Attachment B

Preapplication Notification Information
Pursuant to s. 295.465(2), Wis. Stats.

March 10, 2014

Existing Wisconsin Department of Natural Resources (WDNR) Information and Other Sources of Information

The department maintains a wide variety of information in its databases that could be relevant to the potential impacts of the mining project, including information that could assist in the evaluation of the environmental impact of the project and to expedite the preparation of the EIR. Available information includes data on wetlands, surface water, fisheries, groundwater, drinking water, forestry, and wildlife. Examples of the types of information in the department's databases are provided below.

Wetland Information and Resources

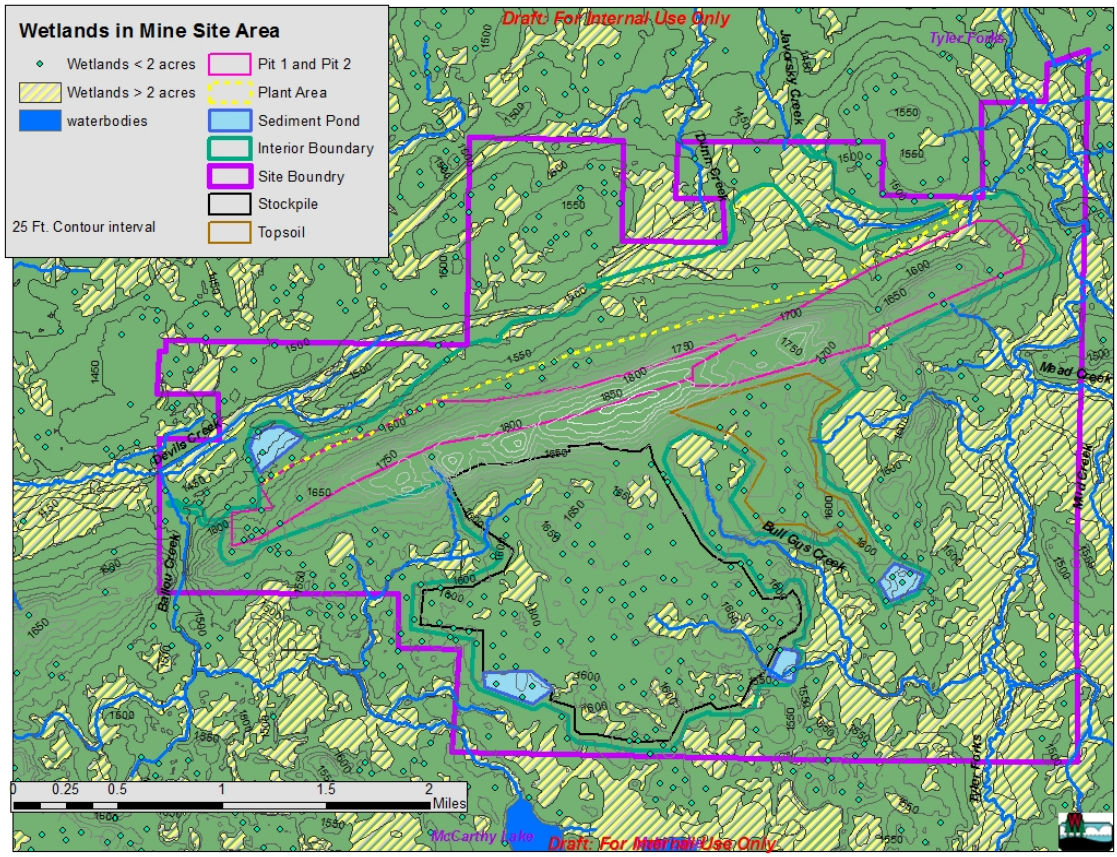
1. Wisconsin wetland inventory (WWI) maps are available on the WDNR surface water data viewer at: http://dnrmaps.wi.gov/SL/Viewer.html?Viewer=SWDV&runWorkflow=Wetland. WWI maps show graphic representations of the type, size and location of wetlands in Wisconsin. These maps have been prepared from the analysis of high altitude imagery in conjunction with soil surveys, topographic maps, previous wetland inventories and field work. The principal focus of the WWI is to produce wetland maps that are graphic representations of the type, size and location of wetlands in Wisconsin. The WDNR recognizes the limitations of using remotely sensed information as the primary data source. They are to be used as a guide for planning purposes. There is no attempt, in either the design or products of this inventory, to define the limits of jurisdiction of any Federal, State, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State, or local agencies concerning specified agency regulatory programs and jurisdictions that may affect such activities. The most accurate method of determining the legal extent of a wetland for federal or state regulations is a field delineation of the wetland boundary by a professional trained in wetland delineation techniques. Wetlands in Ashland and Iron Counties are currently being delineated and classified using 2013 stereo aerial photography. This part of the Wisconsin Wetland Inventory update process will be completed by June 30, 2014. Ortho rectification of the photography, vectorizing of line work and labeling of polygons will commence July 1, 2014. We anticipate completing the townships within the mine project area no later than December 31, 2014.

