.0	17.5	15.5	15.5	15.5	22.0	16.0	18.0
26	25.0	12.5	16.5	24.0	16.5	18.5	16.5	15.5	15.5	20.0	17.0	18.0
27	21.0	13.0	14.5	17.5	15.0	16.0	20.0	15.5	16.5	17.0	16.5	16.5
28	19.0	12.5	13.5	15.5	14.5	15.0	16.5	15.5	16.0	19.0	15.5	16.5
29	21.0	13.0	15.0	15.5	14.5	15.0	16.5	15.5	16.0	17.0	15.5	16.0
30	23.0	13.0	16.0	15.5	14.5	15.0	16.5	15.5	16.0	16.5	15.5	15.5
31	---	---	---	15.5	14.5	15.0	16.5	15.5	15.5	---	---	---
MONTH	25.0	9.0	11.7	25.0	12.0	14.8	26.0	14.5	16.0	22.5	15.0	16.3
YEAR	26.0	0.0	9.8									

040871476 HOLMES AVENUE CREEK TRIB AT GMIA OUTFALL #1 AT MILWAUKEE, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sampling method, code (82398)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Calcium water unfltrd recover -able, mg/L (00916)	Magnesium, water, unfltrd recover -able, mg/L (00921)	Potassium, water, unfltrd recover -able, mg/L (00939)	Sodium, water, unfltrd recover -able, mg/L (00923)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)
JAN 01-02	20050102	1658	0021	50	--	--	--	--	35.0	4.0	--	--	--
JAN 03-03	20050103	1312	1858	50	7.8	6,930	--	--	1,600	780	1,480	1,180	--
JAN 11-13	20050113	1333	0825	50	7.4	877	25.4	6.5	200	37	263	22.8	117
JAN 24-25	20050125	1440	1338	50	--	--	--	--	--	--	--	--	--
JAN 25-25	20050125	1349	1710	50	--	--	--	--	--	--	--	--	--
FEB 05-06	20050206	1403	1523	50	--	--	--	--	--	--	--	--	--
FEB 20-21	20050221	1024	0029	50	7.4	2,050	--	--	71.0	380	290	303	--
MAR 17-18	20050318	1949	0856	50	--	--	--	--	--	--	--	--	--
MAR 17-18	20050318	1949	1300	50	7.3	3,560	--	--	413	540	547	708	--
MAR 18-18	20050318	0929	1300	50	--	--	--	--	--	--	--	--	--
MAR 18-19	20050319	1629	2015	50	7.3	542	--	--	94.0	31	182	18.2	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED
COMPOSITE SAMPLES

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	COD, low level, water, unfltrd mg/L (00335)	Copper, water, unfltrd recover -able, ug/L (01119)	Lead, water, unfltrd recover -able, ug/L (01114)	Zinc, water, unfltrd recover -able, ug/L (01094)	1,2-Propane -diol, water, unfltrd mg/L (91080)	5-Methyl-1H-benzotriazole, wat unf ug/L (61944)	1,2-Ethanediol, water, unfltrd mg/L (91075)	Runoff, thousands of cubic feet (99904)	Acetate, mg/L (99916)	Formate, mg/L (99917)
JAN 01-02	--	--	--	180	--	--	--	--	--	--	26	23.000	<2.500
JAN 03-03	7.9	2.63	48,100	82,000	--	--	--	70,000	7	<18.0	.90	3,400.0	<25.000
JAN 11-13	1.7	.221	>629	2,300	31	19	280	1,000	M	<18.0	91	350.00	38.000
JAN 24-25	--	--	--	17,000	--	--	--	--	--	--	2.0	--	--
JAN 25-25	--	--	--	12,000	--	--	--	--	--	--	1.5	--	--
FEB 05-06	--	--	--	7,900	--	--	--	--	--	--	12	--	--
FEB 20-21	1.6	.467	615	980	--	--	--	230	M	<18.0	4.0	88.000	310.00
MAR 17-18	--	--	--	38,000	--	--	--	--	--	--	3.5	--	--
MAR 17-18	2.8	.582	15,300	29,000	--	--	--	15,000	M	<18.0	6.6	520.00	110.00
MAR 18-18	--	--	--	19,000	--	--	--	--	--	--	2.8	--	--
MAR 18-19	1.8	.278	1,130	1,800	--	--	--	890	M	<18.0	28	100.00	13.000

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DISCRETE SAMPLES

Date	Time	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	COD, low level, water, unfltrd mg/L (00335)
JAN 27...	1258	.08	50	6,000

040871488 WILSON PARK CREEK AT ST. LUKES HOSPITAL AT MILWAUKEE, WI

LOCATION.--Lat 42°59'23", long 87°57'07", in SE 1/4 SE 1/4 sec.12, T.6 N., R.21 E., Milwaukee County, Hydrologic Unit 04040003, on left bank 50 ft upstream from the Kinnickinnic River and 100 ft upstream of Kinnicknnic River Parkway bridge, at Milwaukee.

DRAINAGE AREA.--11.34 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1996 to May 1997, November 1997 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 640 ft above NGVD of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, and Sept. 25-30, which are poor (see Introduction).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	e30	8.3	9.5	3.8	5.2	38	2.9	3.1	e3.0	2.4	2.3
2	9.1	e20	3.9	104	3.9	4.0	17	3.0	3.3	e2.6	2.8	2.9
3	3.2	e3.4	2.9	9.1	5.4	3.8	7.9	3.1	3.6	e2.0	3.2	2.3
4	3.1	21	3.3	6.4	9.7	4.1	6.4	3.0	3.2	e12	12	2.1
5	3.2	3.5	2.7	4.7	17	12	5.8	2.7	20	e2.7	2.6	2.5
6	3.0	2.5	23	4.3	21	34	32	21	3.2	e2.2	2.0	2.2
7	3.0	2.0	66	4.3	65	32	23	5.4	35	e2.0	1.7	3.4
8	8.4	1.9	8.3	3.8	13	9.4	8.1	3.4	14	e2.1	1.7	3.5
9	3.8	2.1	4.9	3.5	8.1	6.5	6.3	14	4.1	1.9	1.9	2.4
10	3.1	2.0	27	3.5	7.1	8.3	5.5	5.5	3.4	2.0	2.4	2.2
11	3.0	6.1	11	5.0	6.4	6.8	5.0	52	3.0	2.3	3.7	2.2
12	3.3	2.4	5.7	121	9.9	6.4	4.8	5.6	2.8	7.8	29	2.2
13	3.2	2.0	3.5	58	62	4.5	4.4	20	5.8	100	2.4	3.1
14	3.3	1.8	2.9	10	104	4.2	4.2	5.2	4.1	5.4	1.8	3.5
15	12	1.9	2.6	6.0	27	4.2	4.1	3.9	6.2	3.7	1.9	2.0
16	3.5	2.2	2.5	4.8	13	5.2	3.7	3.6	2.9	3.2	1.9	17
17	2.7	2.1	2.4	4.2	8.2	4.7	4.5	3.5	2.7	2.8	1.8	2.2
18	2.6	2.2	2.2	3.3	6.3	8.5	4.1	4.3	2.6	3.1	24	1.7
19	3.4	33	1.8	3.9	5.7	42	4.0	77	2.4	2.8	4.1	19
20	e2.6	8.5	1.9	4.1	11	10	6.9	8.9	2.6	8.8	14	3.2
21	e2.4	3.0	2.4	3.9	20	8.4	4.1	4.9	2.6	27	2.4	2.3
22	e2.4	2.4	2.0	3.1	9.8	7.8	16	4.2	e2.6	4.6	2.1	55
23	e34	2.2	2.0	3.1	7.2	7.2	5.0	4.2	e2.6	25	2.2	4.3
24	e3.4	2.1	1.7	3.4	6.4	6.9	4.0	3.8	e2.6	8.0	2.3	2.6
25	e2.6	2.1	1.6	4.3	5.7	6.5	3.8	3.6	e2.4	6.9	2.4	175
26	e2.8	2.0	1.8	4.3	4.4	6.0	4.0	3.5	e38	17	2.3	73
27	e3.6	25	2.0	3.7	4.2	6.1	4.7	7.8	e7.0	3.1	3.0	6.9
28	e2.4	6.0	2.0	3.3	8.7	6.3	3.9	5.8	e5.0	2.8	2.5	17
29	e2.8	2.9	e2.0	3.7	---	6.3	3.2	3.1	e3.4	2.5	3.1	6.2
30	e16	3.4	3.1	3.5	---	8.9	2.9	2.9	e18	2.3	3.1	2.9
31	e2.4	---	7.1	3.5	---	8.8	---	3.0	---	2.4	2.3	---
TOTAL	160.5	201.7	214.5	413.2	473.9	295.0	247.3	294.8	212.2	274.0	145.0	427.1
MEAN	5.18	6.72	6.92	13.3	16.9	9.52	8.24	9.51	7.07	8.84	4.68	14.2
MAX	34	33	66	121	104	42	38	77	38	100	29	175
MIN	2.4	1.8	1.6	3.1	3.8	3.8	2.9	2.7	2.4	1.9	1.7	1.7
CFSM	0.46	0.59	0.61	1.18	1.49	0.84	0.73	0.84	0.62	0.78	0.41	1.26
IN.	0.53	0.66	0.70	1.36	1.55	0.97	0.81	0.97	0.70	0.90	0.48	1.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.26	7.89	5.62	8.77	14.7	12.1	18.2	21.9	17.9	14.1	13.8	13.9
MAX	20.6	14.3	8.98	21.9	31.7	22.3	39.6	42.6	37.0	35.3	21.7	34.4
(WY)	(2002)	(2004)	(2004)	(1999)	(2001)	(1998)	(1999)	(2004)	(1999)	(2000)	(1998)	(2000)
MIN	4.67	3.42	3.00	1.25	1.90	7.04	8.24	9.51	6.23	7.20	4.68	3.45
(WY)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2005)	(2005)	(2003)	(2003)	(2005)	(2004)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1997 - 2005	
ANNUAL TOTAL	4,774.2		3,359.2			
ANNUAL MEAN	13.0		9.20		13.1	
HIGHEST ANNUAL MEAN					17.6	2000
LOWEST ANNUAL MEAN					6.32	2003
HIGHEST DAILY MEAN	224	May 23	175	Sep 25	508	Jun 13, 1999
LOWEST DAILY MEAN	1.6	Dec 25	1.6	Dec 25	0.50	Jan 23, 2003
ANNUAL SEVEN-DAY MINIMUM	1.9	Dec 22	1.9	Dec 22	0.66	Jan 20, 2003
MAXIMUM PEAK FLOW			805	Sep 25	3,090	Jul 2, 2000
MAXIMUM PEAK STAGE			16.99	Sep 25	20.82	Jul 2, 2000
INSTANTANEOUS LOW FLOW			1.3	(a)Dec 19	(b)0.43	Jan 23, 2003
ANNUAL RUNOFF (CFSM)	1.15		0.812		1.15	
ANNUAL RUNOFF (INCHES)	15.66		11.02		15.66	
10 PERCENT EXCEEDS	27		20		26	
50 PERCENT EXCEEDS	4.0		3.8		4.9	
90 PERCENT EXCEEDS	2.2		2.1		2.2	

040871488 WILSON PARK CREEK AT ST. LUKES HOSPITAL AT MILWAUKEE, WI—Continued

(a) Also occurred Sept. 15
(b) Result of freezeup
(e) Estimated

040871488 WILSON PARK CREEK AT ST. LUKES HOSPITAL AT MILWAUKEE, WI—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1996 to April 1997, November 1997 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: November 1996 to April 1997, November 1997 to current year.
DISSOLVED OXYGEN: November, 1996 to April 1997, November 1997 to September 2004 (discontinued).
SPECIFIC CONDUCTANCE: January 2001 to March 2005 (discontinued).

INSTRUMENTATION.--Stage-activated water-quality sampler since November 1996. Continuous water-temperature recorder since November 1996. Dissolved-oxygen recorder from November 1996 to September 2004. Specific conductance recorder from January 2001 to March 2005.

