

March 16, 2011

Kirk Rosenberger
Minnesota Department of Natural Resources
500 Lafayette Road
St. Paul, MN 55155-4029

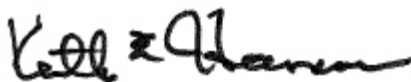
**Re: 2010 Wild Rice Report
Mesabi Nugget Phase II Project**

Dear Mr. Rosenberger,

On behalf of Mesabi Mining, LLC, enclosed is the 2010 Wild Rice Survey and Sulfate Monitoring. The purpose of this report is to determine the location of wild rice (*Zizania palustris* L.) stands downstream from the Project for which surveys were not carried out in 2009. The Study Area includes the St. Louis River from its confluence with the Partridge River to the Fond du Lac Dam and Second Creek from just south of the Tailings Basin to the start of the 2009 survey. This report is being submitted at the request of the MPCA to aid in the EIS and NPDES permitting and represents the final wild rice report to be submitted as part of the Phase II Project.

Please address any questions and comments directly to Keith Hanson at 218-529-8222 or via email at khanson@barr.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Keith E. Hanson".

Keith E. Hanson
Senior Consultant

Enclosure

c: Jon Ahlness, USACE

2010 Wild Rice Survey and Sulfate Monitoring

St. Louis River and Second Creek

Mesabi Nugget Phase II Project

***Prepared for
Mesabi Mining, LLC***

March 2011



2010 Wild Rice Survey and Sulfate Monitoring St. Louis River and Second Creek

March 2011

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1.0 Summary of Findings

The purpose of this report is to determine the location of wild rice (*Zizania palustris* L.) stands downstream from the Project for which surveys were not carried out in 2009. The Study Area includes the St. Louis River from its confluence with the Partridge River to the Fond du Lac Dam and Second Creek from just south of the Tailings Basin (A) to the start of the 2009 survey (downstream of B).

The results from the 2010 ground surveys identified the presence of wild rice along the St. Louis River downstream of its confluence with the Partridge River (Figure 1). The sulfate level of the water sample taken in the location where rice was densest (density factor 2) was 113 mg/L (Table 1-1). Several sparse stands of wild rice (density factor 1) were identified approximately 500 and 1000 feet, respectively, downstream of Highway 100. Sulfate levels along the St. Louis River ranged from 29.6 to 113 mg/L.

Table 1-1 Sulfate Concentrations along the St. Louis River

Map Location	Sample Name	Sulfate Concentration (mg/L)
WS-1	PM-STL-KDM-01	113
WS-2	PM-STL-KDM-02	53.2
WS-3	PM-STL-KDM-03	49.4
WS-4	PM-STL-KDM-04	44.7
WS-5	PM-STL-KDM-05	47.4
WS-6	PM-STL-KDM-06	59.4
WS-7	MN-STL-MRB2-D	29.8
WS-8	MN-STL-MRB2-C	31.2
WS-9	MN-STL-MRB2-B	29.6

A small stand of wild rice was identified along Second Creek in 2009 and 2010 at its confluence with the Partridge River (Figure 2). The majority of Second Creek was surveyed in mid- September 2009. The remaining portion upstream from the 2009 survey was completed in 2010. Reported in 2009, the average sulfate concentration at Highway 110 (just downstream from Second Creek on the Partridge River) was 164 mg/L.

Additional monitoring data (not limited to sulfate concentrations and wild rice density) would be needed in order to begin assessing the effects of sulfate on wild rice growth and production and the

relative importance of other factors affecting wild rice density (e.g., hydrologic, weather, and ecological factors) (see Walker et al., 2010).

It is difficult to determine the health and history of wild rice in these waterbodies without a multi-year combined analysis of ground surveys as wild rice populations oscillate over an approximate 4- to 6- year period. Delays in plant nutrient uptake and wild rice tissue chemistry influence wild rice growth and production from year to year (Walker et al., 2006; Walker et al., 2010). Other factors such as water level, parasites, herbivory, and weather conditions may also play a role, but no data has been collected over multiple years and published. Given that wild rice populations fluctuate over a multiple year time period, studies carried out over a shorter time period may not provide sufficient data to begin to determine the factors affecting the growth and production of wild rice. Studies carried out over too short a time period also make it difficult to determine the relative importance of sulfate compared to other factors on wild rice growth and production.

2.0 Background

The purpose of this report is to provide information in response to the Minnesota Pollution Control Agency's (MPCA) "Wild Rice Information Request" on May 28, 2009 with regard to the Mesabi Mining, LLC (Referred to as Mesabi Nugget) Phase II Project (Project) (see "2009 Wild Rice Survey and Sulfate Monitoring" report prepared for Mesabi Mining).

The MPCA requested the following information:

- A literature review to identify water bodies which could potentially support wild rice downstream from the Project. As a result of this literature review, an analysis of historic infra-red USGS photographs for the presence of wild rice in water bodies downstream from the Project was determined to be beneficial;
- Consultation with Bands of Chippewa and the 1854 Treaty Authority;
- A ground survey of wild rice presence and density;
- Information on current sulfate concentrations in the bodies of water where wild rice was identified.

In 2009, as part of consultation with the Bands of Chippewa (Bands), Mesabi Mining contacted representatives from Bois Forte Band of Chippewa, Fond du Lac Band of Lake Superior Chippewa, Grand Portage Band of Lake Superior Chippewa, and the 1854 Treaty Authority. Representatives from these bands and the 1854 Treaty Authority provided feedback in 2009. Water bodies that were not sampled in 2009, but which were thought to be potential discharge waters downstream from the Project, were sampled in 2010. These included the entire reach of the St. Louis River from its confluence with the Partridge River and a portion of Second Creek not sampled in 2009.

Historic and current infra-red USGS photographs were not analyzed in 2010. Based on results from 2009, the USGS photographs did not provide accurate information regarding the presence or density of wild rice. Therefore this analysis was not included in 2010.

3.0 Wild Rice Survey

The purpose of the Wild Rice Survey is to determine the presence and density of wild rice (*Zizania palustris* L, known as *Manoomin* in Ojibwe), an annual grass, on the St. Louis River downstream from its confluence with the Partridge River and on Second Creek (Figures 1 and 2). Since wild rice populations oscillate over an approximate 4- to 6- year period, the following analyses and ground surveys were performed to determine past and current presence of wild rice:

- Literature review to identify water bodies which could potentially support wild rice downstream from the Project and
- On-the-ground verification of the presence and density of select wild rice stands.

3.1 Wild Rice Survey Methodology

The following section describes the methodologies used in obtaining information and data on wild rice.

3.1.1 Methodology of Literature Review for Wild Rice in Downstream Receiving Waters from the Project

To determine which water bodies downstream of the Project might potentially have wild rice, a literature review of historic and cultural information was conducted in 2009 and 2010. Information examined includes the 2008 DNR “Natural Wild Rice in Minnesota” Report, U.S. Department of Interior Geological Survey maps (Topographic maps), personal communication with the 1854 Treaty Authority, and the 2010 Wild Rice Management Workgroup’s “350 Significant Wild Rice Waters in Minnesota.” The Wild Rice Management Workgroup is a coalition of federal, state, tribal resource managers and other wild rice stakeholders. The list is periodically updated and was last updated May 4, 2010 (Appendix B).

3.1.2 Methodology of Ground Verification and Density/Acreage Calculations

Surveys to estimate wild rice density and crop acreage were carried out in July, August, and September 2010. The same methods described in the “2009 Wild Rice Survey and Sulfate Monitoring” report for Mesabi Mining were followed in 2010. Table 3-1 provides information regarding the wild rice density classification and percent coverage.

Table 3-1 Wild Rice Density Scale

Wild Rice Density Classification	Description
1	<10% Wild Rice Coverage
2	10 – 25 % Wild Rive Coverage
3	25 – 50 % Wild Rice Coverage
4	50 – 75% Wild Rice Coverage
5	>75% Wild Rice Coverage

3.2 Wild Rice Survey Results

The following sections present the results of the wild rice literature review and survey for the Study Area. Ground surveys along the St. Louis River were carried out from July 26 – 30, 2010 and from August 24-27, 2010. A ground survey of Second Creek downstream of B (see Figure 2) was carried out in mid- September 2009 and upstream of B on September 9, 2010.

3.2.1 Results of 2009 Literature Review

Below is an examination of the literature regarding the potential presence of wild rice along the St. Louis River. According to Minnesota Rules Chapter 7050.0470, sections of the St Louis River upstream of the Study Area are classified as wild rice waters. While no wild rice was identified within the Study Area, a ground survey was carried out in order to determine from ground reconnaissance whether rice was present.

