

Mississippi River Water Quality Surveys and Reports (1986-1997)

Mississippi/Lower St. Croix Team
Wisconsin Department of Natural Resources
La Crosse, WI
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The attached information summarizes monitoring activities and reports conducted or supported by the Mississippi River Water Quality Specialist position over the last 10 years. This information was prepared to document past monitoring efforts, to help organize data files (both electronic and hard copy) and to facilitate information sharing with other interested parties. This summary will also assist our Department in the development of future Mississippi River water quality work plans or monitoring program activities. This summary does not include monitoring activities undertaken by the Department's Resource Trend Analysis field station located at Onalaska, WI. This field station is federally funded and concentrates its efforts primarily on Pool 8 of the Mississippi River.

Table 1 provides a listing of monitoring surveys conducted by navigational pool and year from February 1986 to March 1997. Monitoring survey types include: general limnological, continuous monitoring, flow gaging, sediment sampling, dye tracing, invertebrate sampling, bathymetry surveys, chemical sampling and stage level measurements. A majority of this information has been collected as part of problem assessment monitoring (i.e. condition monitoring) for the federal Environmental Management Plan (EMP) - Habitat Rehabilitation and Enhancement Program (HREP). Once a habitat project has been completed, the monitoring purpose is to evaluate the effectiveness of the project to see if the project's water quality objectives have been met. This latter work is currently being undertaken as part of a 10-year evaluation of the federal EMP program.

The main monitoring purposes include:

Condition - These surveys are conducted to assess general water quality (dissolved oxygen) or physical conditions (depth, flow, temperature and light penetration) in various habitats of the Mississippi River. A majority of this work has been directed at providing the necessary information to help support or advance habitat rehabilitation projects on the river.

Dredging Evaluation- This information includes sediment sampling and water quality surveys conducted to assess Mississippi River dredging projects. The purpose of this work is to obtain site specific information to approve dredging projects or to evaluate compliance with dredging permits issued through Chapter 30 permits or our Water Quality Certification program.

HREP- This monitoring activity is focused on Habitat Rehabilitation Enhancement Project monitoring to evaluate the water quality response to dredging, flow diversions, flow isolation, drawdowns, and island creations as part of the federal Environmental Management Program.

Point Source Evaluation - These surveys are conducted near point source discharges to the Mississippi River. The purpose of this work is to assess water quality problems that could be caused by point source discharges of pollutants to the Mississippi River. In addition, site specific information is collected to assist in the development of wastewater discharge permits to ensure compliance with Wisconsin's water quality standards.

Resource Analysis Program- The purpose of this monitoring activity is specific to Weaver Bottoms, Pool 5. This activity is part of a 10-year multi-agency monitoring effort to evaluate side channel modifications and island construction in a large backwater area of Pool 5. This program pre-dates the EMP-HREP program and is part of the channel maintenance activities by the St. Paul Corps of Engineers.

Stream Classification- These surveys evaluate the receiving waters for Wisconsin point source dischargers directly to the Mississippi River or its backwaters. This information is necessary for the issuance of wastewater discharge permits by our Department. The information includes an assessment of the biological resources and potential water quality of the receiving water area.

Trend - The purpose of trend monitoring is to assess long term water quality (including suspended and bed sediments) changes at specific locations in the Mississippi River. This includes the Department's ambient water quality monitoring stations at the Lock and Dams that started in the 1960s to 70s and the more recent multi-agency invertebrate surveys on Pools 2 to 13 and the Department's sediment trap invertebrate colonization studies at L/D 3 and 4.

Numerous summary reports have been prepared that describe in detail the various monitoring activities summarized in Table 1. A listing of these reports (by year) is attached.

The information is stored in various formats (both electronic and hard copy) at the State Office Building in La Crosse. Specific requests for information should be directed to: John Sullivan, WDNR, 3550 Mormon Coulee Rd, La Crosse, WI 54601 (phone: 608-785-9995).

Table 1. Continued.