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 PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum observed, 29.5°C, July 30, 1999; minimum observed, 0.0°C, many days during winter.
DISSOLVED OXYGEN: Maximum observed, 22.7 mg/L, Oct. 14, 2000; minimum observed, 0.0 mg/L, Feb. 24, 1997, May 9, 10, 2004.
SPECIFIC CONDUCTANCE: Maximum observed, 27,500 µS/cm, Feb. 4, 2004; minimum observed, 38 µS/cm, Aug. 13, 2002.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum observed, 29.0°C, July 24; minimum observed, 0.0°C, many days during winter.
SPECIFIC CONDUCTANCE: Maximum observed, 17,100 µS/cm, Jan. 28; minimum observed, 177 µS/cm, Nov. 1.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.5	13.5	15.0	12.0	10.5	11.0	6.0	3.0	4.0	1.5	0.0	0.5
2	15.5	11.0	13.5	11.0	10.0	10.5	5.5	3.0	4.0	2.5	0.5	2.0
3	15.0	10.5	12.5	12.0	10.0	11.0	4.0	2.0	3.0	1.5	1.0	1.5
4	13.5	10.5	12.0	11.5	8.0	10.0	5.5	2.5	4.0	2.5	1.0	1.5
5	13.5	10.0	11.5	10.0	7.0	8.5	5.5	3.5	4.5	1.0	0.0	0.5
6	16.0	11.0	13.0	12.5	7.5	10.0	7.0	5.5	6.5	1.0	0.0	0.5
7	16.0	12.5	14.5	10.5	7.5	9.5	8.0	6.5	7.5	3.5	0.0	0.5
8	18.0	15.5	16.5	9.0	6.5	7.5	7.0	6.0	6.5	2.0	0.0	0.5
9	16.5	13.0	14.5	9.5	7.5	8.0	8.0	6.0	7.0	2.0	0.0	1.0
10	16.5	12.0	14.0	11.0	7.5	9.5	8.0	6.5	7.5	---	---	---
11	15.0	12.0	13.5	10.5	6.5	8.5	6.5	4.5	5.0	---	---	---
12	16.0	11.5	13.5	8.5	5.0	6.5	5.0	2.0	4.0	---	---	---
13	15.5	12.5	14.0	9.0	5.5	7.0	2.0	0.0	1.0	2.5	0.0	1.5
14	14.0	12.0	13.0	9.0	6.0	7.5	1.0	0.0	0.5	0.0	0.0	0.0
15	12.5	11.0	12.0	8.5	7.0	7.5	1.5	0.5	1.0	0.0	0.0	0.0
16	11.0	8.0	10.0	11.0	8.0	9.5	3.0	1.0	2.0	0.0	0.0	0.0
17	12.0	7.5	9.5	12.5	10.5	11.5	2.0	0.5	1.0	0.0	0.0	0.0
18	11.5	10.5	11.0	13.5	11.5	12.5	2.5	0.0	1.5	0.5	0.0	0.0
19	12.0	10.5	11.0	11.5	10.5	11.0	1.0	0.0	0.5	0.5	0.0	0.0
20	12.0	11.5	12.0	11.5	8.5	10.5	1.0	0.5	1.0	0.0	0.0	0.0
21	13.5	11.5	12.5	9.0	7.0	8.0	1.0	0.0	0.5	0.0	0.0	0.0
22	13.5	12.0	12.5	8.5	6.5	7.5	0.5	0.0	0.5	0.5	0.0	0.0
23	---	---	---	9.5	6.5	8.5	0.5	0.0	0.5	0.5	0.0	0.0
24	---	---	---	6.5	4.0	5.5	1.0	0.0	0.5	0.5	0.0	0.0
25	---	---	---	5.5	3.0	4.5	1.5	1.0	1.0	0.5	0.0	0.0
26	13.5	12.0	12.5	7.0	4.5	6.0	1.5	0.5	1.0	0.0	0.0	0.0
27	13.5	12.0	13.0	8.5	6.5	7.5	1.0	0.5	0.5	0.0	0.0	0.0
28	14.0	12.5	13.0	7.0	4.5	5.5	1.0	1.0	1.0	0.5	0.0	0.0
29	19.0	13.5	16.5	6.5	4.5	5.5	---	---	---	0.5	0.0	0.5
30	18.5	12.0	14.5	6.0	3.5	4.5	1.5	0.0	1.0	0.5	0.0	0.5
31	12.5	11.0	12.0	---	---	---	1.5	0.0	0.5	0.5	0.5	0.5
MONTH	19.0	7.5	13.0	13.5	3.0	8.3	8.0	0.0	2.6	3.5	0.0	0.4

040871488 WILSON PARK CREEK AT ST. LUKES HOSPITAL AT MILWAUKEE, WI—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1.0	0.5	0.5	2.5	0.0	0.5	9.5	5.0	7.0	10.5	7.0	8.5
2	1.0	0.5	0.5	2.0	0.0	0.5	12.0	5.0	8.0	8.5	5.5	7.0
3	1.5	0.0	0.5	3.5	0.0	1.0	12.5	5.0	8.0	10.0	5.5	7.5
4	2.0	0.0	0.5	3.0	0.0	1.5	12.5	5.5	9.0	13.5	5.0	9.0
5	4.0	0.5	1.5	6.0	1.5	3.0	15.5	7.5	11.5	15.0	7.5	11.0
6	3.5	1.5	2.5	6.0	1.5	3.0	14.5	10.5	12.5	15.5	9.5	12.0
7	2.0	1.5	1.5	4.0	1.0	3.0	13.5	8.5	10.5	12.5	10.5	11.5
8	2.0	0.5	1.5	3.5	0.0	1.0	14.5	7.0	10.5	17.5	9.0	13.5
9	2.5	0.0	1.0	3.5	0.0	1.0	14.0	7.0	10.5	18.5	13.5	15.0
10	3.5	0.0	1.0	2.0	0.0	1.0	15.5	7.5	11.5	20.5	13.5	16.5
11	4.0	0.0	1.5	4.0	0.0	2.0	14.5	9.5	11.5	16.5	9.5	12.0
12	5.5	0.5	2.5	4.0	0.0	1.0	10.5	7.5	9.0	13.0	8.0	10.0
13	3.0	1.0	2.0	4.5	0.0	1.5	12.0	5.5	8.5	11.5	9.5	10.5
14	2.5	1.0	2.0	4.5	0.5	2.5	14.5	6.5	10.0	16.5	10.5	12.5
15	3.5	2.0	2.5	6.0	0.5	3.0	14.5	7.0	10.5	12.5	9.5	11.0
16	3.5	0.5	1.5	6.5	1.0	3.5	15.0	8.0	11.5	14.5	10.0	11.5
17	1.0	0.0	0.0	4.0	1.0	2.5	16.5	11.0	13.0	16.0	10.5	13.0
18	1.0	0.0	0.0	3.5	1.5	2.5	18.0	10.5	14.0	16.0	10.0	13.5
19	2.5	0.0	1.0	2.5	1.5	2.0	18.5	12.5	15.0	14.0	11.5	12.5
20	1.5	0.0	0.5	5.0	1.5	3.0	16.5	10.0	13.5	18.0	11.0	14.0
21	3.5	1.5	2.0	7.0	1.0	3.5	15.0	8.0	11.0	17.5	11.0	14.5
22	4.5	1.0	2.5	6.5	2.0	4.0	11.0	7.5	10.0	20.5	13.5	16.5
23	4.5	0.0	2.0	5.5	2.5	3.5	8.5	5.5	6.5	18.0	14.0	16.0
24	5.5	0.5	2.0	8.5	1.5	4.5	11.5	4.0	7.5	20.0	12.5	15.5
25	3.5	1.5	2.0	6.0	3.0	4.5	14.5	6.5	10.0	19.5	13.0	16.0
26	3.5	0.0	1.5	8.5	2.0	4.5	12.5	8.0	10.5	19.5	14.5	16.5
27	4.0	0.5	2.0	9.5	2.5	5.5	11.0	7.5	9.5	19.0	14.0	16.0
28	3.5	0.5	2.5	11.0	3.0	6.5	13.0	6.0	9.5	17.5	13.0	15.5
29	---	---	---	11.0	5.0	8.0	13.5	7.0	10.0	16.5	13.5	15.0
30	---	---	---	13.5	7.0	10.0	12.0	7.5	9.5	20.5	13.0	16.5
31	---	---	---	10.0	6.5	8.0	---	---	---	21.0	14.5	17.5
MONTH	5.5	0.0	1.5	13.5	0.0	3.3	18.5	4.0	10.3	21.0	5.0	13.1
		JUNE			JULY			AUGUST			SEPTEMBER	
1	21.5	15.0	18.0	---	---	---	28.0	22.0	24.5	22.5	19.5	20.5
2	21.5	15.5	18.0	---	---	---	27.5	22.5	24.5	23.0	18.0	20.0
3	20.0	16.5	18.0	---	---	---	27.5	23.0	25.0	23.0	18.5	20.5
4	22.0	16.5	19.0	---	---	---	27.0	22.0	24.5	22.5	19.0	20.5
5	23.5	18.5	20.5	---	---	---	25.5	20.5	22.5	24.0	19.0	21.0
6	24.0	18.0	21.0	---	---	---	24.5	20.0	22.0	23.5	19.5	21.0
7	26.5	18.0	21.5	---	---	---	24.5	20.0	22.0	24.0	20.0	21.5
8	24.0	17.0	20.5	---	---	---	24.5	20.5	22.5	24.0	20.5	22.0
9	24.5	19.0	21.5	24.5	19.0	21.5	25.5	21.0	23.0	24.0	19.5	21.5
10	25.0	19.0	22.0	25.5	19.5	22.5	25.5	22.0	23.5	24.5	20.5	22.0
11	25.5	20.5	23.0	25.5	20.0	22.5	23.0	21.5	22.0	24.5	21.0	22.5
12	24.5	21.0	22.5	22.5	21.0	22.0	26.0	21.5	23.0	23.5	21.0	22.0
13	26.0	20.5	23.0	24.5	21.0	22.5	22.0	20.0	20.5	24.5	21.0	22.0
14	23.0	20.0	21.5	27.0	21.0	23.5	23.0	18.5	20.5	22.0	19.5	21.0
15	20.5	17.0	18.5	27.0	21.5	24.0	24.5	18.5	21.5	19.5	17.5	18.5
16	22.0	15.0	18.0	27.5	21.5	24.5	24.0	20.0	22.0	22.0	17.5	19.0
17	19.0	16.0	17.5	27.5	22.5	24.5	23.5	19.5	21.5	21.5	17.0	19.0
18	21.0	15.0	18.0	27.0	23.0	24.5	24.5	21.5	22.5	21.5	17.5	19.5
19	23.0	16.0	19.0	26.0	20.5	23.0	25.5	21.0	22.5	22.0	19.0	20.0
20	24.0	17.5	20.5	24.5	21.5	23.0	25.5	21.5	23.0	22.5	17.5	20.0
21	25.5	19.5	22.0	24.0	21.5	22.5	22.5	19.0	21.0	21.5	18.0	19.5
22	---	---	---	26.5	20.5	23.0	21.0	17.0	19.0	21.0	18.0	19.5
23	---	---	---	25.0	21.0	23.0	21.5	17.5	19.5	20.0	16.0	17.5
24	---	---	---	29.0	22.5	25.5	23.0	18.5	20.5	19.5	17.0	18.0
25	---	---	---	26.5	23.5	25.0	23.0	19.5	21.0	21.5	18.0	19.5
26	---	---	---	24.0	20.0	22.5	24.0	20.0	22.0	20.5	17.5	19.5
27	---	---	---	23.5	17.5	20.5	24.0	21.0	22.5	20.5	15.5	18.0
28	---	---	---	23.5	18.5	21.0	24.5	19.5	21.5	19.0	16.0	17.5
29	---	---	---	23.5	19.0	21.0	25.5	20.0	21.5	17.0	12.5	14.5
30	---	---	---	24.5	19.0	21.5	24.0	19.5	21.5	17.5	12.0	14.5
31	---	---	---	26.5	21.0	23.5	23.0	19.5	21.0	---	---	---
MONTH	26.5	15.0	20.2	29.0	17.5	22.9	28.0	17.0	22.1	24.5	12.0	19.7
YEAR	29.0	0.0	11.1									