- Section 2.0, page 3 of the “2009 Wild Rice Survey and Sulfate Monitoring” report prepared for Mesabi Mining provides determination of the Study Area as a result of consultation with Bois Forte Band of Chippewa, Fond du Lac Band of Lake Superior Chippewa, Grand Portage Band of Lake Superior Chippewa, and the 1854 Treaty Authority (Barr, 2009).

“.... Feedback was received from 1854 Authority’s Darren Vogt on July 10, 2009 confirming that Mesabi Mining proposed study area included water bodies with potential for the presence of wild rice stands. Mr. Vogt mentioned the St. Louis River, including several sites upstream from its confluence with the Partridge River. After a follow-up phone call, Mr. Vogt agreed that those sites were outside the scope of waters potentially affected by discharge waters. Mr. Vogt also sent Mesabi Mining a picture of wild rice stands near Highway 110 on the Partridge River dated July 29, 2009. Three grid density calculations were made in that location. After follow up emails and phone calls to representatives of the three bands, they said that they did not have any additional input beyond what Mr. Vogt provided.”

- The 2010 Wild Rice Management Workgroup’s “350 Significant Wild Rice Waters in Minnesota” identifies several reaches of the headwaters of the St. Louis River as historically supporting wild rice (similar to information provided by Darren Vogt in personal communication above). It does not, however, mention reaches of the river within the Study Area.
- Page 104 of the MnDNR *Investigational Report #69: A Biological Survey and Fishery Management plan for the Streams of the Saint Louis River Basin* (Moyle and Kenyon, 1947) includes discussion of the presence of wild rice in two rivers which flow into the St. Louis River. These rivers, however, are not part of the mainstem of the St. Louis River. The report reads: “Historic presence of wild rice in the St. Louis River Basin. #38. Zizania aquatica L., wild rice. – Rare in most of the streams; most common in the western portion of the [St. Louis] drainage basin. The most extensive stands are in the Floodwood and Swan River drainage basins.”
- The MnDNR, Section of Fisheries “Completion Report: A Study of the St. Louis River” identified wild rice in three locations along the upper St. Louis River: downstream from Seven Beaver Lake at river miles 187 to 189, 176 and 165. Pages 25 – 27 include narrative description of its presence. Within the Habitat Assessment section, River Mile 188.7 it was noted, “...Wild rice was extensive and extended from the shore to a depth of three to four feet.” At River Mile 171.0 it was noted, “Wild rice beds dominated this reach, with a deeper channel down the center, but no distinct shoreline.” These locations, however, were not within the Study Area.

3.2.2 Results of Ground Verification and Density/Acreage Calculations

Wild rice was identified from ground surveys performed on the St. Louis River just downstream of its confluence with the Partridge River. Wild rice was not identified along Second Creek (Figures 1 and 2). The densest stand of wild rice (density factor 2) was identified just upstream from Highway 100, with dimensions of approximately 15 feet x 80 feet (see photograph A-1). The stand was not dense enough, however, to carry out grid sampling. Several sparse stands of wild rice (density factor 1) were identified approximately 500 and 1000 feet respectively downstream of Highway 100 (Figure 1 and Photographs A-1, A-2, and A-3).

4.0 Sulfate Monitoring

Sulfate monitoring was carried out during wild rice surveying in 2010. This data is included in Table 1-1 and below along with data collected in from 2008 and 2009.

4.1 Sulfate Monitoring – 2009 and 2010 Data

Results of sulfate analyses performed on water samples collected during wild rice surveys are presented in Table 4-1. Nine water samples were collected along the St. Louis River in 2010. One sample was collected in the location where wild rice was found (WS-1) (Table 1-1). Additional sampling was carried out in locations comparable to locations sampled by Lindgren et al. 2006.

Table 4-1 Comparison of Sulfate Concentrations and Water Depth at Wild Rice Stands in 2009 and 2010¹

Water Body	# Samples	Sulfate Concentration (mg/L)			Water Depth (in) Mean
		Mean	Std. Dev.	Range	
St. Louis River 2010	9	50.9	25.7	29.6 - 113	14
Pokegama Bay 2009	4	7.6	0.8	7.0 - 8.8	23
St. Louis River 2009	6	17.7	7.4	8.0 - 27.4	15

All water samples were analyzed for sulfate using an ion chromatography method (EPA 300.0). More detailed results of the 2009 data are included in the “2009 Wild Rice Survey and Sulfate Monitoring” report prepared for Mesabi Mining.

4.2 Sulfate Monitoring - Baseline Data

Sulfate concentrations have been measured at one location along the Partridge River at the Highway 110 bridge crossing (MNSW12) and one location on Second Creek just before its confluence with the Partridge River (MNSW8) since 2008 as part of an ongoing water quality monitoring program for the Mesabi Nugget Phase II Project (see Figure 1 of “2009 Wild Rice Survey and Sulfate Monitoring” report). An additional water quality monitoring station on the Partridge River just downstream of the Colby Lake outlet (MNSW14) was established in June 2009. Additional samples were taken at MNSW14 monthly from August to December 2009 and included in this report. These data are summarized in Table 4-2.

¹ Two water depths were measured at locations where wild rice was identified in 2010. The water depth for the St. Louis River 2010 is the mean of those two values.

Table 4-2 Sulfate Monitoring Data Partridge and Second Creek²

Monitoring Station	Water Body	Location	Monitoring Period	Average (mg/L)	Std. Dev. (mg/L)	Min. (mg/L)	Max. (mg/L)
MNSW14	Partridge River	Below Colby Lake outlet	June – December 2009	49.2	18.3	28.7	72.6
MNSW12	Partridge River	At Highway 110	May 2008 - August 2009	164	103	43.0	302
MNSW8	Second Creek	Near outlet to Partridge River	May 2008 - August 2009	474	111	269	624

As discussed in the “2009 Wild Rice Survey and Sulfate Monitoring” report, measured concentrations of sulfate in the Partridge River were greatest at the most downstream monitoring location (MNSW12), averaging 164 mg/L and ranging from 43.0 mg/L to 302 mg/L. For the same period of record (May 2008 to August 2009), sulfate concentrations in Second Creek averaged 474 mg/L and ranged from 269 mg/L to 624 mg/L.

More recent data from upstream of the Second Creek confluence (MNSW14, from June to December 2009) confirm that sulfate concentrations in the Partridge River above Second Creek are relatively low. For this period of record, sulfate concentrations downstream of the Colby Lake outlet averaged 49.2 mg/L and ranged from 28.7 mg/L to 72.6 mg/L.

² Additional sulfate data was collected monthly from September to December 2009 at MNSW14. The average, standard deviation, minimum, and maximum values were recalculated accordingly.

5.0 Wild Rice Summary

Results from 2010 ground surveys identified the presence of wild rice in three locations on the St. Louis River within several thousand feet of its confluence with the Partridge River. Wild rice beds upstream of the Partridge River confluence had a density factor of two (10 to 25%). Wild rice beds downstream of the Partridge River were small and sparse, having a density factor of one (less than 10%). Wild rice was not found along the remaining reach of the St. Louis River (up to Fond du Lac Dam), nor along Second Creek. The sulfate concentration from one grab sample at the location of wild rice on the St. Louis was 113 mg/L. Sulfate concentrations downstream from that location to the Fond du Lac Dam ranged from 29.6 to 59.4 mg/L.