Site	Pool	Start Yr	End Yr	Month(s)	Monitoring Purpose	Monitoring Survey Type *							Notes					
						Gen. Limno.	Con. Mon.	Flow	Sed.	Dye	Invert	Bath		Chem	Stage			
Lk. Onal. - Rosebud Island	7	1992	.	Jun	HREP	X												
Lk. Onal. - Rosebud Island	7	1993	.	Jan-Feb	HREP	X												
Lk. Onal. - Rosebud Island	7	1994	.	Feb	HREP	X												
Lk. Onal. - Rosebud Island	7	1994	.	Jul-Aug	HREP	X												
Lk. Onal. - Rosebud Island	7	1995	96	Dec-Feb	HREP	X												
Lk. Onal. - Rosebud Island	7	1995	.	Jan-Feb	HREP	X												
Lk. Onal. - Rosebud Island	7	1996	.	Jul	HREP	X												
Lk. Onal. - Rosebud Island	7	1997	.	Jan-Feb	HREP	X												
Lk. Onal. - Runway Lights	7	1987	.	Nov	Condition						X							
Lk. Onal. HREP Construction	7	1991	.	May-Aug	Dredging Evaluation	X			X									
Long Lake	7	1987	.	Nov	Condition													
Long Lake	7	1987	.	Jul-Aug	Condition													
Long Lake	7	1988	.	Nov	Condition													
Long Lake	7	1988	.	June	Condition													
Long Lake	7	1989	.	Jan-Mar	Condition	X												
Long Lake	7	1998	.	Jan-Feb	Condition	X												
Round Lake	7	1991	.	Jan	Condition	X												
Third, Second, Round Lake Area	7	1990	.	May-Nov	Condition	X												
Billings' Slough	8	1988	.	Feb	Condition	X												
Black Hawk Park	8	1986	.	Jul-Aug	Condition	X												
Black Hawk Park	8	1987	.	Jun-Jul	Condition	X												
Black Hawk Park	8	1989	.	Aug	Condition	X												
Black Hawk Park	8	1991	.	Jul	HREP	X												
Black River - La Crosse	8	1995	.	Jan-Jun	Condition	X												
Black River - La Crosse	8	1996	.	Jun-Aug	Condition	X												
Black River Mouth	8	1986	.	Jul	Chapter 30 permit				X									
Black River Mouth	8	1987	.	Aug	Chapter 30 permit				X									
French Lake	8	1987	.	Jul	Condition				X									
French Lake	8	1988	.	Jan-Feb	Condition	X												
French Lake	8	1989	.	Jan-Jun	Condition	X												
French Lake	8	1990	.	Jan-Jun	Condition	X												
French Lake	8	1990	.	Mar-Nov	Condition	X												
French Lake	8	1994	96	Jan-Dec	Condition	X												
French & Round Lake	8	1988	.	Jan-Feb	Condition	X												
I-90	8	1989	.	Jan-Jun	Condition	X												
I-90 - West	8	1988	.	Feb	Condition	X												
I-90 & Round Lake	8	1987	.	Jan-Feb	Condition	X												
Iste La Plume	8	1987	.	May	Point Source Eval.	X												
Iste La Plume	8	1989	.	Mar	Point Source Eval.	X												
Iste La Plume	8	1987	.	Dec	Superfund Eval.	X												

2 sites
2 sites

USGS ADCP Gaging
Barge Fleeting
Barge Fleeting

Bath. on French Lake

Coal Pile Runoff
La Crosse WWTP
USEPA Assistance

Table 1. Continued.

Site	Pool	Start Yr	End Yr	Month(s)	Monitoring Purpose	Monitoring Survey Type *							Notes		
						Gen. Limno.	Con. Mon.	Flow	Sed.	Dye	Invert	Bath		Chem	Stage
Greimore Lake Area	10	1989		Jan-Mar	Condition	X		X							
Greimore Lake Area	10	1991		Jan	Condition	X									
Greimore Lake Area	10	1994		Feb	Condition	X									
Greimore Lake Area	10	1996		Feb	Condition	X		X							
Havil Lake	10	1987		Jan-Feb	Condition	X									
Prarie du Chien Harbor	10	1989		Apr	Chapter 30 Permit	X		X							Harbor Plans
Rotten Slough	10	1987		Mar	Point Source Eval.				X						PDC WWTP Dye Study
Rotten Slough	10	1987		Sept	Point Source Eval.	X									PDC WWTP
Rotten Slough	10	1989		Jan-Mar	Point Source Eval.				X						PDC WWTP Dye Study
Rotten Slough	10	1989		Jun	Point Source Eval.				X						PDC WWTP
Bertom Lake	11	1987		Feb	Dredging Evaluation			X							HREP
Bertom-McCartney Lake Area	11	1987		Aug	Condition		X								2 Sites
Bertom-McCartney Lake Area	11	1988		Feb	Condition	X									2 Sites
Bertom-McCartney Lake Area	11	1988		Jul-Aug	Condition	X									2 Sites
Bertom-McCartney Lake Area	11	1989		Jan-Feb	Condition	X		X							2 Sites
Bertom-McCartney Lake Area	11	1989		Jul	Condition	X									2 Sites
Bertom-McCartney Lake Area	11	1990		Jul, Aug	HREP	X									3 Sites
Bertom-McCartney Lake Area	11	1991		Jan-Feb	HREP	X									2 Sites
Bertom-McCartney Lake Area	11	1991		Aug	HREP	X									2 Sites
Bertom-McCartney Lake Area	11	1992		Jul-Nov	HREP	X									2 Sites
Bertom-McCartney Lake Area	11	1993		Jan	HREP	X									
Bertom-McCartney Lake Area	11	1994		Aug	HREP	X		X							
Bertom-McCartney Lake Area	11	1994		Jan	HREP	X		X							
Bertom-McCartney Lake Area	11	1996		Jul	HREP	X									
Bertom-McCartney Lake Area	11	1997		Feb	HREP	X		X							
Grant River Delta	11	1940	87	Summer	Condition				X						Aerial Photo Interp.
Grant River Delta	11	1988		Nov	Condition	X			X						Transects
Grant River Delta	11	1989		Feb	Condition				X						Transects
Grant River Delta	11	1990		Oct-Nov	Condition				X						Sediment Traps
Grant River Delta - Island 212	11	1991		May-Jul	Condition	X			X						Sediment Traps
Jack Oak Slough	11	1991		Sept	WQBEL			X							Casville WWTP
McCartney Lake	11	1987		Mar	Condition										Mixing Zone
Potosi WWTP outfall area	11	1994		Jan	Stream Class.	X									
Sunfish Lake	11	1991		Feb	Condition	X									

Gen. Limno. - General limnological survey
 Con. Mon. - Continuous monitoring data
 Flow - Stream discharge or related survey
 Sed. - Sediment sampling
 Dye - Dye tracing survey
 Invert. - Invertebrate survey
 Bath. - Bathymetry survey
 Chem. - Chemical analysis
 Stage - Stage levels measurements

Mississippi River Water Quality Reports (1986-1997)

Mississippi/Lower St Croix Team Wisconsin Department of Natural Resources La Crosse, WI.

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