040871488 WILSON PARK CREEK AT ST. LUKES HOSPITAL AT MILWAUKEE, WI—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	1,190	177	696	7,020	1,930	4,940	3,710	777	1,710
2	---	---	---	874	241	542	3,900	2,400	2,630	1,600	183	592
3	---	---	---	---	---	---	2,430	1,860	2,060	12,700	789	2,800
4	---	---	---	---	---	---	1,950	1,540	1,740	11,700	5,490	6,840
5	---	---	---	---	---	---	1,850	1,490	1,570	10,700	6,160	8,180
6	---	---	---	1,480	978	1,290	3,460	852	1,260	13,000	8,340	9,520
7	---	---	---	1,590	1,440	1,500	1,310	311	751	9,780	5,380	8,060
8	---	---	---	1,730	1,580	1,620	1,380	1,030	1,240	6,400	4,010	5,340
9	---	---	---	1,800	1,500	1,620	---	---	---	4,140	3,570	3,830
10	---	---	---	1,650	986	1,480	1,570	371	900	4,370	3,730	4,160
11	---	---	---	1,370	708	943	1,230	629	972	---	---	---
12	---	---	---	1,670	955	1,340	1,370	642	1,240	6,720	859	3,840
13	---	---	---	1,670	1,060	1,450	1,540	1,360	1,480	5,440	1,090	3,010
14	---	---	---	1,700	1,560	1,620	---	---	---	3,340	2,830	3,160
15	---	---	---	1,970	1,630	1,750	1,500	1,330	1,440	2,840	2,640	2,760
16	---	---	---	1,970	1,410	1,710	1,520	1,310	1,400	2,640	2,250	2,440
17	---	---	---	1,790	1,140	1,630	1,480	1,340	1,400	2,340	1,890	2,180
18	---	---	---	1,870	1,530	1,730	1,480	1,170	1,370	2,460	1,890	2,120
19	---	---	---	1,720	372	665	1,680	1,170	1,530	5,960	2,110	3,840
20	---	---	---	1,300	514	980	2,450	1,580	1,780	11,500	5,480	7,830
21	---	---	---	1,150	939	1,060	4,650	1,680	3,070	---	---	---
22	---	---	---	1,240	980	1,120	3,980	2,860	3,170	14,200	5,260	8,840
23	---	---	---	1,340	1,210	1,270	3,760	1,570	2,230	---	---	---
24	---	---	---	1,340	1,240	1,280	2,650	1,410	1,670	---	---	---
25	---	---	---	1,360	1,230	1,300	4,400	1,450	2,220	10,800	7,200	8,760
26	---	---	---	1,370	1,230	1,300	2,020	1,140	1,690	11,300	6,240	8,820
27	---	---	---	1,230	326	525	1,620	984	1,170	15,300	5,270	9,520
28	---	---	---	1,070	494	791	1,430	904	976	17,100	5,860	10,300
29	---	---	---	1,250	1,070	1,160	---	---	---	5,990	3,360	4,800
30	---	---	---	3,610	963	1,350	3,500	565	1,070	5,670	3,870	4,700
31	---	---	---	---	---	---	3,770	1,150	2,070	3,900	3,590	3,750
MONTH	---	---	---	3,610	177	1,250	7,020	311	1,750	17,100	183	5,250

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	4,000	3,390	3,690	8,100	4,540	7,010	---	---	---	---	---	---
2	4,600	3,830	4,070	7,640	4,150	5,510	---	---	---	---	---	---
3	6,360	4,440	5,020	4,330	3,380	3,990	---	---	---	---	---	---
4	6,420	5,140	5,850	3,530	3,070	3,300	---	---	---	---	---	---
5	6,260	3,690	5,140	3,210	1,600	2,670	---	---	---	---	---	---
6	4,530	2,850	4,020	2,490	949	1,720	---	---	---	---	---	---
7	2,890	1,700	2,070	4,500	1,340	2,100	---	---	---	---	---	---
8	3,440	2,380	3,080	2,440	2,130	2,350	---	---	---	---	---	---
9	---	---	---	2,420	2,340	2,380	---	---	---	---	---	---
10	---	---	---	9,820	2,310	5,070	---	---	---	---	---	---
11	---	---	---	8,660	3,990	4,820	---	---	---	---	---	---
12	4,030	2,380	3,250	11,500	7,620	8,920	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	4,380	3,760	4,050	---	---	---	---	---	---
15	2,170	1,660	2,000	3,790	2,920	3,270	---	---	---	---	---	---
16	2,570	2,090	2,420	3,480	2,820	3,080	---	---	---	---	---	---
17	2,660	2,460	2,560	7,840	2,490	2,910	---	---	---	---	---	---
18	2,840	2,420	2,640	---	---	---	---	---	---	---	---	---
19	2,700	2,310	2,450	5,740	2,130	2,820	---	---	---	---	---	---
20	13,600	2,260	7,480	3,250	2,610	3,070	---	---	---	---	---	---
21	10,600	4,310	7,290	3,150	2,730	3,020	---	---	---	---	---	---
22	6,070	4,000	4,930	2,960	2,580	2,760	---	---	---	---	---	---
23	4,020	3,180	3,780	2,780	2,400	2,570	---	---	---	---	---	---
24	3,450	2,400	3,230	2,480	2,280	2,390	---	---	---	---	---	---
25	6,770	3,000	4,860	2,320	2,080	2,210	---	---	---	---	---	---
26	5,920	3,700	4,260	2,320	2,210	2,250	---	---	---	---	---	---
27	4,930	3,360	3,690	2,270	2,100	2,160	---	---	---	---	---	---
28	11,400	4,150	7,490	2,290	1,990	2,060	---	---	---	---	---	---
29	---	---	---	2,120	1,840	1,940	---	---	---	---	---	---
30	---	---	---	2,660	1,700	1,940	---	---	---	---	---	---
31	---	---	---	2,830	1,860	2,110	---	---	---	---	---	---
MONTH	13,600	1,660	4,140	11,500	949	3,260	---	---	---	---	---	---

040871488 WILSON PARK CREEK AT ST. LUKES HOSPITAL AT MILWAUKEE, WI—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
YEAR	17,100	177	3,050									

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
COMPOSITE SAMPLES

Date	End date	Time	End time	Sampling method, code (82398)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Calcium water unfltrd recover -able, mg/L (00916)	Magnesium, water, unfltrd recover -able, mg/L (00921)	Potassium, water, unfltrd recover -able, mg/L (00939)	Sodium, water, unfltrd recover -able, mg/L (00923)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)
JAN 03-04	20050104	1940	0740	50	7.7	8,960	--	--	44.0	1,900	189	3,070	--
JAN 12-13	20050113	1710	1520	50	7.6	1,520	42.1	14	11.0	240	81	432	130
JAN 22-22	20050122	0715	1545	50	7.8	8,190	--	--	--	--	262	2,730	--
JAN 22-23	20050123	1655	0250	50	7.8	5,290	--	--	--	--	269	1,600	--
JAN 23-23	20050123	0355	1325	50	7.8	4,750	--	--	--	--	269	1,400	--
JAN 23-23	20050123	1425	1720	50	7.9	7,630	--	--	--	--	256	2,490	--
FEB 20-21	20050221	1315	1515	50	7.4	8,750	--	--	19.0	2,000	169	3,070	--
MAR 18-19	20050319	0400	0405	50	7.4	8,060	--	--	19.0	1,600	191	2,700	--
MAR 19-20	20050320	0420	1300	50	7.5	2,330	--	--	23.0	390	148	656	--

040871488 WILSON PARK CREEK AT ST. LUKES HOSPITAL AT MILWAUKEE, WI—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED
COMPOSITE SAMPLES

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	COD, low level, water, unfltrd mg/L (00335)	Copper, water, unfltrd recover -able, ug/L (01119)	Lead, water, unfltrd recover -able, ug/L (01114)	Zinc, water, unfltrd recover -able, ug/L (01094)	1,2-Propane -diol, water, unfltrd mg/L (91080)	5-Meth-yl-1H-benzo-tri-azole, wat unf ug/L (61944)	1,2-Ethane-diol, water, unfltrd mg/L (91075)	Runoff, thousands of cubic feet (99904)	Acetate, mg/L (99916)	Formate, mg/L (99917)
JAN 03-04	1.3	.267	290	380	--	--	--	61.0	M	<18.0	340	78.000	<2.500
JAN 12-13	1.9	.128	67.8	160	20	18	120	32.0	<.040	<18.0	13,000	11.000	2.900
JAN 22-22	--	--	--	120	--	--	--	--	--	--	93	--	--
JAN 22-23	--	--	--	140	--	--	--	--	--	--	100	--	--
JAN 23-23	--	--	--	160	--	--	--	--	--	--	100	--	--
JAN 23-23	--	--	--	240	--	--	--	--	--	--	34	--	--
FEB 20-21	1.4	.097	515	880	--	--	--	430	M	<18.0	1,800	<5.000	<2.500
MAR 18-19	2.2	.051	262	5,200	--	--	--	210	<.040	<18.0	1,000	<5.000	<2.500
MAR 19-20	2.2	.296	88.4	180	--	--	--	55.0	<.040	<18.0	3,200	19.000	<2.500

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DISCRETE SAMPLES

Date	Time	Instan-taneous dis-charge, cfs (00061)	Sam-pling method, code (82398)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Potas-sium, water, unfltrd recover -able, mg/L (00939)	Sodium, water, unfltrd recover -able, mg/L (00923)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Chlor-ide, water, fltrd, mg/L (00940)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	COD, low level, water, unfltrd mg/L (00335)
FEB 03...	1030	4.4	10	7.9	4,240	9.0	730	222	1,290	.65	<.015	<120	110
APR 28...	1540	3.6	10	8.2	1,490	9.0	170	234	289	.42	.060	<3.0	30

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED
DISCRETE SAMPLES

Date	1,2-Propane -diol, water, unfltrd mg/L (91080)	5-Meth-yl-1H-benzo-tri-azole, wat unf ug/L (61944)	1,2-Ethane-diol, water, unfltrd mg/L (91075)	Acetate, mg/L (99916)	Formate, mg/L (99917)
FEB 03...	20.0	<.04	<18.0	<5.000	<2.500
APR 28...	<18.0	--	<18.0	<5.000	<2.500

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 mi^2.

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.

REVISED RECORDS.--WDR WI-97-1: Drainage area.

GAGE.--Water-stage recorder and steel plate weir. Datum of gage is 588.88 ft above NGVD of 1929, from levels from the Southeast Wisconsin Regional Planning Commission.