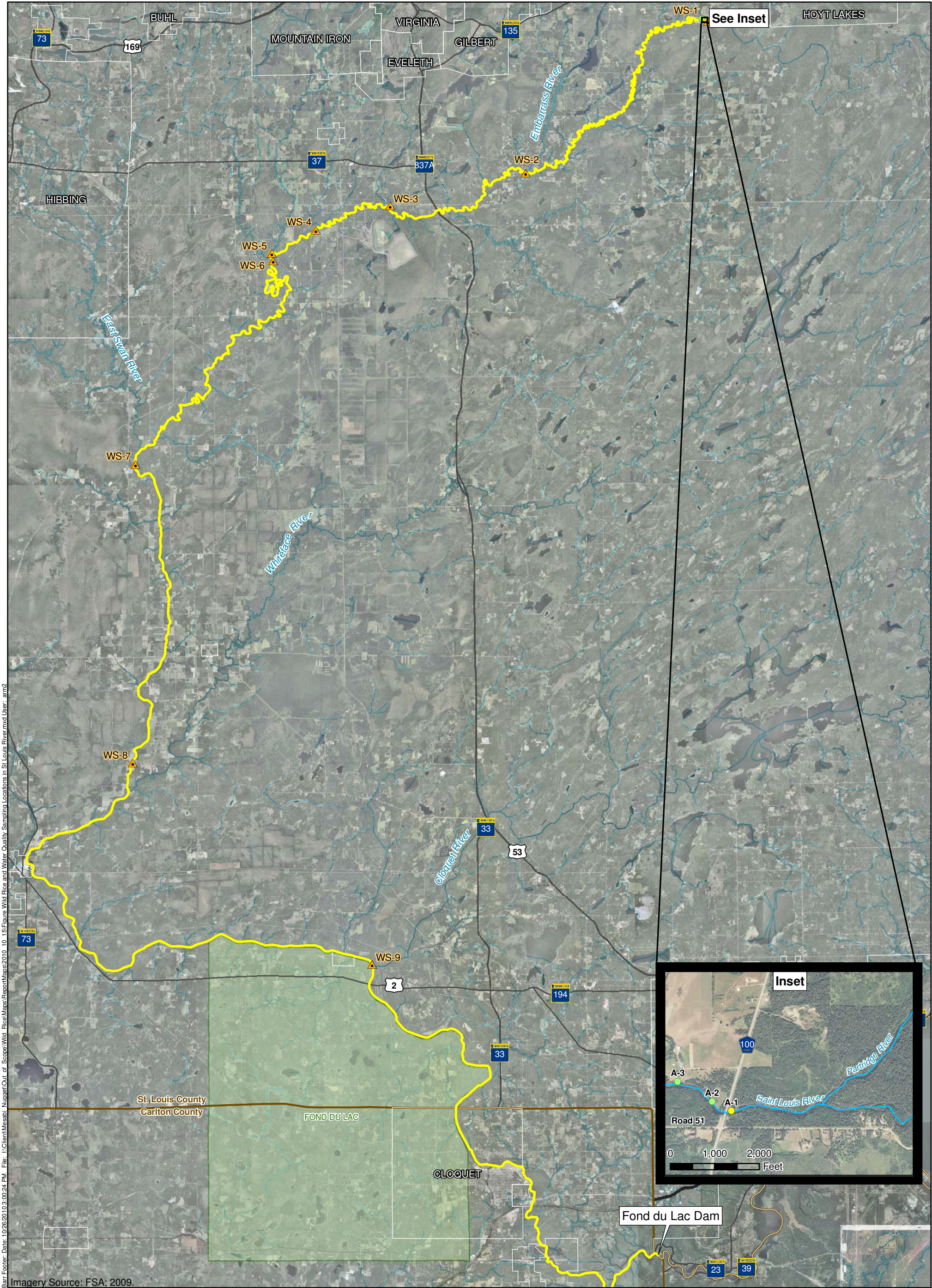
It is difficult to determine the health and history of wild rice in these water bodies without a multi-year combined analysis of ground surveys as wild rice populations oscillate over an approximate 4- to 6-year period. Delays in plant nutrient uptake and wild rice tissue chemistry influence wild rice growth and production from year to year (Walker et al., 2006; Walker et al., 2010). Other factors such as water level, parasites, herbivory, and weather conditions may also play a role, but no data has been collected over multiple years and published. Given that wild rice populations fluctuate over a multiple year time period, studies carried out over a shorter time period (one year) may not provide sufficient data to begin to determine the factors affecting the growth and production of wild rice. Studies carried out over too short a time period also make it difficult to determine the relative importance of sulfate compared to other factors on wild rice growth and production.

Additional monitoring data (not limited to sulfate concentrations and wild rice density) would be needed in order to begin assessing the effects of sulfate on wild rice growth and production. Such monitoring data should include analysis of other water and sediment anion and cation concentrations, plant and seed biomass and plant nutrient content, to name several of the most commonly measured. Such data is also important in order to determine the effects of sulfate relative to other factors on the growth and production of wild rice.

References

- 1854 Treaty Authority. 2008. Wild Rice Monitoring and Abundance in the 1854 Ceded Territory (1998 - 2008).
- Minnesota Department of Natural Resources. 1947. *Investigational Report #69: A Biological Survey and Fishery Management plan for the Streams of the Saint Louis River Basin* (Moyle and Kenyon, 1947).
- Minnesota Department of Natural Resources. 2006. *Section of Fisheries: Completion Report: A Study of the St. Louis River* (Lindgren et al. 2006).
- Minnesota Department of Natural Resources. 2008. *Natural Wild Rice In Minnesota: A Wild Rice Study* document submitted to the Minnesota Legislature by the Minnesota Department of Natural Resources February 15, 2008
- Walker, R.D., Pastor, J., Dewey, B.W. 2006. "Effects of wild rice (*Zizania Palustris* L.) straw on biomass and seed production in northern Minnesota." *Canadian Journal of Botany*, 84, (1): 1019-1024.
- Walker, R.D., Pastor, J., Dewey, B.W. 2010. "Litter Quantity and Nitrogen Immobilization Cause Oscillations in Productivity of Wild Rice (*Zizania palustris* L.) in Northern Minnesota." *Ecosystems*, 13: 485-498.

Figures



- 2010 Study Area
- Water Sample Collection Location
- Wild Rice Density
 - 1 <10% Wild Rice Coverage
 - 2 10-25% Wild Rice Coverage
- A-1 Photo Name
- Reservation Boundary
- City Boundary
- County Boundary

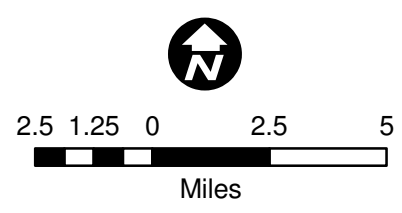


Figure 1
WILD RICE AND SULFATE SAMPLING
LOCATIONS FOR THE ST. LOUIS RIVER
Mesabi Nugget Phase II
Hoyt Lakes, Minnesota



- A-4 Photo Location
- 1 <10% Wild Rice Coverage
- ▲ Water Quality Sampling Locations
- 2009 Study Area
- 2010 Study Area
- Streams
- Stream Channel

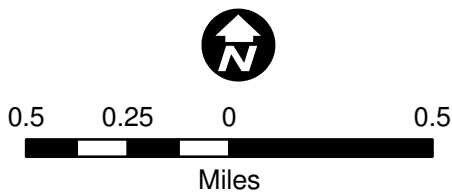


Figure 2
WILD RICE AND SULFATE SAMPLING
LOCATIONS FOR SECOND CREEK
Mesabi Nugget Phase II
Hoyt Lakes, Minnesota

Appendices

Appendix A

Photographs of Wild Rice for the Study Area



Figure A-1 St. Louis River, July 26, 2010



Figure A-2 St. Louis River, July 28, 2010



Figure A-3 St. Louis River, July 28, 2010



Figure A-4 Second Creek, September 9, 2010

Appendix B

2010 Wild Rice Management Workgroup's “350 Significant Wild Rice Waters in Minnesota”

350 Significant Wild Rice Waters in Minnesota

This is a list of 350 of the most important wild rice waters in Minnesota based on harvest, ecological, and/or cultural and historical values. Please note that all waters supporting wild rice are important, and a complete inventory of these waters in Minnesota is also maintained. The complete list of wild rice waters should be consulted when appropriate (considerations for zoning, surface water use, water quality and quantity, etc.). This list was compiled by the Wild Rice Management Workgroup, a coalition of federal, state, and tribal resource managers and other wild rice stakeholders. This list may be updated in the future as needed by the Workgroup. list updated 5/4/2010

County	Basin Name	DOW No.	DOW acres	Wt. acres	Harvest 11/10/10	DNR/DOU Managed by	Wildlife coverage	Nation	harvest potential	harvest pressure	harvest access	Comments	Management types	Outlet structure	Outlet structure comment	Owner	Owner class	WILD_RICE_	Wtr Comments
Aitkin	White Elk	01014800	780	350	1 M	MNDNR - Wildlife/DOU	Rice thickest in south half of lake, band around north side.	MLIR	fair	low	easy	Lake within Rice Lake National Wildlife Refuge.	WLM	VC		Federal	USFWS		Rice thickest in south half of lake, band around north side.
Aitkin	Rice	01006700	3,635	1,700	0	USFWS - Rice Lake NWR	Rice is located in varying degrees across entire basin.		permit only	easy	easy		WLM	VC		Federal	USFWS		Rice is located in varying degrees across entire basin.
Aitkin	Flowage	01006100	720	432	140	USACOE - Sandy Lake RA	Can include almost complete coverage of south half of lake,		good	moderate	easy	Water level managed as part of the USACE Sandy	WLM	VC		Federal	USACOE		Can include almost complete coverage of south half of
Aitkin	Mallard	01014900	354	320	185 A	MNDNR - Wildlife	Rice can cover almost all open water in basin, some holes in		good	high	easy	Lake part of Ripple River State WMA.	BDR	NatOut					Rice can cover almost all open water in basin, some holes in
Aitkin	Aitkin	01004000	850	298	11	USACOE - Sandy Lake RA	Around shoreline and outlet.		fair	low	fair	Water level managed as part of the USACE Sandy Lake Recreati	WLM	VC		Federal	USACOE		Around shoreline and outlet.
Aitkin	Shovel	01020000	230	207	36 M	MNDNR - Wildlife/DOU	Rice can cover almost entire open water area of basin.		fair	moderate	fair	Primary lake access is through private land.	BDR	NatOut					Rice can cover almost entire open water area of basin.
Aitkin	Sandy River Lake	01006000	368	200	48	USACOE - Sandy Lake RA			fair	moderate	easy	Water level managed as part of the USACE Sandy Lake Recreati	WLM	VC		Federal	USACOE		
Aitkin	Minnewawa	01003300	2,451	130	24		Rice east and northwest portions of the lake.		fair	moderate	fair			FC		State	MNDNR - Waters		Rice east and northwest portions of the lake.
Aitkin	Twenty	01008500	153	119	53 M	MNDNR - Wildlife/DOU	Rice can cover almost entire open water area of basin.		fair	moderate	easy		BDR	NatOut					Rice can cover almost entire open water area of basin.
Aitkin	Moose	01014000	148	117	77 A		Rice can cover almost entire open water area of basin.		good	moderate	easy	Lake adjacent to Hay Point State WMA.		NatOut					Rice can cover almost entire open water area of basin.
Aitkin	Rat House	01005300	122	100	2 M	MNDNR - Wildlife/DOU	Rice can cover almost entire open water area of basin.		fair	low	fair		BDR	NatOut					Rice can cover almost entire open water area of basin.
Aitkin	Big Sandy	01006200	9,380	94	98	USACOE - Sandy Lake RA	Primarily in the Prairie River inlet flowage to lake.		fair	low	easy	Water level managed as part of the USACE Sandy Lake Recreati	WLM	VC		Unknown	USACOE		Primarily in the Prairie River inlet flowage to lake.
Aitkin	Moose River Pool	01035800	900	89		MNDNR - Wildlife			closed			Impoundment within Moose Wallow State WMA.	WLM	VC				Wild rice density is moderate (3), and its condition was goo	
Aitkin	Spruce	01015100	80	80			entire lake				difficul	1988: 76 acres. 1949: 80 acres (100%)							entire lake
Aitkin	Newstrom	01009700	97	76	5 M	MNDNR - Wildlife/DOU	Rice can cover almost entire open water area of basin.		fair	low	easy	Lake within Newstrom State WMA.	BDR	NatOut					Rice can cover almost entire open water area of basin.
Aitkin	Salo Marsh State WMA Imp.	01041500	690	76		MNDNR - Wildlife			closed			Impoundment within Salo Marsh State WMA.	WLM	VC				Wild rice density is lush (4), and its condition was excelle	
Aitkin	Mud	01019400	135	68	A	MNDNR - Wildlife	Around shoreline of basin.				difficul		BDR	NatOut					Around shoreline of basin.
Aitkin	Gun	01009900	735	60			NE bay.				easy								NE bay.
Aitkin	Section Ten	01011500	440	52	1 M						easy								Wild rice density is lush (4), and its condition was excelle
Aitkin	Ripple	01014600	676	50	6		Located on east and west ends of lake, also acres on Ripple		fair	low	easy			VC					Located on east and west ends of lake, also acres on Ripple
Aitkin	Rock	01007200	366	50							easy								
Aitkin	Moose Willow WMA - Willow Pt	0101043100	300	50		MNDNR - Wildlife			closed			Impoundment within Moose Wallow State WMA.	WLM	VC		State	MNDNR - Wildlife		
Aitkin	Unnamed - Little Willow River	0101033200	140	50	M	MNDNR - Wildlife			closed			Impoundment within Little Willow River State WMA.	WLM	VC				Wild rice density is scattered (2), and its condition was fa	
Aitkin	Rice	01000500	83	50	M	MNDNR - Wildlife					difficul	Currently no rice: highwater - beavers. 1990: 66% rice	BDR	NatOut	BPL	Private	Private		
Aitkin	Waukenabo	01013600	819	49			Entire lake				easy	Upper end of Wankenabo: "88" - 20 to 30 yd ring around 70% o		VC		State	MNDNR - Waters		Entire lake
Aitkin	Rat	01007700	442	45	2		Largest stand in the NE.				easy			NatOut					Largest stand in the NE.
Aitkin	Elm Island	01012300	656	30	12		Primarily around inlet and outlet.	fair	low	easy	easy			NatOut					Primarily around inlet and outlet.
Aitkin	Sjodin	01031600	43	28	6		Most of lake except center				easy			NatOut					Most of lake except center
Aitkin	Red	01010700	97	4	6		Around shore							NatOut					Around shore
Aitkin	Section Twelve	01012000	167	1	5		SE and NE edges.												SE and NE edges.
Aitkin	Prairie River	01r6		34															
Aitkin	Ripple River	01r3		12															
Anoka	Carlos Avery WMA - Pool 9	W9001009	269	120		MNDNR - Wildlife							WLM	VC	DI	State	MNDNR		
Anoka	Carlos Avery WMA - Pool 3	W9001003	186	120		MNDNR - Wildlife							WLM	VC	DI	State	MNDNR		
Anoka	Hickey	02009600	41		5							added from state harvester survey.							
Becker	Big Basswood	03009600	586	304	6 M	R-WE		WEIR	good	low	easy					Tribal	R - WE		
Becker	Chippewa	03019600	960	288	1	USFWS - Tamarac NWR			good	high	fair		WLM	VC		Federal	USFWS - Tamarack NWR		
Becker	Tamarack	03024100	2,227	245		USFWS - Tamarac NWR/WE			poor	low	easy		BDR	C		Federal	USFWS - Tamarack NWR		
Becker	Rice	03020100	245	245		USFWS - Tamarac NWR/WE			good	high	easy			VC		Federal	USFWS - Tamarack NWR		
Becker	Rock	03029300	1,198	240		R-WE				low									
Becker	Little Flat	03021700	235	211		USFWS - Tamarac NWR/WE		WEIR	good	high	fair			NatOut		Federal	USFWS - Tamarack NWR		
Becker	Height Of Land	03019500	3,943	197	22				fair	moderate	easy	Bay inlet: 40 acres. NS: 5 acres, 5, 20, 4, 10. 30 ft frin		FC		State	MNDNR - Waters		
Becker	Flat	03024200	1,970	197	6	USFWS - Tamarac NWR/WE			good	high	fair		WLM	FC		Federal	USFWS - Tamarack NWR		
Becker	Rice	03029100	245	196	M					low									
Becker	Shell	03010200	3,147	169	11 M				fair	moderate	easy	1993 data: 80 acres		VC		Private	Bob Merritt - DL		
Becker	Hubbel Pond	03024000	561	168	2 M				fair	moderate	easy			Unknown		State	MNDNR		
Becker	Spindler	03021400	185	125		USFWS - Tamarac NWR/WE		WEIR	good	high	easy			NatOut		Federal	USFWS - Tamarack NWR		
Becker	Big Rat	03024600	1,102	110		R-WE		WEIR	fair	moderate	easy								
Becker	Buffalo	03035000	444	89	1	R-WE	Includes wild rice on Buffalo River.							Unknown		Federal	USFWS - Tamarack NWR		Includes wild rice on Buffalo River.
Becker	Mud	03006700	88	83								1996 data							
Becker	Schultz	03027800	103	82	M							Beaver MGD							
Becker	Abners	03002900	100	80	M	MNDNR - Wildlife/DOU		WEIR	good	moderate	fair		BDR						
Becker	Lower Egg	03021000	171	75	9	USFWS - Tamarac NWR/WE			good	moderate	fair		BDR	NatOut		Federal	USFWS - Tamarack NWR		
Becker	Triglauff	03026300	111	56															
Becker	Winter	03021600	117	43		USFWS - Tamarac NWR/WE		WEIR	fair	moderate	easy		WLM	VC		Federal	USFWS - Tamarack NWR		
Becker	Booth	03019800	48	43		USFWS - Tamarac NWR/WE			fair	low	fair		BDR	NatOut		Federal	USFWS - Tamarack NWR		
Becker	Blackbird	03019700	284	42	4	USFWS - Tamarac NWR/WE			good	high	easy			NatOut		Federal	USFWS - Tamarack NWR		
Becker	Mud	03002300	85	42		Private				low			BDR						
Becker	Two Inlets	03001700	643	40	1	Private			fair	low	easy	1995 data	BDR	FC		State	MNDNR		
Becker	Johnson	03019900	181	40		USFWS - Tamarac NWR/WE			poor	low	easy			NatOut		Federal	USFWS - Tamarack NWR		
Becker	Bush	03021200	110	40		USFWS - Tamarac NWR/WE		WEIR	good	high	easy		WLM	VC		Federal	USFWS - Tamarack NWR		