REMARKS.--Records good except those for discharges greater than 500 ft^3/s, which are fair, and those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	59	13	16	e6.4	e8.0	69	5.1	6.0	6.0	5.2	4.6
2	18	37	6.8	210	e6.8	e7.0	29	5.9	6.2	4.9	6.1	5.2
3	3.9	6.6	5.6	13	e9.0	e6.5	13	6.0	6.4	3.8	6.0	4.2
4	3.8	36	5.8	9.6	20	e6.7	11	5.7	6.2	23	25	4.0
5	4.8	6.9	4.9	e9.2	34	20	9.8	5.1	38	5.3	5.3	4.5
6	4.6	5.3	43	e8.7	38	54	65	42	5.6	4.3	4.6	4.6
7	4.7	4.5	125	e8.0	113	53	42	9.4	58	4.0	4.1	5.6
8	13	4.6	14	7.6	24	15	12	5.4	20	4.2	4.4	6.6
9	5.4	4.6	8.7	6.7	15	11	9.8	27	6.3	4.1	4.6	4.8
10	4.7	4.4	46	6.9	11	15	8.7	9.3	5.9	4.2	5.4	4.8
11	4.7	11	18	8.5	9.9	12	8.5	101	5.3	4.5	6.5	4.4
12	5.0	4.9	9.0	270	16	11	8.1	8.9	4.9	12	57	4.7
13	5.0	4.4	e6.0	98	98	e7.7	7.4	35	24	161	5.0	5.8
14	5.2	3.7	e5.5	16	175	7.7	7.2	9.5	6.4	8.4	4.1	6.5
15	19	4.2	e5.1	e8.8	45	7.6	6.5	6.7	8.9	6.5	4.3	4.6
16	6.9	4.5	e4.8	e8.3	21	8.8	5.9	6.1	5.6	6.1	4.5	26
17	4.3	4.7	e4.7	e7.8	13	8.2	7.1	6.0	5.0	5.2	4.4	4.4
18	4.1	4.9	e4.3	e7.2	e10	15	6.2	6.8	4.8	6.1	49	3.7
19	6.7	64	e4.0	e6.6	e8.6	76	6.1	148	4.4	5.8	7.0	33
20	4.8	16	e3.8	e6.3	19	18	13	15	4.8	25	23	5.7
21	4.4	5.8	e3.6	e6.2	38	14	6.5	8.1	5.0	51	4.9	4.5
22	4.3	5.1	e3.3	e6.4	17	12	25	7.0	4.9	8.8	4.7	117
23	62	4.8	e2.7	e6.4	12	11	7.3	7.3	5.0	47	4.8	6.7
24	6.2	4.5	e2.5	e6.7	11	11	5.7	6.5	5.1	13	5.6	5.0
25	4.5	4.4	e2.3	e7.0	10	11	5.8	6.3	4.8	11	5.4	506
26	5.0	4.1	e2.4	e7.0	7.7	9.3	6.1	6.3	76	36	4.8	157
27	6.7	49	e2.5	e6.6	7.5	9.4	7.1	10	14	6.3	6.3	11
28	4.2	9.8	e5.0	e5.8	e9.0	9.6	5.9	11	10	5.8	5.3	26
29	5.1	5.4	e6.0	e5.8	---	9.7	5.6	5.7	6.8	5.4	5.4	11
30	30	5.7	e7.6	e5.9	---	18	5.2	5.0	36	4.9	5.1	6.0
31	4.6	---	e13	e6.2	---	14	---	5.5	---	4.9	4.6	---
TOTAL	275.6	389.8	388.9	803.2	804.9	497.2	425.5	542.6	400.3	498.5	292.4	997.9
MEAN	8.89	13.0	12.5	25.9	28.7	16.0	14.2	17.5	13.3	16.1	9.43	33.3
MAX	62	64	125	270	175	76	69	148	76	161	57	506
MIN	3.8	3.7	2.3	5.8	6.4	6.5	5.2	5.0	4.4	3.8	4.1	3.7
CFSM	0.47	0.69	0.67	1.38	1.53	0.85	0.75	0.93	0.71	0.86	0.50	1.77
IN.	0.55	0.77	0.77	1.59	1.59	0.98	0.84	1.07	0.79	0.99	0.58	1.97

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	18.9	23.1	16.6	14.7	21.2	24.2	33.4	29.2	29.8	28.0	33.5	25.3
MAX	60.5	67.8	48.9	43.7	56.3	44.9	104	80.9	81.6	66.8	82.3	69.5
(WY)	(1992)	(1986)	(1983)	(1988)	(2001)	(1993)	(1993)	(2004)	(1999)	(2000)	(1986)	(2000)
MIN	6.81	7.11	3.96	3.96	4.95	8.87	14.1	9.07	11.4	12.6	9.43	5.92
(WY)	(1995)	(2003)	(1990)	(2003)	(2003)	(1996)	(1989)	(1992)	(1985)	(1996)	(2005)	(2004)

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

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1983 - 2005	
ANNUAL TOTAL	9,137.8		6,316.8			
ANNUAL MEAN	25.0		17.3		24.8	
HIGHEST ANNUAL MEAN					39.8	1986
LOWEST ANNUAL MEAN					13.1	2003
HIGHEST DAILY MEAN	431	May 14	506	Sep 25	1,630	Aug 6, 1986
LOWEST DAILY MEAN	(a)2.3	Dec 25	(a)2.3	Dec 25	(a)2.3	Dec 25, 2004
ANNUAL SEVEN-DAY MINIMUM	(a)2.8	Dec 21	(a)2.8	Dec 21	(a)2.8	Dec 21, 2004
MAXIMUM PEAK FLOW			3,020	Sep 25	(b)10,600	Aug 6, 1986
MAXIMUM PEAK STAGE			11.63	Sep 25	(c)14.41	Aug 6, 1986
ANNUAL RUNOFF (CFSM)	1.33		0.921		1.32	
ANNUAL RUNOFF (INCHES)	18.08		12.50		17.94	
10 PERCENT EXCEEDS	51		37		48	
50 PERCENT EXCEEDS	7.1		6.5		9.2	
90 PERCENT EXCEEDS	4.0		4.4		5.3	

(a) Ice affected
(b) From rating curve extended above 600 ft^3/s on basis of step-backwater analysis at peak gage height
(c) From inside gage, 16.01 ft, from floodmarks
(e) Estimated

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1982 to September 1984, June 2004 to September 2005.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: October 1982 to September 1984, June 2004 to September 2005.
TOTAL PHOSPHORUS DISCHARGE: June 2004 to September 2005.
CHLORIDE DISCHARGE: June 2004 to September 2005.

INSTRUMENTATION.--Automatic pumping sampler October 1982 to September 1984, June 2004 to September 2005.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 1,550 tons, May 25, 1984; minimum daily, 0.02 tons, many days in water year 2005.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 978 lbs, Aug. 3, 2004; minimum daily, 1.30 lbs, Dec. 25, 2004.
CHLORIDE DISCHARGE: Maximum daily, 326 tons, Feb. 14, 2005; minimum daily, 1.53 tons, Oct. 4, 2004.

EXTREMES FOR WATER YEAR 2004.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 601 tons, Aug. 3, 2004; minimum daily, 0.03 tons, July 26-27, Aug. 16, 18, 20-23, Sept. 18-20, 22, and 29, 2004.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 978 lbs, Aug. 3, 2004; minimum daily, 1.89 lbs, Sept. 29, 2004.
CHLORIDE DISCHARGE: Maximum daily, 28.6 tons, July 3, 2004; minimum daily, 2.36 tons, Sept. 17, 2004.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 626 tons, Sept. 25; minimum daily, 0.02 tons, Oct. 17-18, 21-22, Nov. 9-10, 13-16, 24-26, Dec. 23-27, June 19, Aug. 6-9, 14-17, Sept. 15, 18, and 21.
TOTAL PHOSPHORUS DISCHARGE: Maximum daily, 866 lbs, Sept. 25; minimum daily, 1.30 lbs, Dec. 25.
CHLORIDE DISCHARGE: Maximum daily, 326 tons, Feb. 14; minimum daily, 1.53 tons, Oct. 4.

SUSPENDED SEDIMENT DISCHARGE, TONS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	3.6	0.09	0.04	0.14
2	---	---	---	---	---	---	---	---	0.21	0.07	0.04	0.13
3	---	---	---	---	---	---	---	---	0.16	134	601	0.11
4	---	---	---	---	---	---	---	---	0.14	576	30	0.10
5	---	---	---	---	---	---	---	---	0.13	0.30	0.73	0.20
6	---	---	---	---	---	---	---	---	0.12	0.12	0.42	0.09
7	---	---	---	---	---	---	---	---	0.13	34	0.28	0.08
8	---	---	---	---	---	---	---	---	0.12	0.12	0.21	0.08
9	---	---	---	---	---	---	---	---	3.2	0.09	0.60	0.08
10	---	---	---	---	---	---	---	---	52	0.08	0.16	0.07
11	---	---	---	---	---	---	---	---	9.9	36	0.11	0.05
12	---	---	---	---	---	---	---	---	11	8.0	0.08	0.04
13	---	---	---	---	---	---	---	---	0.29	0.11	0.06	0.05
14	---	---	---	---	---	---	---	---	238	0.07	0.05	0.04
15	---	---	---	---	---	---	---	---	0.95	0.06	0.04	1.6
16	---	---	---	---	---	---	---	---	9.5	0.32	0.03	1.2
17	---	---	---	---	---	---	---	---	4.3	0.07	0.04	0.04
18	---	---	---	---	---	---	---	---	0.28	0.05	0.03	0.03
19	---	---	---	---	---	---	---	---	0.20	0.05	0.04	0.03
20	---	---	---	---	---	---	---	---	0.17	0.05	0.03	0.03
21	---	---	---	---	---	---	---	---	25	4.1	0.03	0.04
22	---	---	---	---	---	---	---	---	0.74	0.06	0.03	0.03
23	---	---	---	---	---	---	---	---	2.0	0.04	0.03	0.04
24	---	---	---	---	---	---	---	---	4.6	0.04	43	0.04
25	---	---	---	---	---	---	---	---	0.39	0.04	64	0.04
26	---	---	---	---	---	---	---	---	0.25	0.03	0.17	0.04
27	---	---	---	---	---	---	---	---	0.24	0.03	10	0.04
28	---	---	---	---	---	---	---	---	2.0	0.04	134	0.04
29	---	---	---	---	---	---	---	---	0.14	0.04	1.4	0.03
30	---	---	---	---	---	---	---	---	0.11	0.04	0.18	0.04
31	---	---	---	---	---	---	---	---	---	0.04	0.16	---
TOTAL	---	---	---	---	---	---	---	---	369.87	794.15	886.99	4.57

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

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	31.7	3.71	2.96	2.94
2	---	---	---	---	---	---	---	---	5.13	3.32	3.16	2.90
3	---	---	---	---	---	---	---	---	4.00	333	978	2.68
4	---	---	---	---	---	---	---	---	3.57	904	127	2.48
5	---	---	---	---	---	---	---	---	3.22	11.3	7.86	5.00
6	---	---	---	---	---	---	---	---	3.07	6.56	5.49	2.50
7	---	---	---	---	---	---	---	---	3.12	149	4.41	2.52
8	---	---	---	---	---	---	---	---	2.91	6.75	3.87	2.62
9	---	---	---	---	---	---	---	---	7.50	5.30	13.3	2.69
10	---	---	---	---	---	---	---	---	247	4.40	4.22	2.80
11	---	---	---	---	---	---	---	---	96.3	115	3.62	2.07
12	---	---	---	---	---	---	---	---	67.8	32.9	3.28	1.93
13	---	---	---	---	---	---	---	---	7.20	4.75	3.01	2.11
14	---	---	---	---	---	---	---	---	521	4.07	2.64	2.21
15	---	---	---	---	---	---	---	---	15.9	3.91	2.40	17.0
16	---	---	---	---	---	---	---	---	44.8	8.30	2.45	14.0
17	---	---	---	---	---	---	---	---	32.0	4.87	3.91	3.33
18	---	---	---	---	---	---	---	---	7.29	3.73	3.23	2.77
19	---	---	---	---	---	---	---	---	5.14	3.88	3.56	2.61
20	---	---	---	---	---	---	---	---	4.49	4.12	2.86	2.57
21	---	---	---	---	---	---	---	---	148	40.0	2.59	2.62
22	---	---	---	---	---	---	---	---	56.8	5.92	2.47	2.37
23	---	---	---	---	---	---	---	---	25.9	4.40	2.55	2.37
24	---	---	---	---	---	---	---	---	42.8	4.37	121	2.33
25	---	---	---	---	---	---	---	---	9.27	4.25	145	2.27
26	---	---	---	---	---	---	---	---	6.64	4.26	4.12	2.25
27	---	---	---	---	---	---	---	---	6.96	4.22	48.2	2.11
28	---	---	---	---	---	---	---	---	25.9	4.42	197	2.03
29	---	---	---	---	---	---	---	---	4.87	3.92	15.2	1.89
30	---	---	---	---	---	---	---	---	4.12	3.91	3.38	1.91
31	---	---	---	---	---	---	---	---	---	3.31	3.10	---
TOTAL	---	---	---	---	---	---	---	---	1,444.40	1,695.85	1,725.84	101.88