County	Basin Name	Dow No.	DOW acres	WR acres	Harvest t/ha	DNR/DU	Managed by	Wildlife coverage	Natam	harvest potential	harvest pressure	harvest access	Comments	Management types	Outlet structure	Outlet structure comment	Owner	Owner class	WILD_RICE_	WR comments	
Becker	Little Basswood	03009200	105	31	5	R-WE			WEIR		low	easy					Tribal	R - WE			
Becker	Carman	03020900	217	30	14	USFWS - Tamarac NWR/WE			WEIR	fair	moderate	fair		BDR	FC		Federal	USFWS - Tamarack NWR			
Becker	Upper Egg	03020600	493	24	10	USFWS - Tamarac NWR/WE			WEIR	poor	low	fair			NatOut		Federal	USFWS - Tamarack NWR			
Becker	Cabin	03034600	38		10	R-WE			WEIR		moderate										
Becker	Little Round	03030200	565		7 A	R-WE					low										
Becker	Unnamed (Indian Creek impoun	03078600	13		7 M	R-WE					low										
Beltrami	Big	04004900	3,565	250		R-LL/MNDNR - Fisheries		NW & W bays.	LLIR	fair	moderate	easy			VC					NW & W bays.	
Beltrami	Puposky	04019800	2,120	236		M				poor	low	fair									
Beltrami	Rabideau	04003400	723	217	33 M						low	easy					Federal	USFWS			
Beltrami	Boottleg	04021100	308	185	8						high	fair			FC	Old					
Beltrami	Kitchi	04000700	1,850	185		R-LL		Creek to Little Rice.	LLIR	poor	low	fair			NatOut					Creek to Little Rice.	
Beltrami	Manomin	04028600	288	144	13 M	MNDNR - Wildlife				good	moderate	fair			NatOut						
Beltrami	Pinushe	04003200	1,350	135	1 M			NW bay.	LLIR		low	fair								NW bay.	
Beltrami	Three Island	04013400	836	125	2						low	easy			FC		County	Co. Park			
Beltrami	Rice Pond	04005900	247	123	M	MNDNR - Wildlife				good	easy		Within Rice Pond State Waterfowl Refuge.	BDR	NatOut						
Beltrami	Burns	04000100	131	105		R-LL			LLIR	poor	low	difficul			NatOut						
Beltrami	Irving	04014000	644	97				NW bay.				fair								NW bay.	
Beltrami	Big Rice	04003100	642	96		R-LL			LLIR	good	moderate	difficul			NatOut						
Beltrami	Moose	04001100	617	96		R-LL		N. & SW bays.	LLIR	poor	low	fair			NatOut					N. & SW bays.	
Beltrami	Little Puposky	04019700	158	95	M						low	easy			NatOut						
Beltrami	Medicine	04012200	458	69	M			SW bay.				fair								SW bay.	
Beltrami	Little Rice	04001500	123	60		R-LL		Around shoreline and inlet/outlet.	LLIR	good	low	difficul	added from lcmr.shp							Around shoreline and inlet/outlet.	
Beltrami	Erickson	04006800	111	50								difficul			NatOut						
Beltrami	Cranberry	04012300	77	46	1 M						low		Early 80's data		NatOut						
Beltrami	Turtle River	04011100	1,664		15						moderate		No rice known to occur on lake, rice only in river.								
Carlton	Long	9006600						rice along shore, thick in inlet and NW portion													
Carlton	Tamarack River							good stands in several stretches													
Carlton	Perch	09003600	796	597		R-FDL			1854, FDLIR			easy	1997 data	BDR, D	VC		Tribal	R - FDL			
Carlton	Kettle	09004900	611	415	8 M	MNDNR - Wildlife			1854	good	moderate				BDR, BR					surveyed annually by 1854 Treaty Authority	
Carlton	Miller	09005300	156	156		R-FDL			1854, FDLIR		high				BDR						
Carlton	Rice Portage	09003700	832	120	1	R-FDL			1854, FDLIR		high		100 acres of open water (75% rice)	BDR, D	VC		Tribal	R - FDL			
													1987: 75%, 1997: 50%. History of beaver problems - plugged								
Carlton	Dead Fish	09005100	153	115	5	R-FDL			1854, FDLIR		high				Unknown		Tribal	R - FDL			
Carlton	Jaskari	09005000	74	74		R-FDL			1854, FDLIR		high				BDR, D		Tribal	R - FDL			
Carlton	Moose Horn River	09r1	123	61	11			wide slow section of river extending from Moose Lake into Pine County													
Carlton	Tamarack	09006700	228.0	59.0									1997 data, 2009 Survey								
Carlton	Island	09006000	456	46	7						low		1997 data: 10% of Lower Island Lake								
Carlton	Tamarack Lake	9006700	228					stands in narrows and in river													
Carlton	Hay	9001000	215					rice along shore, some denser areas/bays													
Carlton	Wild Rice	9002300				Fond du Lac Reservation		sparse rice over most of lake													
Carlton	Wild Rice Kettle	9007700						can have good stands over about three-fourths of lake													
Cass	Leech	11020300	109,415	4,000	27	USACOE - Leech Lake RA		Bear I.; Blackduck & Grassy Pts; Boy, Federa Dam & Headquart	R-LL	good	high	easy		WLM	VC	USACOE dam	Federal	USACOE		Bear I.; Blackduck & Grassy Pts; Boy, Federa Dam & Headquart	
Cass	Big Rice	11007300	2,717	1,411	10 M	MNDNR - Wildlife/DU		Historic coverage of approx. 60%, best stands along north an		fair	moderate	easy	State Waterfowl Feeding and Resting Area.	BDR, BR	FC	Stoplogs	State	MNDNR		Historic coverage of approx. 60%, best stands along north an	
Cass	Mud	11010000	1,440	1,300	35	MNDNR - Wildlife		Found over extensive areas of the lake.	LLIR	good	high	easy	Within Mud-Goose State WMA.	WLM	VC		State	MNDNR		Found over extensive areas of the lake.	
Cass	Winnibigoshish	11014700	69,821	1,000	24	USACOE - Winnibigoshish L. RA		Third River flowage (500 acres), Raven flowage (450 acres),	LLIR		high	moderate		WLM	VC	Sliding grate	Federal	USACOE		Third River flowage (500 acres), Raven flowage (450 acres),	
Cass	Laura	11010400	1,424	854	9 M	MNDNR - Wildlife/DU		Northern 2/3rds of main lake and east, south bays.		fair	moderate	easy		BDR	NatOut					Northern 2/3rds of main lake and east, south bays.	
Cass	Goose	11009600	844	844	7	MNDNR - Wildlife		In good years, almost 100% coverage of open water area.		good	moderate	easy	Within Mud-Goose State WMA, water levels	BDR	VC	Sliding grate	State	MNDNR		In good years, almost 100% coverage of open water area.	
Cass	Boy	11014300	5,544	340	3	R-LL			LLIR	good	high	easy	managed by dam on M		NatOut						
Cass	George	11010100	720	262	3 M	MNDNR - Wildlife/DU		Fairly continuous coverage in north bay and in a band along									State	MNDNR - Waters		Fairly continuous coverage in north bay and in a band along	
Cass	Lomish	11013600	282	197		R-LL			LLIR	poor	moderate	easy		BDR	VC						
Cass	Rice	11016200	342	137						good	moderate	easy	1997 data	BDR	NatOut						
Cass	Gull River	11r1	219	110	5	Industrial - MN Power		It was found along the river channel throughout the surveyed		fair	low	fair			VC		Industrial	Industrial - MN Power		It was found along the river channel throughout the surveyed	
Cass	Rice (Pillager)	11032100	232	100	12 A	MNDNR - Wildlife/Private		Wild rice stands can occupy up to 80% of basin area.		fair	moderate	difficul		BDR	NatOut		Private	Private		Wild rice stands can occupy up to 80% of basin area.	
Cass	Und (Lindsey)	11036700	462	95	18					fair	moderate	difficul									
Cass	McCarthy	11016800	194	78		Private				fair	low		1994 data only current public access is Potlatch land on SW corner of	BDR			Private	see Ray file			
Cass	Farnham	11051300	142	71	8 M	MNDNR - Wildlife		25% in an average year to 100% in a good year.		fair	low	easy		BDR	NatOut		Private			typically moderate	
Cass	Six Mile	11014600	1,288	70		USFS			LLIR	poor	low	fair		WLM	VC		State	MNDNR - Waters		25% in an average year to 100% in a good year.	
Cass	Washburn	11005900	1,768	60																	
Cass	Brockway	11036600	182	55	14					good	moderate	easy	1996 data		FC						
Cass	Woman	11020100	5,360	54	2 M						low	easy	Latern Bay, Broud Water, Narrows, Dam on Girl Lake, Otter Ba				Unknown				
Cass	Swift	11013300	359	51											NatOut						
Cass	Chub	11051700	57	51		R-LL			LLIR	good	moderate	easy	Within Mud-Goose State WMA.		NatOut						
Cass	Twin	11012300	297	50	M	MNDNR - Wildlife/DU					difficul		Added to MNDNR Brainerd's management list in 2007.	BDR	C		Federal	USFWS		Center and eastern portions of basin, lily pads dominated we	
Cass	Lower Hand	11025100	122	50	M	MNDNR - Wildlife		Center and eastern portions of basin, lily pads dominated we		poor	low	difficul		BDR	NatOut		County			Wild rice can over a majority of basin in a good year.	
Cass	Lizotte	11023100	75	50		MNDNR - Wildlife		Wild rice can over a majority of basin in a good year.		fair	low	fair		BDR	NatOut					Wild rice can completely cover open water portion of basin.	
Cass	Rice (Carrol's)	11022700	46	46				Wild rice can completely cover open water portion of basin.													
Cass	Big Birch	11001700	255	45	M	?															
Cass	Pine Mountain	11041100	1,657	40						fair	low	easy			NatOut						
Cass	Hattie	11023200	592	40				Fair band along shoreline.												Fair band along shoreline.	
Cass	Beuber	11035300	135	15	14					fair	moderate	easy	1997 Data: 150 ft fringe of rice all around								
Cass	Island	11010200	390	10	8			In various bays.											scarce		In various bays.