CHLORIDE, WATER, FILTERED, TONS PER DAY
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	13.8	5.15	2.97	3.82
2	---	---	---	---	---	---	---	---	9.67	4.91	3.30	3.86
3	---	---	---	---	---	---	---	---	7.55	18.9	17.2	3.64
4	---	---	---	---	---	---	---	---	6.77	28.6	19.0	3.44
5	---	---	---	---	---	---	---	---	6.12	10.4	5.28	4.32
6	---	---	---	---	---	---	---	---	5.86	8.65	4.37	3.58
7	---	---	---	---	---	---	---	---	5.98	17.0	3.75	3.64
8	---	---	---	---	---	---	---	---	5.59	9.63	3.41	3.82
9	---	---	---	---	---	---	---	---	8.90	7.78	12.0	3.96
10	---	---	---	---	---	---	---	---	25.9	6.62	3.98	4.17
11	---	---	---	---	---	---	---	---	25.8	13.2	3.53	3.11
12	---	---	---	---	---	---	---	---	17.4	7.22	3.32	2.92
13	---	---	---	---	---	---	---	---	10.7	5.84	3.15	3.23
14	---	---	---	---	---	---	---	---	27.2	5.32	2.86	3.41
15	---	---	---	---	---	---	---	---	14.1	4.95	2.69	6.10
16	---	---	---	---	---	---	---	---	14.8	7.30	2.85	5.80
17	---	---	---	---	---	---	---	---	13.5	5.76	4.69	2.36
18	---	---	---	---	---	---	---	---	10.1	4.25	3.99	2.40
19	---	---	---	---	---	---	---	---	7.70	4.26	4.50	2.61
20	---	---	---	---	---	---	---	---	6.82	4.37	3.72	2.78
21	---	---	---	---	---	---	---	---	23.4	11.6	3.45	2.95
22	---	---	---	---	---	---	---	---	14.0	5.86	3.38	2.78
23	---	---	---	---	---	---	---	---	10.2	4.19	3.58	2.90
24	---	---	---	---	---	---	---	---	11.8	4.01	10.3	2.96
25	---	---	---	---	---	---	---	---	8.67	3.76	6.70	2.98
26	---	---	---	---	---	---	---	---	6.64	3.62	3.75	3.05
27	---	---	---	---	---	---	---	---	7.48	3.50	8.73	2.95
28	---	---	---	---	---	---	---	---	10.2	3.80	12.7	2.93
29	---	---	---	---	---	---	---	---	5.92	3.49	5.98	2.81
30	---	---	---	---	---	---	---	---	5.35	3.63	4.03	2.93
31	---	---	---	---	---	---	---	---	---	3.19	3.87	---
TOTAL	---	---	---	---	---	---	---	---	347.92	230.76	177.03	102.21

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

SUSPENDED SEDIMENT DISCHARGE, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	8.5	0.25	0.40	0.05	0.13	106	0.04	0.03	0.06	0.03	0.23
2	2.0	1.2	0.04	187	0.06	0.11	6.2	0.05	0.03	0.05	0.04	0.21
3	0.03	0.07	0.03	0.25	0.07	0.11	0.45	0.05	0.03	0.03	0.03	0.14
4	0.03	3.2	0.03	0.12	0.69	0.11	0.20	0.05	0.03	1.1	1.4	0.11
5	0.03	0.08	0.03	0.07	2.4	0.69	0.19	0.04	2.4	0.04	0.03	0.10
6	0.03	0.05	5.7	0.07	3.2	7.3	134	69	0.03	0.03	0.02	0.09
7	0.03	0.03	45	0.06	43	7.0	12	0.18	6.1	0.03	0.02	0.09
8	0.38	0.03	0.36	0.06	1.1	0.35	0.22	0.05	0.57	0.03	0.02	0.09
9	0.03	0.02	0.10	0.05	0.35	0.17	0.16	1.1	0.03	0.03	0.02	0.05
10	0.03	0.02	4.9	0.06	0.17	0.35	0.13	0.10	0.03	0.03	0.03	0.04
11	0.03	0.27	0.47	0.11	0.13	0.19	0.12	81	0.03	0.04	0.04	0.03
12	0.03	0.03	0.07	340	0.40	0.18	0.11	0.07	0.03	0.25	9.1	0.03
13	0.03	0.02	0.05	30	30	0.12	0.09	2.0	13	106	0.03	0.03
14	0.03	0.02	0.04	0.40	121	0.12	0.08	0.05	0.04	0.08	0.02	0.03
15	0.87	0.02	0.04	0.07	4.8	0.12	0.07	0.04	0.05	0.05	0.02	0.02
16	0.04	0.02	0.04	0.07	0.77	0.16	0.06	0.03	0.03	0.04	0.02	1.5
17	0.02	0.03	0.04	0.06	0.25	0.15	0.07	0.03	0.03	0.03	0.02	2.6
18	0.02	0.03	0.03	0.06	0.16	0.35	0.06	0.04	0.03	0.04	9.0	0.02
19	0.04	12	0.03	0.05	0.15	17	0.05	47	0.02	0.03	0.08	0.18
20	0.03	0.60	0.03	0.05	0.61	0.54	0.45	0.27	0.03	14	2.4	0.03
21	0.02	0.03	0.03	0.05	3.2	0.29	0.05	0.10	0.03	12	0.05	0.02
22	0.02	0.03	0.03	0.05	0.47	0.23	3.8	0.07	0.03	0.08	0.06	48
23	2.7	0.03	0.02	0.05	0.20	0.22	0.06	0.07	0.03	12	0.08	0.06
24	0.05	0.02	0.02	0.05	0.18	0.22	0.05	0.05	0.03	0.35	0.12	0.03
25	0.04	0.02	0.02	0.06	0.16	0.20	0.05	0.05	0.03	0.21	0.15	626
26	0.04	0.02	0.02	0.06	0.13	0.18	0.05	0.04	40	8.8	0.18	63
27	0.05	4.9	0.02	0.05	0.12	0.18	0.06	0.12	0.26	0.05	0.31	0.12
28	0.03	0.09	0.04	0.05	0.15	0.18	0.05	0.15	0.15	0.04	0.34	1.5
29	0.04	0.03	0.05	0.05	---	0.18	0.05	0.03	0.05	0.04	0.43	0.21
30	6.7	0.03	0.06	0.05	---	1.3	0.04	0.03	9.4	0.03	0.36	0.03
31	0.06	---	0.25	0.05	---	0.58	---	0.03	---	0.03	0.27	---
TOTAL	14.48	31.44	57.84	559.58	213.97	39.01	264.97	201.93	72.58	155.62	24.72	744.59

WTR YR 2005 TOTAL 2,380.73

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

PHOSPHORUS, WATER, UNFILTERED, POUNDS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.1	103	14.0	8.61	2.11	5.27	214	1.88	2.84	6.07	6.72	4.32
2	27.0	27.5	5.52	420	2.24	4.59	39.4	2.18	2.97	4.86	7.73	4.93
3	4.00	4.27	4.34	6.30	2.96	4.25	8.21	2.20	3.10	3.66	7.49	4.08
4	3.93	40.4	4.30	3.98	12.1	4.36	6.82	2.10	3.05	26.9	35.2	3.95
5	5.15	4.90	3.55	3.69	26.9	19.0	6.35	1.86	27.2	4.95	6.46	4.52
6	5.10	4.14	59.3	3.38	31.8	133	301	244	2.84	3.98	5.54	4.80
7	5.25	3.87	189	3.01	165	128	44.9	4.07	47.8	3.72	4.83	5.98
8	19.4	4.29	5.03	2.78	15.9	10.9	4.77	2.13	11.5	3.90	5.15	7.14
9	6.44	4.39	2.88	2.37	9.96	5.92	3.74	17.2	3.35	3.83	5.29	5.32
10	5.78	4.19	34.7	2.37	7.96	10.9	3.30	4.12	3.19	3.92	6.14	5.38
11	5.91	11.5	6.51	3.03	6.91	7.44	3.20	275	2.88	4.17	7.27	5.07
12	6.36	4.70	3.65	614	10.9	7.00	3.05	3.52	2.74	11.4	94.3	5.48
13	6.53	4.14	2.85	133	133	4.87	2.77	24.3	54.7	338	5.49	6.92
14	7.00	3.56	3.03	8.61	319	4.83	2.68	3.69	3.85	6.00	4.41	7.48
15	31.8	4.00	3.27	2.90	41.0	4.77	2.42	2.62	5.22	4.58	4.54	5.07
16	9.33	4.32	3.51	2.73	13.0	5.62	2.18	2.38	3.17	4.30	4.70	36.9
17	5.82	4.49	3.43	2.57	6.30	5.30	2.64	2.33	2.85	3.69	4.54	4.47
18	5.50	4.64	3.04	2.37	6.81	10.9	2.27	2.65	2.73	4.33	83.8	3.51
19	9.04	93.0	2.74	2.18	6.18	258	2.26	179	2.52	4.11	7.15	49.0
20	6.45	17.9	2.52	2.08	17.2	15.5	8.21	6.13	2.70	63.3	29.6	4.95
21	5.91	5.53	2.31	2.04	66.7	9.49	2.38	3.24	2.85	93.1	4.87	3.72
22	5.86	4.85	2.06	2.11	13.9	7.99	29.4	2.85	2.80	6.49	4.63	223
23	58.0	4.53	1.63	2.11	8.08	7.41	2.66	3.02	2.85	57.9	4.68	5.32
24	5.19	4.24	1.46	2.21	7.61	7.41	2.09	2.72	2.88	10.4	5.29	3.96
25	4.15	4.16	1.30	2.31	6.71	6.85	2.13	2.68	2.74	10.5	5.04	866
26	4.88	3.89	1.32	2.31	5.15	6.05	2.24	2.72	204	47.3	4.39	158
27	6.59	64.4	1.33	2.17	4.97	6.06	2.61	4.54	14.3	8.04	5.74	6.51
28	4.06	9.30	2.57	1.91	5.94	6.22	2.18	5.16	11.2	7.96	4.74	36.9
29	4.94	4.90	2.99	1.91	---	6.26	2.07	2.57	6.55	7.30	4.76	13.2
30	60.6	5.00	3.67	1.94	---	15.5	1.92	2.27	55.3	6.47	4.58	3.12
31	4.70	---	6.30	2.04	---	9.49	---	2.56	---	6.43	4.16	---
TOTAL	356.77	464.00	384.11	1,253.02	956.29	739.15	713.85	817.69	496.67	771.56	389.23	1,499.00

WTR YR 2005 TOTAL 8,841.34

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

CHLORIDE, WATER, FILTERED, TONS PER DAY
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.54	10.6	9.94	29.3	15.6	25.1	35.7	6.31	5.32	3.03	2.53	2.00
2	3.38	6.80	8.58	379	17.4	20.0	21.5	7.30	5.49	2.53	2.95	2.23
3	1.59	3.11	6.99	25.5	24.2	17.0	13.4	7.36	5.64	1.98	2.90	1.80
4	1.53	7.45	7.18	20.0	58.1	16.0	13.4	7.05	5.49	7.81	8.21	1.71
5	1.97	2.80	6.12	28.0	100	43.3	12.4	6.24	17.4	2.75	2.57	1.91
6	1.91	2.81	45.4	28.5	85.0	125	30.6	23.6	4.97	2.25	2.24	1.98
7	1.92	2.73	33.6	26.3	234	122	29.6	9.59	22.3	2.15	1.98	2.40
8	4.45	2.83	7.53	20.8	56.7	34.0	14.8	6.08	11.9	2.30	2.14	2.81
9	2.26	2.88	5.39	16.8	65.8	23.8	11.7	14.2	5.62	2.31	2.23	2.04
10	1.99	2.75	16.7	17.4	45.4	45.1	10.4	7.60	5.25	2.41	2.62	2.02
11	1.99	4.06	7.78	23.3	32.0	32.1	10.1	27.1	4.68	2.62	3.15	1.86
12	2.10	3.09	5.76	214	40.0	38.6	9.72	8.95	4.39	5.29	13.5	1.96
13	2.10	2.72	4.02	68.2	184	21.6	8.90	16.6	11.2	23.8	2.12	2.44
14	2.22	2.34	3.81	31.7	326	17.4	8.66	9.82	3.58	5.09	1.73	2.72
15	5.49	2.62	3.59	17.7	87.4	14.7	7.85	6.97	5.02	3.93	1.81	1.94
16	2.95	2.83	3.44	16.8	42.0	14.8	7.12	6.34	3.17	3.69	1.90	6.92
17	1.84	2.95	3.57	15.9	27.1	13.3	8.70	6.20	2.87	3.17	1.86	1.87
18	1.74	3.05	3.50	14.8	21.6	24.1	7.53	7.06	2.75	3.72	13.0	1.54
19	2.86	10.7	3.48	14.6	21.0	120	7.54	37.7	2.55	3.53	2.91	8.20
20	2.04	4.99	3.54	16.7	77.9	27.2	13.4	11.2	2.74	10.5	5.75	2.38
21	1.87	3.63	3.59	19.8	144	20.5	7.99	6.74	2.90	14.8	2.01	1.88
22	1.85	3.19	3.52	22.7	51.8	18.3	19.7	5.99	2.86	4.32	1.97	20.2
23	16.6	2.97	3.09	19.2	33.8	16.7	8.93	6.29	2.91	7.55	2.03	2.44
24	3.17	2.78	3.06	23.3	30.1	16.4	7.02	5.62	2.95	4.59	2.35	2.05
25	2.40	2.73	3.01	28.8	34.2	14.9	7.14	5.50	2.81	5.02	2.29	53.3
26	2.70	2.55	3.36	24.0	21.6	12.9	7.51	5.50	14.9	8.04	2.04	26.5
27	3.65	18.7	3.75	23.7	21.3	12.7	8.76	7.93	5.80	3.05	2.73	4.37
28	2.26	6.63	8.00	21.5	29.8	12.8	7.30	8.39	4.42	2.83	2.30	6.92
29	2.77	5.05	10.3	17.6	---	12.6	6.94	5.01	3.46	2.63	2.35	3.74
30	8.03	6.08	13.9	14.7	---	16.2	6.44	4.37	9.11	2.37	2.22	2.43
31	2.20	---	25.5	14.3	---	14.0	---	4.85	---	2.39	1.97	---
TOTAL	97.37	138.42	271.00	1,254.9	1,927.8	963.1	370.75	299.46	184.45	152.45	102.36	176.56