County	Basin Name	Dow No.	DOW acres	WR acres	Harvest 1/10/0	DNR/DU	Managed by	Wildlife coverage	Native	harvest potential	harvest pressure	harvest access	Comments	Management types	Outlet structure	Outlet structure comment	Owner	Owner class	WILD RICE --	WR comments
Cass	Drumbeater	11014500	376	5	11		MNDNR - Wildlife/R-LL		LLIR	poor	low	difficul	State Waterfowl Refuge.	BDR	NatOut					
Cass	Moose	11042400	92	1	5			Practically no rice present.												Practically no rice present.
Cass	Portage	11047600	277		5															
Clearwater	Lower Rice	15013000	2,375	1,568	44	R-WE			WEIR	good	high	easy	Good regular producer	VC						
Clearwater	Upper Rice	15005900	1,860	1,116	25	M	MNDNR - Wildlife/WE				high	easy	Adjacent to Upper Rice Lake State WMA.	VC						
Clearwater	Pine	15014900	1,465	220			Red Lake Watershed District					easy	Adjacent to Pine Lake State WMA.	VC		Double log	Tribal State	R - WE MNDNR - Wildlife MNDNR - Fisheries		
Clearwater	Mud	15006100	294	103	17	M		wide band of rice around most of lake except pars of the wes			moderate	easy	Adjacent to Mud Lake State WMA. Potential for management, ol							wide band of rice around most of lake except pars of the wes
Clearwater	Unnamed	15002100	150	45		M						difficul								
Clearwater	Minerva	15007900	239	36	13	A	R-WE				moderate	easy								
Clearwater	Sucker	15002000	90	14	7						moderate	easy	Adjacent to Sucker Lake State WMA.							
Clearwater	Clearwater River	15r1		15							moderate									
Cook	Marsh	16048800	69					52 acres in 1998, less in 99-01, typically sparse to fair coverage												
Cook	Swamp River	16090100	165	153	1				1854	good	low	easy			C		State	State		
Cook	Northern Light	16008900	443	133			USFS		1854	fair		easy			FC		Federal	USFS		
Cook	Elbow	16009600	415	124	5				1854	fair	low	easy								
Cook	Rice	16045300	230	92	1				1854	fair	low	fair	1997: 92 acres (40%), normally 20% as in 1998.							
Cook	Kelly	16047600	188	56					1854	poor		difficul					Federal	USFS - BWCA		
Cook	Moore	16048900	64	48					1854	poor		easy	1997 data: very consistent in rice production - really spars							
Cook	Fournille	16063900	593	42	2				1854	fair	low									
Cook	Mark	16025000	140					can have good rice over most of lake, used by harvesters												
Cook	South Fowl	16003400	1,440					moderate to dense patches of rice												
Cook	North Fowl	16003600	1,020					moderate to dense patches of rice												
Crow Wing	Lower Dean	18018100	372	360	62	M	MNDNR - Wildlife	Wild rice can completely cover basin.		good	high	easy	Lake adjacent to Lower Dean State WMA.	BDR	NatOut		State	MNDNR - Waters		Wild rice can completely cover basin.
Crow Wing	Platte	18008800	1,768	350	1	A	MNDNR - Waters	Wild rice located in NW bay, around shoreline.		poor	low	easy		WLM	FC					Wild rice located in NW bay, around shoreline.
Crow Wing	Duck	18017800	310	175	3	M	MNDNR - Wildlife	Wild rice can completely cover open water portion of basin (fair	low	easy	Lake within Duck Lake State WMA.	WLM	VC		State	MNDNR - Wildlife		Wild rice can completely cover open water portion of basin (
Crow Wing	Rice (Deerwood)	18006800	185	170	7	A	MNDNR - Wildlife	Wild rice densest in northern 2/3rds of basin, around shore		fair	moderate	easy		BDR	C		County	County		Wild rice densest in northern 2/3rds of basin, around shore
Crow Wing	Rice (Hesitation WMA)	18005300	168	138	10	M	MNDNR - Wildlife/DU	Wild rice densest in western 2/3rds of basin.		fair	moderate	easy	Lake within Hesitation State WMA.	WLM	FC		County State	MNDNR - Fisheries		Wild rice densest in western 2/3rds of basin.
Crow Wing	Rice (Clark Lake)	18032700	181	124		M	MNDNR - Wildlife/DU	Wild rice can completely cover basin, open in the middle.		fair	low	fair		BDR	C		County	Co. DOT		Wild rice can completely cover basin, open in the middle.
Crow Wing	Lizzie	18041600	384	100	17			Wild rice located around east, north and outlet portion of b			low			?	FC		State	MNDNR - Waters		Wild rice located around east, north and outlet portion of b
Crow Wing	Garden	18032900	262	100	1	M	MNDNR - Wildlife/DU	Wild rice denest along east shore and north bay.		poor	low	easy		BDR	C		County	Co. DOT		Wild rice denest along east shore and north bay.
Crow Wing	Nelson	18016400	323	100				Wild rice located in west half of lake.		poor	low	fair		NA	NatOut					Wild rice located in west half of lake.
Crow Wing	Hole- in-the-Day	18040100	217	90			MNDNR - Wildlife	Wild rice is densest in northern 2/3rds of basin.		fair	low	easy	Within City of Nisswa wildlife refuge.	BDR	C					Wild rice is densest in northern 2/3rds of basin.
Crow Wing	Rice (Pratt's)	18031600	100	90			MNDNR - Wildlife	Wild rice can completely cover basin.		poor		difficul	Privately managed wild rice lake (Pratt). Large, 6' beaver dam removed in 2006, scattered rice coverag	BDR	NatOut					Wild rice can completely cover basin.
Crow Wing	Unnamed (Lost Rice)	18022800	157	80		M	MNDNR - Wildlife	Wild rice can completely cover basin.		poor	low	difficul		BDR	NatOut					Wild rice can completely cover basin.
Crow Wing	Dog	18010700	71	71		M	MNDNR - Wildlife	Wild rice is found throughout the lake area in stands of var		poor	low	easy	MNDNR designated Game Lake.	BDR	VC		County	Co. DOT		Wild rice density is moderate to lush (3 ot 4), and its cond
Crow Wing	Pine	18026100	391	60				Wild rice located along east shore, Pine River channel.						NA	RD					Wild rice located along east shore, Pine River channel.
Crow Wing	Mud	18032600	82	60				Wild rice can cover a majority of open water basin.			low									Wild rice can cover a majority of open water basin.
Crow Wing	Rice (Blomberg's)	18012100	78	60				Wild rice was found throughout the open water area of the ba		fair	low	fair		NA	NatOut					Wild rice was found throughout the open water area of the ba
Crow Wing	Terry	18016200	102	55	1	M	MNDNR - Wildlife	Wild rice can cover a majority of open water portion of basi		fair	low	difficul		BDR	NatOut					Wild rice can cover a majority of open water portion of basi
Crow Wing	Upper Whitefish	18031000	7,969	50	31		USACOE - Crosslake RA						20+ lake, Pine flows into lake +30.	BDR	VC		Federal	USACOE, Part of Pine River Res. System		
Crow Wing	Lower Mission	18024300	739	50		A	MNDNR - Wildlife	Wild rice density was scattered to moderate (2 to 3), and it						WLM	VC					Wild rice density was scattered to moderate (2 to 3), and it
Crow Wing	Smith	18002800	486	49				Wild rice located in NW bay, west and east shorelines.						?						Wild rice located in NW bay, west and east shorelines.
Crow Wing	Rice Bed	18018700	50	47			MNDNR - Wildlife	Wild rice can completely cover basin.		fair	low	difficul		BDR	NatOut					Wild rice can completely cover basin.
Crow Wing	Lows	18018000	320	45	4	A	MNDNR - Wildlife	Wild rice located around outlet (NW) and inlet (SE).		poor	low	easy		BDR	C		Twp	Twp		Wild rice located around outlet (NW) and inlet (SE).
Crow Wing	Twentytwo	18000800	169	42				Wild rice located along NW and SE shoreline.						?						Wild rice located along NW and SE shoreline.
Crow Wing	Twin Island	18010600	85	42				Wild rice can cover a majority of open water basin.		poor	low	fair	History of 50 to 100% coverage in the 1950s & 60s.	NA	NatOut		Private			Wild rice can cover a majority of open water basin.
Crow Wing	Whipple	18038700	345	40				Wild rice exists primarily in lower basin (Moberg's Slew).												Wild rice exists primarily in lower basin (Moberg's Slew).
Crow Wing	Arrowhead	18036600	285	40			USACOE - Cross Lake RA	Wild rice in SE corner/outlet to Whitefish Lake and NE corne		poor	low	fair		WLM	VC		Federal	USACOE, Part of Pine River Res. System		Wild rice in SE corner/outlet to Whitefish Lake and NE corne
Crow Wing	Unnamed (Nokasippi R. Rice Be	18048500	166	40				Wild rice can completely cover open water portion of basin.				difficul			NatOut					Wild rice can completely cover open water portion of basin.
Crow Wing	Mud	18013700	132	40		A	MNDNR - Wildlife	Wild rice located in western 2/3rds of basin.		poor	low	fair		BDR	NatOut					Wild rice located in western 2/3rds of basin.
Crow Wing	Birchdale	18017500	80	40		M	MNDNR - Wildlife	History of almost complete basin coverage, outlet structure		poor		fair		BDR	NatOut					History of almost complete basin coverage, outlet structure
Crow Wing	Little Pine	18017600	135	30	12	M	MNDNR - Wildlife	History (1960s) of harvestable stands in NE &SW corners of l		poor		fair		BDR	NatOut					History (1960s) of harvestable stands in NE &SW corners of l
Crow Wing	Dahler	18020400	277	28	12	M	MNDNR - Wildlife/DU	Wild rice located around shoreline.		poor	low	easy		BDR	FC					Wild rice located around shoreline.
Crow Wing	Google	18022300	107	11	6			Wild rice along outlet and outlet river channel.		poor	low	fair		NA	NatOut					Wild rice along outlet and outlet river channel.
Crow Wing	Middle Cullen	18037700	405	2	5						low									
Crow Wing	Mississippi River	18r1	1	78						fair	low	easy	Brainerd dam?				Federal	USACOE, Part Gull L. Res System		
Hubbard	Mantrap	29015100	1,770	200	7		Industrial - 3M						1997 data: 200 ft fringe. Rack placed to manage level	WLM	FC		Private	Industrial - 3M		
Hubbard	Fourth Crow Wing	29007800	523	130	7					fair	low	easy								
Hubbard	Hart	29006300	236	118	14						moderate	easy			FC		Unknown			
Hubbard	Garfield	29006100	984	90	5			South bay.			low	easy								South bay.
Hubbard	Island	29025400	522	60	3		County			poor	low	easy	1996 data: west arm	BDR	C		County	Co. DOT		

County	Basin Name	Dow No.	DOW acres	WR acres	Harvest t/ha	DNR/DU Managed by	Wildlife coverage	NatAm	harvest potential	harvest pressure	harvest access	Comments	Management types	Outlet structure	Outlet structure comment	Owner	Owner class	WILD_RICE_	WR comments
Hubbard	Rice	29017700	230	58	2	M	County		fair	low	difficul	1997 data	BDR	C		County	Co. DOT		
Hubbard	First Crow Wing	29008600	564	50	3				fair	low	easy	1997 data. Rack placed to manage level.		FC		Unknown			
Hubbard	Upper Mud	29028400	50	50		M			fair	low	difficul	private access.							
Hubbard	Third Crow Wing	29007700	636	40					fair	low	easy	Rack under bridge under 109 control level							
Hubbard	Lake George	29021600	882	18	11				fair	low	easy	1997 data							
Hubbard	Lake Alice	29028600	150	15	11	County				low	easy		BDR	C		County	Co. DOT		
Hubbard	Crow Wing	29011600	47	14															
Hubbard	Spring Lake	29005400	43	5					fair	low	difficul								
Isanti	Upper Rice	30005700	208	208								Level affected by ditch							
Itasca	Natures	31087700	2,885	2,499	89		Can cover a majority of basin in good years.	R-LL	good	high	fair				NatOut				Can cover a majority of basin in good years.
Itasca	Bowstring	31081300	8,900	1,335	26		Cow, Grouse and Muskrat bays.	LLIR	good	fair					NatOut				Cow, Grouse and Muskrat bays.
Itasca	Rice	31087600	911	729	1			LLIR	good	moderate	easy	1994 data. 1997: 50%. In Bowstring River							
Itasca	Pigeon Dam	31089400	511	500		MNDNR - Wildlife		LLIR	good	high	easy		WLM	VC	Stop log	Federal	USFWS		
Itasca	Bass	31057600	2,844	427	53	MNDNR - Waters			fair	high	easy		WLM	VC	WPA dam	State	MNDNR - Waters		
Itasca	Cut Foot Sioux	31085700	3,222	322	3	USACOE - Winnibigoshish L. RA		LLIR	good	moderate	easy	1997 data. Influenced by the Winnie dam	WLM	VC	Sliding grate	Federal	USACOE		
Itasca	Blackwater	31056100	674	300	10	USACOE - Pokegemama Lake RA			fair	moderate	easy	1997. Influence by Pokegawa Dam - USACOE	WLM	VC	Sliding grate	Federal	USACOE		
Itasca	White Oak	31077600	905	271	10	USACOE - Pokegemama Lake RA	Eastern half of basin.	LLIR	fair	low	easy		WLM	VC		Federal	USACOE		Eastern half of basin.
Itasca	Mud	31020600	271	203		M			fair	low	difficul	History of beaver problems, private access.			NatOut				
Itasca	First River	31081800	228	160	14	USACOE - Winnibigoshish L. RA		LLIR	fair	low	fair		WLM	VC			Federal		
Itasca	Rabbits	31092300	209	157				LLIR	good	moderate	difficul	Bog problem, sometimes restricts outlet.			NatOut				
Itasca	Little Cut Foot Sioux	31085200	1,357	136		USACOE - Winnibigoshish L. RA		LLIR	fair	low	easy		WLM	VC		Federal	USACOE		Primarily in Little Pokegama bay.
Itasca	Pokegama	31053200	15,600	100	6	USACOE - Pokegemama Lake RA	Primarily in Little Pokegama bay.			moderate			WLM	VC		Federal	USACOE		
Itasca	Dora	31088200	477	89	11				fair	moderate	easy				NatOut				
Itasca	Helen	31084000	109	76							difficul				NatOut				
Itasca	Raven	31092500	97	70		M		LLIR	good	low	difficul	History of beaver problems.	BDR	?	BPL	Tribal	R - LL		
Itasca	Dixon	31092100	666	67	3	MNDNR - Wildlife/Dixon LA				low	easy		BDR	NatOut					
Itasca	Decker	31093400	292	58		M					easy		BDR	NatOut		Cooperative	SWCD, Dickson Lake Association		
Itasca	Spruce	31034700	58	58							easy				NatOut				
Itasca	Swan	31006700	2,472	50	11					moderate					NatOut				
Itasca	Blackberry	31021000	240	50	2	M	MNDNR - Wildlife/DU		fair	low	fair	Also private management- lakeshore owners.	BDR	C		County	County		
Itasca	Sand	31082600	3,391	50											NatOut				
Itasca	Nagel	31037700	90	50		M					difficul				NatOut				
Itasca	Prairie	31038400	1,167	45							fair				NatOut				
Itasca	Prairie	31005300	29	1	31	Industrial - MN Power				high		1997 data	BDR	Dam		Industrial	Industrial - MN Power		
Itasca	Mississippi River	31r6			74														
Itasca	Big Fork River	31r3			18					moderate									
Itasca	Bowstring River	31r4			7														
Koochiching	Nett	36000100	7,301	2,000	20			NLIR											
Koochiching	Rat Root	36000600	734		9					low		added from state harvester survey. 1982 data - Back bay: 150 acres, Wind bay: 200 acres, Hoist							
Lake	Basswood	38064500	14,610	485			Black, Hoist, Rice, and Wind bays.		fair		difficul								Black, Hoist, Rice, and Wind bays.
Lake	Stony	38066000	409	245	12				fair		difficul								
Lake	Garden	38078200	4,236	212	2	Industrial - MN Power				low			WLM	VC		Industrial	Industrial - MN Power		
Lake	Rice	38046500	206	206								1997 data							
Lake	Bonga	38076200	138	138								1987 data							
Lake												1987 data							
Lake	Wood	38072900	587	125			NE Bay and Madden Cr. Bay lush, other areas scattered.		fair		difficul								NE Bay and Madden Cr. Bay lush, other areas scattered.
Lake	Hula	38072800	121	121	3		Rice lush in bay by portage coming from Wood Lake.		fair	low	difficul								Rice lush in bay by portage coming from Wood Lake.
Lake	Lobo	38076600	132	99								1992 data							
Lake	Muskeg	38078800	178	71					poor		difficul	1970 data. Beaver problems				Federal	USFS - BWCA		
Lake	Round Island	38041700	58	58	10	A	MNDNR - Wildlife/R-FDL	1854	good	moderate	fair		BDR						Can completely cover basin. Surveyed annually by 1854 Treaty Auth
Lake	Campers	38067900	56	56	13	M	Can cover a majority of basin.		fair	moderate	fair								Can cover a majority of basin. Surveyed annually by 1854 Treaty Auth
Lake	Cramer	38001400	69	55	15		?	1854	fair	moderate	easy								surveyed annually by 1854 Treaty Authority
Lake	Cabin	38026000	71	55	4	M	Can cover a majority of basin.	1854	good	moderate	fair								Can cover a majority of basin. Surveyed annually by 1854 Treaty Auth
Lake	Sand	38073500	506	51	5				poor	low	fair								
Lake	Snowbank	38052900	4,819	50								One bay has rice, 50 acres at most							
Lake	Island River	38084200	49	49	6				good	low	easy								
Lake	Dumbbell	38039300	476	48				1854	fair		easy								
Lake	Clark	38064700	49		13	A		1854	fair	moderate	fair								
Lake	Cloquet	38053900	176	10						low		added from 1854M list.							
Lake	Greenwood	38065600	1,300				good stand on N end, rice coverage on S end also												
Lake	Farm	38077900	1,292				fair potential in some areas?, no field data												
Lake	Moose	38003600	201				rice coverage over most of lake												
Lake	Gegoka	38057300	176				moderately dense on N end, along shore, about 1/4 covered												
Lake	Hoist	38025100	113				typically one-half to completely covered with rice												
Lake	Hjalmer	38075800	109				rice over about three-fourths of lake												
Lake	Middle McDougal	38065800	108				one-third to three-fourths coverage												
Lake	Phantom						57-58N, 10W - most of lake covered												
Lake of the Woods	Roseau Flowage	39IMP001	200	100		MNDNR - Wildlife						Rice acres have drastically declined in late 1990's	WLM	VC	DI	State	MNDNR		
Lake of the Woods	Rainy River	39r5			12					low		added from state harvester survey.							
Lake of the Woods	Winter Road River	39r4			6					low		added from state harvester survey.							
Mille Lacs	Onamia	48000900	2,250	1,350	38	MNDNR - Wildlife				high		1964: 1350 acres of rice			VC	State	MNDNR - Waters		
Mille Lacs	Ernst Pool	48003600	300	200								Very good stand but poor seed production again this year.							Wild rice density is lush (4), and it conditions was fair (2
Mille Lacs	Dewitt Marsh	48002000	110	131		MNDNR - Wildlife							BDR	VC		State	MNDNR - Wildlife		