WTR YR 2005 TOTAL 5,938.62

04087204 OAK CREEK AT SOUTH MILWAUKEE, WI

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 mi^2.

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 NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). 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 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	14	6.2	7.2	e5.3	e9.0	28	5.3	4.1	6.9	1.3	0.59
2	5.1	37	6.7	136	5.6	e8.6	58	5.0	3.7	3.4	1.2	0.59
3	3.5	11	4.8	35	6.1	e8.4	28	5.0	3.8	2.5	1.2	0.54
4	2.1	16	4.2	18	7.7	e8.4	20	4.7	3.7	3.5	1.3	0.54
5	2.6	9.7	4.4	11	12	12	16	5.4	12	2.7	1.5	0.53
6	1.8	5.5	18	e10	22	48	17	11	7.5	2.4	1.3	0.51
7	1.6	4.1	77	e9.5	80	112	42	14	17	1.8	1.2	0.53
8	3.0	3.2	40	8.7	55	46	23	7.6	22	1.6	1.1	0.52
9	3.8	2.7	16	7.8	28	26	17	8.1	7.5	1.3	0.98	0.51
10	2.8	2.6	20	7.3	21	20	14	9.6	4.5	1.4	1.1	0.55
11	1.8	3.9	30	7.1	19	18	12	48	3.5	1.1	1.0	0.51
12	1.5	3.6	15	57	16	15	11	25	3.2	1.9	22	0.49
13	1.6	2.6	9.7	223	42	13	9.9	29	3.2	64	7.5	0.52
14	1.6	2.2	7.5	e50	258	11	8.8	20	3.9	20	3.0	0.69
15	4.3	2.0	e6.2	e30	127	10	8.2	15	3.3	6.8	1.9	0.78
16	5.9	2.2	5.6	e25	e60	11	7.6	9.7	3.0	4.4	1.4	8.7
17	3.1	2.3	5.1	e21	e40	13	7.5	8.5	2.7	3.6	1.3	5.0
18	2.2	2.2	4.7	e17	e23	13	7.3	7.6	2.3	3.1	6.5	2.1
19	1.8	13	e4.4	e13	e22	51	8.4	60	2.3	2.5	9.2	5.1
20	1.6	17	e4.0	e11	e27	36	16	35	2.0	4.4	8.2	5.6
21	1.7	7.0	e3.8	e9.0	e35	26	9.7	16	1.9	19	5.3	2.3
22	1.7	4.3	e3.6	e8.0	e25	24	16	12	1.8	14	2.5	43
23	17	3.5	e3.5	e7.0	17	23	17	9.9	1.7	8.5	2.2	17
24	9.0	3.0	e3.4	e6.0	15	21	9.8	8.2	1.5	15	1.4	4.9
25	4.0	3.1	e3.3	e5.7	14	22	8.1	6.9	1.3	6.6	1.1	145
26	2.8	2.8	e3.3	e5.5	12	19	7.4	6.1	13	10	0.89	322
27	2.7	13	e3.2	e5.3	11	18	9.2	5.6	7.3	6.1	0.84	58
28	2.7	17	e3.3	e5.2	e10	19	7.0	5.5	3.8	3.4	0.83	24
29	2.4	6.6	e3.4	e5.2	---	19	6.2	5.7	2.9	2.3	0.85	25
30	8.4	4.7	e4.0	e5.2	---	20	5.6	5.0	16	1.8	0.74	13
31	6.1	---	9.1	e5.3	---	23	---	4.4	---	1.5	0.71	---
TOTAL	112.7	221.8	333.4	772.0	1,015.7	723.4	455.7	418.8	166.4	227.5	91.54	689.10
MEAN	3.64	7.39	10.8	24.9	36.3	23.3	15.2	13.5	5.55	7.34	2.95	23.0
MAX	17	37	77	223	258	112	58	60	22	64	22	322
MIN	1.5	2.0	3.2	5.2	5.3	8.4	5.6	4.4	1.3	1.1	0.71	0.49
CFSM	0.15	0.30	0.43	1.00	1.45	0.93	0.61	0.54	0.22	0.29	0.12	0.92
IN.	0.17	0.33	0.50	1.15	1.51	1.08	0.68	0.62	0.25	0.34	0.14	1.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.6	16.9	18.0	14.5	25.3	45.8	47.3	27.9	23.7	15.7	14.0	17.4
MAX	48.4	85.3	65.3	77.3	84.5	149	151	103	85.8	95.8	52.7	110
(WY)	(1992)	(1986)	(1983)	(1974)	(2001)	(1979)	(1993)	(2004)	(1968)	(1969)	(1986)	(1972)
MIN	1.86	1.83	0.79	0.02	1.28	2.24	9.14	2.15	2.15	3.34	1.89	1.78
(WY)	(1976)	(1977)	(1977)	(1977)	(2003)	(1968)	(1968)	(1977)	(1988)	(1988)	(1970)	(1982)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1964 - 2005	
ANNUAL TOTAL	8,806.2		5,228.04			
ANNUAL MEAN	24.1		14.3		23.1	
HIGHEST ANNUAL MEAN					41.7	1974
LOWEST ANNUAL MEAN					6.67	1977
HIGHEST DAILY MEAN	505	May 23	322	Sep 26	855	Mar 5, 1976
LOWEST DAILY MEAN	1.5	Oct 12	0.49	Sep 12	0.00	(a)
ANNUAL SEVEN-DAY MINIMUM	1.8	Sep 24	0.52	Sep 6	0.00	Jan 7, 1977
MAXIMUM PEAK FLOW			611	Sep 25	1,140	Aug 6, 1986
MAXIMUM PEAK STAGE			7.35	Sep 25	9.88	Aug 6, 1986
INSTANTANEOUS LOW FLOW			0.47	(b)Sep 7	0.00	(a)
ANNUAL RUNOFF (CFSM)	0.962		0.573		0.924	
ANNUAL RUNOFF (INCHES)	13.10		7.78		12.55	
10 PERCENT EXCEEDS	50		28		49	
50 PERCENT EXCEEDS	7.8		6.6		7.8	
90 PERCENT EXCEEDS	2.4		1.4		1.9	

(a) Several days during 1977
(b) Also occurred Sept. 12-15
(e) Estimated

04087214 ROOT RIVER AT GRANGE AVENUE AT GREENFIELD, WI

LOCATION.--Lat 42°56'42", long 88°00'51", in SW 1/4 SE 1/4 sec.28, T.6 N., R.21 E., Milwaukee County, Hydrologic Unit 04040002, on left bank 40 ft upstream from bridge on Grange Avenue, at Greenfield.

DRAINAGE AREA.-- 14.7 mi^2.

PERIOD OF RECORD.--April 2004 to current year.

GAGE.--Water-stage recorder. Datum of gage is 705 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	20	3.7	4.8	3.1	5.3	32	2.4	2.1	2.7	0.68	0.24
2	7.1	25	2.7	90	2.7	4.5	34	2.4	2.1	1.8	0.65	0.23
3	0.93	4.3	2.0	7.9	3.4	3.9	15	2.3	2.1	1.5	0.60	0.20
4	0.81	21	2.0	5.3	6.4	3.7	11	2.2	2.0	8.1	7.4	0.20
5	0.82	7.4	1.9	3.9	12	6.5	9.4	2.1	18	2.2	0.92	0.18
6	0.85	12	21	3.3	17	41	31	18	2.6	1.5	0.50	0.18
7	0.67	6.8	80	3.5	77	64	54	5.0	15	1.3	0.43	0.27
8	1.9	3.3	16	2.4	28	16	16	3.0	5.6	1.1	0.42	0.14
9	1.8	2.1	7.4	2.3	12	9.8	11	8.8	2.1	0.92	0.42	0.15
10	0.90	2.6	15	2.2	9.7	10	8.5	10	1.8	0.83	0.55	0.14
11	0.77	3.5	13	2.4	7.1	7.9	7.1	46	1.6	0.82	0.64	0.22
12	0.74	1.8	6.2	74	7.5	7.1	6.6	8.1	1.5	2.2	21	0.24
13	0.80	1.4	4.3	207	32	5.3	5.5	15	33	38	1.2	0.39
14	0.90	1.4	3.3	30	133	4.3	6.2	6.4	7.4	2.1	0.67	0.18
15	3.5	1.5	2.9	16	49	4.2	4.3	4.5	4.1	1.3	0.53	0.14
16	2.3	1.6	2.9	6.0	23	5.4	3.7	3.7	2.2	1.1	0.76	2.3
17	1.4	1.9	2.5	4.4	12	5.7	4.0	3.3	1.7	0.99	0.81	0.18
18	1.4	1.9	2.5	3.8	e11	7.1	3.5	3.0	1.7	0.82	18	0.07
19	1.7	24	2.0	4.4	6.6	52	3.8	71	1.4	1.4	2.3	7.7
20	1.3	12	1.8	4.0	9.1	27	5.4	15	1.2	16	6.5	0.40
21	0.98	3.5	2.1	3.6	14	19	3.1	7.4	1.2	27	1.1	0.11
22	0.90	2.3	1.7	3.3	9.2	14	7.9	5.5	1.0	3.9	0.63	61
23	33	2.0	1.4	3.1	7.3	12	3.9	4.8	1.0	18	0.72	1.1
24	3.8	1.8	1.3	3.9	6.1	13	3.0	3.9	0.99	9.9	0.44	0.46
25	1.5	1.7	1.5	4.5	6.0	13	2.9	3.4	1.3	2.4	0.44	114
26	1.6	1.7	1.7	5.3	5.1	11	3.0	3.3	35	17	0.40	324
27	2.1	18	1.7	8.4	4.8	13	2.8	3.8	19	2.5	0.83	22
28	1.6	9.1	1.8	9.3	7.1	14	2.6	6.1	15	1.4	0.40	19
29	1.5	3.2	1.6	6.0	---	13	2.8	2.6	5.8	1.0	0.28	11
30	15	2.4	2.2	4.7	---	20	2.6	2.4	25	0.86	0.24	5.1
31	1.8	---	2.9	3.5	---	35	---	2.1	---	0.76	0.39	---
TOTAL	96.87	201.2	213.0	533.2	521.2	467.7	306.6	277.5	214.49	171.40	70.85	571.52
MEAN	3.12	6.71	6.87	17.2	18.6	15.1	10.2	8.95	7.15	5.53	2.29	19.1
MAX	33	25	80	207	133	64	54	71	35	38	21	324
MIN	0.67	1.4	1.3	2.2	2.7	3.7	2.6	2.1	0.99	0.76	0.24	0.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2004 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.12	6.71	6.87	17.2	18.6	15.1	10.7	32.2	16.3	12.7	8.57	10.2
MAX	3.12	6.71	6.87	17.2	18.6	15.1	11.1	55.4	25.5	19.8	14.9	19.1
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2004)	(2004)	(2004)	(2004)	(2004)	(2005)
MIN	3.12	6.71	6.87	17.2	18.6	15.1	10.2	8.95	7.15	5.53	2.29	1.40
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2004)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR (April - December)		FOR 2005 WATER YEAR		WATER YEARS 2004 - 2005	
ANNUAL TOTAL	4,444.97		3,645.53			
ANNUAL MEAN	16.2		9.99		13.8	
HIGHEST ANNUAL MEAN					21.5	2004
LOWEST ANNUAL MEAN					9.99	2005
HIGHEST DAILY MEAN	426	May 22	324	Sep 26	426	May 22, 2004
LOWEST DAILY MEAN	0.67	Oct 7	0.07	Sep 18	0.07	Sep 18, 2005
ANNUAL SEVEN-DAY MINIMUM	0.77	Sep 18	0.18	Sep 4	0.18	Sep 4, 2005
MAXIMUM PEAK FLOW			597	Sep 26	597	Sep 26, 2005
MAXIMUM PEAK STAGE			15.48	Sep 26	15.48	Sep 26, 2005
10 PERCENT EXCEEDS	36		21		31	
50 PERCENT EXCEEDS	3.5		3.3		3.8	
90 PERCENT EXCEEDS	1.1		0.65		0.81	