County	Basin Name	Dow No.	DOW acres	WR acres	Harvest hrs	DNR/DU Managed by	Wildlife coverage	NotAm	harvest potential	harvest pressure	harvest access	Comments	Management types	Outlet structure	Outlet structure comment	Owner	Owner class	WILD_RICE_	WR comments
St. Louis	Little Indian Sioux River	69002400					66N, 15W - good stands along banks, used by harvesters can have thick rice over entire lake, some use by harvesters 56N, 12W - thick rice in areas, used by harvesters into Breda L 60N, 16W - can contain good stands 55N, 15W - rice along shore, sparse in center 58N, 14-15W - number of stands with good density 64N, 19W - can have thick rice over entire lake (2007, 2008)												
St. Louis	Papoose																		
St. Louis	Petrel Creek																		
St. Louis	Sand River																		
St. Louis	Washusk #2																		
St. Louis	Partridge River																		
St. Louis	Rice																		
Stearns	Tamarack	73027800	470	235			island clumps throughout					Wild rice was planted by the Belgrade Sporstmen's Club in 19 Water influenced by Turtle Creek watershed.	BDR	NatOut		State	MNDNR - Wildlife		island clumps throughout
Todd	Long	77006900	356	338	1	M	Typically thickest in north portion of lake, more spotty in	fair	low	easy		Lake adjacent to Water influenced by Turtle Creek watershed.	BDR	NatOut		Cooperative	Private, State		Typically thickest in north portion of lake, more spotty in
Todd	Mud	77008700	398	318		M	Rice typically around shoreline, can cover almost all of ope	fair	low	fair		Lake within Turt County ditch outlet on west side. Access thru	BDR			Private	Private		Rice typically around shoreline, can cover almost all of ope
Todd	Twin	77002100	317	159		M				fair		Ostendorf Stat Affected by county ditch, flows into Long Lake,				Cooperative	Private, Public		
Todd	Rogers	77007300	185	130	1	M	Typically in a wide band around shoreline.		low	difficul		outlet has c		C		Private	Private		Typically in a wide band around shoreline.
Todd	Nelson	77000500	84	70		M	Entire lake.			difficul		Private access.						Wild rice density is lush (4) to rank (5), and its condition	Entire lake.
Todd	Rice	77006100	675	60		M	Most of rice on south end where connected to Thunder Lake.	fair	low	difficul		Problems with water from Turtle Creek watershed.				Cooperative	Private, Public		Most of rice on south end where connected to Thunder Lake.
Wabasha	Zumbro River						Zumbro Bottoms, McCarthy Lake - acreage, wildflie value												
Wadena	Yaeger	80002200	384	346		M	Entire lake, best stands are located on west side & across t	fair	moderate	easy			BDR	VC		State	MNDNR - Wildlife		Entire lake, best stands are located on west side & across t
Wadena	Burgen	80001800	92	86			Covers 93% of water area.	poor	low	difficul						Private	Private		Covers 93% of water area.
Wadena	Strike	80001300	76	76			1988: sparce rice. 1963 100% covered.	fair	low	difficul									1988: sparce rice. 1963 100% covered.
Wadena	Round	80001900	58	58	A			fair	moderate	fair	1993		BDR						
Wadena	Granning	80001200	50	50			Entire lake.		low	fair		1988 Sparce rice. 1963: 50 acres of rice (100%)							Entire lake.
Wadena	Blueberry	80003400	555.0	30.0			historic wild rice camp												
Waseca	Everson	81002700	79.0	20.0			Stand around perimeter of the lake between cattail/phrag. Fringe and open water. Varies in size and density year to year.					Stand was only about 10 acres in 2009							
Waseca	Lilly	81006700	125.0	38.0			Dense stand around perimeter of the basin												
Wright	Sandy	86022400	118	150			Entire lake.					Within Suconix State WMA.						In 2004, wild rice density was moderate (3) and in fair (2)	Entire lake.