(e) Estimated

04087220 ROOT RIVER NEAR FRANKLIN, WI

LOCATION.--Lat 42°52'25", long 87°59'45", in SW 1/4 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 mi^2.

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 NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). 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 ft^3/s, from rating curve extended above 2,000 ft^3/s on basis of contracted-opening measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	7.5	10	e12	e10	e19	66	11	9.3	20	1.9	1.4
2	9.2	63	11	e160	e11	e18	118	11	7.2	7.6	1.8	1.5
3	7.5	32	9.8	e150	e13	e17	73	10	8.5	4.4	2.1	1.1
4	4.4	22	8.1	e46	e16	e15	50	11	7.6	6.3	2.6	1.5
5	5.3	25	7.9	e30	e26	e14	42	9.8	16	10	8.8	1.1
6	4.1	11	19	e20	e40	53	38	14	20	5.0	2.1	2.4
7	2.3	8.4	85	e16	e160	260	119	33	9.9	4.2	2.3	1.5
8	2.3	5.7	151	e14	e180	145	77	17	28	2.5	1.6	1.0
9	4.7	4.9	48	e13	e100	65	48	14	12	2.9	1.5	2.1
10	5.9	4.5	34	e12	e70	40	37	27	10	1.9	1.6	1.4
11	4.6	5.1	54	e20	e56	36	29	49	5.9	1.7	1.9	1.5
12	4.3	5.8	33	e34	e46	e29	27	65	5.2	2.2	16	1.9
13	5.0	4.4	22	e400	e57	e25	23	37	4.4	43	12	1.6
14	3.9	3.2	e17	e300	448	e22	21	36	44	41	3.5	1.1
15	5.1	3.4	e12	e110	380	19	20	22	16	9.9	2.7	1.2
16	13	3.3	e10	e70	197	21	16	18	10	6.2	1.9	5.1
17	8.4	3.8	e9.0	e50	e80	23	16	15	8.4	3.5	1.9	5.9
18	5.2	3.7	e8.0	e38	e50	24	15	14	5.4	2.7	3.0	2.7
19	4.9	11	e7.5	e30	e44	76	16	74	4.7	2.8	23	3.2
20	6.3	40	e7.0	e22	e40	113	18	86	5.2	3.4	9.4	12
21	6.5	18	e6.5	e17	e41	72	16	38	3.0	23	10	4.1
22	5.2	10	e6.0	e14	e37	59	17	24	3.3	38	4.1	21
23	24	8.1	e5.2	e13	e32	51	25	20	2.2	11	3.2	30
24	40	8.0	e4.8	e12	27	45	16	19	2.6	33	2.4	8.8
25	8.7	5.6	e4.6	e12	25	49	15	16	1.9	14	2.2	42
26	3.4	5.4	e4.5	e12	23	43	14	15	24	17	3.6	392
27	2.7	9.7	e4.6	e11	20	43	14	13	35	15	2.2	268
28	3.1	35	e5.0	e11	e20	49	12	16	17	6.3	1.8	54
29	3.0	18	e6.0	e10	---	52	12	14	22	4.2	2.2	47
30	14	10	e7.0	e10	---	56	11	11	17	3.2	1.4	27
31	20	---	e9.0	e10	---	82	---	11	---	2.6	1.8	---
TOTAL	239.0	395.5	626.5	1,679	2,249	1,635	1,021	770.8	365.7	348.5	136.5	945.1
MEAN	7.71	13.2	20.2	54.2	80.3	52.7	34.0	24.9	12.2	11.2	4.40	31.5
MAX	40	63	151	400	448	260	119	86	44	43	23	392
MIN	2.0	3.2	4.5	10	10	14	11	9.8	1.9	1.7	1.4	1.0
CFSM	0.16	0.27	0.41	1.10	1.63	1.07	0.69	0.51	0.25	0.23	0.09	0.64
IN.	0.18	0.30	0.47	1.27	1.70	1.24	0.77	0.58	0.28	0.26	0.10	0.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.0	30.1	33.9	30.9	48.2	88.9	85.9	50.0	45.6	28.2	25.7	30.9
MAX	95.5	151	118	190	161	315	316	171	164	142	72.3	214
(WY)	(1992)	(1986)	(1983)	(1974)	(1971)	(1979)	(1973)	(2004)	(1999)	(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)

04087220 ROOT RIVER NEAR FRANKLIN, WI—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1964 - 2005	
ANNUAL TOTAL	16,274.2		10,411.6			
ANNUAL MEAN	44.5		28.5		43.3	
HIGHEST ANNUAL MEAN					84.0	1974
LOWEST ANNUAL MEAN					12.7	1977
HIGHEST DAILY MEAN	1,040	May 23	448	Feb 14	2,390	Apr 21, 1973
LOWEST DAILY MEAN	1.9	Sep 30	1.0	Sep 8	0.44	Aug 9, 10 1971
ANNUAL SEVEN-DAY MINIMUM	2.2	Sep 25	1.4	Aug 30	0.99	Sep 6, 2003
MAXIMUM PEAK FLOW			(a)618	Feb 14	(b)3,700	Apr 21, 1973
MAXIMUM PEAK STAGE			(c)7.69	Jan 13	(d)9.43	Jul 3, 2000
INSTANTANEOUS LOW FLOW			0.93	Sep 14	0.38	Aug 10, 1971
ANNUAL RUNOFF (CFSM)	0.904		0.580		0.881	
ANNUAL RUNOFF (INCHES)	12.30		7.87		11.97	
10 PERCENT EXCEEDS	98		56		92	
50 PERCENT EXCEEDS	13		12		16	
90 PERCENT EXCEEDS	3.5		2.3		4.3	

(a) Gage height, 7.54 ft
(b) Gage height, 9.31 ft
(c) Discharge, 550 ft^3/s estimated, backwater from ice
(d) Discharge, 2,420 ft^3/s
(e) Estimated

04087233 ROOT RIVER CANAL NEAR FRANKLIN, WI

LOCATION.--Lat 42°48'56", long 87°59'41"(revised), in SE 1/4 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 mi^2.

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

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 680 ft above NGVD of 1929, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges and for flows over 100 cfs, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	7.0	14	7.1	e12	e28	58	13	6.7	2.2	1.3	0.65
2	3.9	17	14	117	e12	e26	237	13	6.0	1.9	0.86	0.65
3	4.3	9.7	13	97	e12	e24	154	13	6.0	1.7	0.62	0.46
4	2.5	7.8	13	46	e13	e22	96	12	6.4	1.6	0.72	0.36
5	2.4	10	14	e26	16	e26	72	11	7.1	1.5	0.98	0.29
6	2.0	7.0	24	e23	26	185	60	11	7.2	1.3	1.1	0.27
7	2.0	6.0	85	e20	186	421	131	12	5.8	1.5	1.3	0.24
8	3.0	6.1	124	e18	267	234	103	12	5.1	1.5	1.3	e0.23
9	5.8	6.4	57	e17	129	126	69	11	4.4	1.2	1.4	e0.22
10	5.0	6.5	39	e16	73	87	54	12	4.2	1.5	1.5	e0.21
11	3.7	6.6	45	e15	51	65	44	18	3.8	1.4	1.6	e0.21
12	3.2	6.3	36	36	45	51	38	27	3.7	1.0	2.0	e0.20
13	3.9	6.5	25	420	107	43	34	22	3.5	1.9	2.9	e0.21
14	3.7	6.6	19	287	542	36	29	22	3.6	2.1	2.0	e0.23
15	4.5	6.5	14	190	543	35	28	18	3.5	1.6	1.3	e0.40
16	6.2	7.5	13	98	344	40	25	15	3.2	1.5	0.91	e0.70
17	6.0	7.6	12	47	193	51	25	13	3.0	1.6	1.1	e1.1
18	5.8	6.7	11	e30	153	40	23	12	2.7	1.4	1.6	2.0
19	5.9	8.2	9.6	e27	84	161	21	17	2.4	1.1	3.0	2.4
20	6.8	11	e8.0	e23	71	154	23	26	2.5	1.4	2.8	2.2
21	6.0	11	e7.6	e20	61	105	21	20	2.2	2.1	1.9	2.1
22	5.8	9.7	e6.7	e18	55	86	22	17	1.8	2.7	2.0	3.2
23	7.9	9.5	e5.9	e17	48	82	28	14	1.7	2.4	1.9	3.3
24	10	9.7	e5.2	e16	45	73	24	12	1.7	1.9	1.8	3.8
25	7.5	11	e4.9	e15	43	74	20	11	1.8	1.9	1.7	4.4
26	7.0	11	e4.9	e15	36	65	18	9.8	1.9	1.4	1.3	11
27	6.7	13	e4.9	e14	e32	64	18	8.9	1.5	1.4	1.1	9.6
28	6.6	22	e4.9	e13	e30	65	16	8.3	1.5	1.1	1.2	3.3
29	6.9	16	e5.1	e12	---	63	15	7.9	2.0	1.2	1.0	1.2
30	7.0	14	e5.6	e12	---	63	14	7.6	2.3	1.3	0.60	0.52
31	6.4	---	8.4	e12	---	63	---	7.3	---	1.3	0.49	---
TOTAL	160.3	283.9	653.7	1,724.1	3,229	2,658	1,520	433.8	109.2	49.6	45.28	55.65
MEAN	5.17	9.46	21.1	55.6	115	85.7	50.7	14.0	3.64	1.60	1.46	1.85
MAX	10	22	124	420	543	421	237	27	7.2	2.7	3.0	11
MIN	1.9	6.0	4.9	7.1	12	22	14	7.3	1.5	1.0	0.49	0.20
CFSM	0.09	0.17	0.37	0.98	2.02	1.50	0.89	0.25	0.06	0.03	0.03	0.03
IN.	0.10	0.19	0.43	1.13	2.11	1.73	0.99	0.28	0.07	0.03	0.03	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	22.2	33.9	40.5	33.7	62.5	106	102	63.3	50.9	25.4	19.2	29.8
MAX	120	154	200	219	193	352	312	377	165	141	138	212
(WY)	(2002)	(1993)	(1983)	(1974)	(2001)	(1979)	(1993)	(2004)	(2004)	(1978)	(1978)	(1972)
MIN	1.05	1.27	0.86	0.56	0.69	6.03	10.9	2.47	2.51	1.60	1.46	1.28
(WY)	(1964)	(1964)	(1964)	(1977)	(1977)	(1968)	(1977)	(1977)	(1977)	(2005)	(2005)	(1971)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1964 - 2005	
ANNUAL TOTAL	28,267.0		10,922.53			
ANNUAL MEAN	77.2		29.9		49.0	
HIGHEST ANNUAL MEAN					98.4	1974
LOWEST ANNUAL MEAN					4.57	1977
HIGHEST DAILY MEAN	1,350	May 23	543	Feb 15	1,410	Mar 4, 1974
LOWEST DAILY MEAN	1.6	Sep 30	(e)0.20	Sep 12	(e)0.20	Sep 12, 2005
ANNUAL SEVEN-DAY MINIMUM	2.2	Sep 25	(e)0.22	Sep 8	(e)0.22	Sep 8, 2005
MAXIMUM PEAK FLOW			599	Feb 14	(a)1,440	Mar 4, 1974
MAXIMUM PEAK STAGE			9.34	Feb 14	11.28	May 23, 2004
ANNUAL RUNOFF (CFSM)	1.35		0.525		0.859	
ANNUAL RUNOFF (INCHES)	18.45		7.13		11.68	
10 PERCENT EXCEEDS	206		72		121	
50 PERCENT EXCEEDS	14		8.4		15	
90 PERCENT EXCEEDS	4.0		1.3		2.3	

04087233 ROOT RIVER CANAL NEAR FRANKLIN, WI—Continued

(a) Gage height, 9.88 ft
(e) Estimated due to ice effect or poorly defined backwater conditions

04087240 ROOT RIVER AT RACINE, WI

LOCATION.--Lat 42°45'05", long 87°49'25", in NW 1/4 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 mi^2, of which 1.24 mi^2 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 NGVD of 1929, from topographic map. Prior to Feb. 5, 1964, nonrecording gage on bridge 30 ft upstream.

REMARKS.--Records good except those for estimated daily discharges, which are poor (see Introduction). Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	18	37	20	35	e83	211	37	36	20	8.9	1.8
2	3.8	29	28	68	35	e78	288	36	33	20	6.8	1.7
3	3.7	75	26	220	35	e68	356	36	30	19	5.5	1.4
4	3.7	72	26	252	35	e67	295	34	28	15	4.9	1.1
5	5.7	43	24	150	39	e73	200	32	27	12	4.4	1.1
6	6.8	43	28	83	47	163	159	33	25	10	4.3	0.96
7	4.7	34	96	67	91	648	212	37	30	9.6	4.3	1.0
8	6.4	25	240	e63	270	782	291	57	30	9.0	4.3	0.53
9	8.5	20	258	e56	395	576	240	57	29	7.7	4.1	0.43
10	9.8	18	150	52	386	309	163	52	31	6.7	3.8	0.23
11	8.1	17	124	48	220	203	129	79	27	5.6	3.3	0.21
12	7.3	17	132	58	152	161	111	129	23	5.0	4.3	0.23
13	7.4	17	105	287	156	129	97	144	19	4.8	2.2	0.22
14	7.9	19	74	426	635	115	85	114	17	8.1	3.5	0.08
15	9.2	20	47	621	1,030	102	78	108	19	33	7.4	0.35
16	8.8	17	e42	e440	1,260	100	72	85	28	34	7.3	0.35
17	8.2	14	e34	e170	938	115	64	72	25	27	6.0	0.00
18	8.1	13	e30	e100	500	119	59	64	20	19	5.8	0.00
19	9.6	14	25	e80	288	184	57	74	17	14	6.4	0.10
20	11	15	32	e70	221	360	64	169	15	10	8.1	0.00
21	11	24	30	e62	183	357	62	196	13	9.2	13	0.00
22	10	41	25	e55	167	285	65	139	12	11	13	4.4
23	14	28	23	e50	150	249	66	111	9.8	24	12	8.8
24	16	23	20	49	134	225	72	91	8.1	32	9.6	22
25	29	19	17	48	123	219	61	78	7.0	29	7.7	28
26	36	19	16	47	112	202	51	69	6.3	32	6.3	118
27	29	20	15	e43	e97	191	48	58	5.8	27	5.1	205
28	21	21	14	e39	e90	193	45	50	13	24	3.8	241
29	16	42	14	38	---	191	42	46	21	22	3.2	124
30	14	50	15	36	---	194	37	44	21	17	2.9	68
31	13	---	18	36	---	200	---	40	---	12	2.3	---
TOTAL	350.8	827	1,765	3,834	7,824	6,941	3,780	2,371	626.0	528.7	184.5	830.99
MEAN	11.3	27.6	56.9	124	279	224	126	76.5	20.9	17.1	5.95	27.7
MAX	36	75	258	621	1,260	782	356	196	36	34	13	241
MIN	3.1	13	14	20	35	67	37	32	5.8	4.8	2.2	0.00
CFSM	0.06	0.15	0.30	0.66	1.48	1.19	0.67	0.41	0.11	0.09	0.03	0.15
IN.	0.07	0.16	0.35	0.76	1.54	1.37	0.74	0.47	0.12	0.10	0.04	0.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	65.3	101	118	94.6	176	327	337	203	152	87.1	62.7	86.2
MAX	335	454	568	401	641	1,149	1,071	881	493	485	237	683
(WY)	(1987)	(1986)	(1983)	(1974)	(2001)	(1979)	(1993)	(2004)	(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	5.95	2.58
(WY)	(1964)	(1964)	(1964)	(1977)	(1977)	(1968)	(1977)	(1977)	(1988)	(1988)	(2005)	(1963)

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1963 - 2005	
ANNUAL TOTAL	68,684.6		29,862.99			
ANNUAL MEAN	188		81.8		151	
HIGHEST ANNUAL MEAN					268	1993
LOWEST ANNUAL MEAN					23.3	1977
HIGHEST DAILY MEAN	2,620	May 24	1,260	Feb 16	4,010	Mar 5, 1974
LOWEST DAILY MEAN	2.0	Sep 29	0.00	(a)Sep 17	0.00	(b)Jul 9-15,1988
ANNUAL SEVEN-DAY MINIMUM	2.9	Sep 26	0.11	Sep 15	0.00	Jul 9, 1988
MAXIMUM PEAK FLOW			1,330	Feb 16	4,500	Mar 5, 1974
MAXIMUM PEAK STAGE			5.14	Feb 16	8.54	Mar 5, 1974
INSTANTANEOUS LOW FLOW			0.00	(c)Sep 10	0.00	(d)Jul 9-15,1988
ANNUAL RUNOFF (CFSM)	0.994		0.433		0.798	
ANNUAL RUNOFF (INCHES)	13.54		5.89		10.84	
10 PERCENT EXCEEDS	533		211		395	
50 PERCENT EXCEEDS	43		32		54	
90 PERCENT EXCEEDS	11		4.3		9.2	

(a) Also occurred Sept. 18, 20, 21
(b) Also occurred Sept. 17, 18, 20, 21, 2005
(c) Also occurred Sept. 11, 14-22
(d) Also occurred Sept. 10, 11, 14-22, 2005
(e) Estimated

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 mi^2.

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 NGVD of 1929 (Southeastern Wisconsin Regional Planning Commission).

REMARKS.--Records good except those for estimated daily discharges, which are fair (see Introduction). Low flows considerably affected by effluent discharge in upper portion of basin, and by occasional regulation of small recreation dam 1.1 mi upstream. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	27	16	12	e8.3	e25	43	14	12	9.8	10	9.7
2	12	46	15	46	e8.4	e24	110	15	12	7.5	10	9.8
3	8.0	20	13	22	e8.8	e23	59	15	12	6.2	9.9	7.0
4	8.3	22	12	18	e9.3	e23	46	15	14	6.8	9.4	7.1
5	8.9	17	12	e17	e10	35	40	14	28	7.5	7.5	8.3
6	9.4	13	26	e15	16	140	34	15	18	8.7	7.0	9.7
7	9.1	11	135	e14	61	265	76	16	15	8.9	7.1	11
8	16	8.8	97	e13	71	111	45	15	16	9.0	8.5	12
9	12	8.5	53	e12	43	65	35	20	14	8.7	9.2	11
10	7.8	8.2	44	e11	28	49	29	23	13	8.4	9.0	11
11	7.0	8.0	52	e13	21	42	26	46	12	9.1	9.6	8.9
12	7.6	7.1	38	34	21	35	24	26	11	9.5	25	9.6
13	8.3	6.1	29	265	61	29	23	21	13	9.7	12	10
14	9.4	6.9	22	e150	540	26	21	18	13	9.9	8.9	11
15	15	8.3	19	e120	318	26	21	15	12	9.5	9.1	10
16	12	8.9	e18	e60	181	29	19	14	11	8.9	9.7	17
17	10	8.7	e16	e30	105	33	19	13	10	8.4	9.4	10
18	9.4	8.5	e15	e22	79	31	20	12	9.4	10	11	8.0
19	8.2	16	e14	e20	50	84	20	30	8.6	9.2	15	11
20	8.4	19	e13	e18	46	65	24	23	9.4	15	18	11
21	8.3	13	e14	e16	53	52	20	18	9.8	15	13	9.7
22	7.3	11	e13	e14	48	47	26	16	10	12	12	28
23	27	9.7	e12	e13	41	45	24	15	9.8	11	10	17
24	14	9.5	e11	e12	37	42	19	14	9.7	12	9.6	12
25	13	8.8	e10	e11	35	41	18	13	8.9	10	9.9	27
26	12	7.0	e9.8	e10	31	36	17	13	10	11	9.9	33
27	11	13	e9.3	e9.6	e27	33	20	12	9.9	10	10	15
28	11	17	e9.0	e9.0	e26	33	17	11	9.4	9.4	9.8	13
29	11	16	e8.7	e8.6	---	33	16	10	9.8	8.8	10	11
30	15	13	e8.9	e8.2	---	33	15	10	12	9.4	9.5	9.9
31	12	---	e11	e8.2	---	40	---	10	---	9.4	9.9	---
TOTAL	337.4	397.0	775.7	1,031.6	1,983.8	1,595	926	522	362.7	298.7	328.9	378.7
MEAN	10.9	13.2	25.0	33.3	70.8	51.5	30.9	16.8	12.1	9.64	10.6	12.6
MAX	27	46	135	265	540	265	110	46	28	15	25	33
MIN	7.0	6.1	8.7	8.2	8.3	23	15	10	8.6	6.2	7.0	7.0
CFSM	0.28	0.34	0.65	0.86	1.84	1.34	0.80	0.44	0.31	0.25	0.28	0.33
IN.	0.33	0.38	0.75	1.00	1.92	1.54	0.89	0.50	0.35	0.29	0.32	0.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2005, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	19.4	28.7	31.7	26.0	39.4	68.6	69.8	51.1	40.2	21.0	19.8	25.7
MAX	91.3	126	101	97.1	109	258	185	257	150	129	92.5	131
(WY)	(2002)	(1986)	(1983)	(1974)	(2001)	(1979)	(1993)	(2004)	(2000)	(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)

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SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1972 - 2005	
ANNUAL TOTAL	19,161.7		8,937.5			
ANNUAL MEAN	52.4		24.5		36.7	
HIGHEST ANNUAL MEAN					59.0	1993
LOWEST ANNUAL MEAN					8.10	1977
HIGHEST DAILY MEAN	1,270	May 22	540	Feb 14	1,270	May 22, 2004
LOWEST DAILY MEAN	6.1	Nov 13	6.1	Nov 13	0.35	Sep 28, 1976
ANNUAL SEVEN-DAY MINIMUM	(a)7.5	Jan 24	7.6	Nov 9	1.7	Nov 10, 1971
MAXIMUM PEAK FLOW			614	Feb 14	(b)1,650	May 23, 2004
MAXIMUM PEAK STAGE			5.43	Feb 14	(c)9.14	Feb 20, 1994
ANNUAL RUNOFF (CFSM)	1.36		0.636		0.954	
ANNUAL RUNOFF (INCHES)	18.51		8.64		12.96	
10 PERCENT EXCEEDS	119		45		80	
50 PERCENT EXCEEDS	16		13		16	
90 PERCENT EXCEEDS	7.7		8.5		6.0	

(a) Ice affected
(b) Gage height, 8.10 ft
(c) Backwater from ice
(e) Estimated