2. Wisconsin Wetland Inventory Mapping for Iron and Ashland County: The WDNR has created a map of the mine site using available WWI map information depicting mapped and point symbol wetlands and estimated wetland acreages. The following map and table are taken from the current Wisconsin Wetland Inventory digital GIS layer for Ashland and Iron Counties, which is based on interpretation of 1990-91 aerial photography. WWI maps wetlands that are too difficult to delineate clearly as point symbols, rather than mapping the boundaries of these wetlands as polygons. No acreage can be calculated for points, therefore we used two different assumptions to estimate point acreage: 1 acre per point or two acres per point. The total acreages reported in this table should be considered as a range.

The map shown below is a reproduction of the paper map submitted to the department by Gogebic Taconite. Stream, wetland and elevation data are from existing department sources. Possible stream and wetland monitoring stations in and near the Mine Site are shown. Stations further from the site are not shown on this map.

Mine Site Area Map Terms:
Project Area indicates the outer boundaries of the proposed mine site, (not necessarily impacted areas).

Interior (Operations Area) indicates the area in which mining operations are planned. It includes the pits, plant area, sediment ponds/trenches, stockpile and topsoil areas. GTAC labeled this as 'Interior" in their submittal.
Physical Plant Area indicates the area in which buildings and other facilities will be placed.
Pits indicates mine pits one and two.
Stockpile Area indicates where waste rock will be placed (not including the sediment ponds or storm water drainage ways).
Topsoil Stockpile Area indicates where stripped topsoil will be placed (but not including the sediment ponds or Storm water drainage ways).



	Mapped Wetlands Within and Near the GTAC Mine Site Based on Wisconsin Wetland Inventory_1991 (Polygons + Points)							
	Entire Project Area	Operations Area Plus 300m Buffer	Operations Area Plus 100m Buffer	Operations Area	Physical Plant Area	Pits	Waste Rock Stock Pile	Soil Stock Pile
Area (Acres)	6,707	5,117	3,811	3,051	545	526	991	195
Mapped Wetland Polygon Acreage								
Count	155	111	64	43	16	8	16	1
Acres	1,638	840	413	259	117	12	96	1
Mapped Wetland Points (2 acres or less) Estimated Acre Range								
Count	276	235	190	162	17	18	75	16
Acres @ 1/pt	276	235	190	162	17	18	75	16
Acres @ 2/pt	552	470	380	324	34	36	150	32
Total Estimated Wetland Acreage								
@ 1 acre/pt	1,914	1,075	603	421	134	30	171	17
@ 2 acre/pt	2,190	1,310	793	583	151	48	246	33
Percent Wetland								
@ 1 acre/pt	28.54%	21.01%	15.82%	13.80%	27.71%	5.70%	17.26%	8.72%
@ 2 acre/pt	32.65%	25.60%	20.81%	19.11%	24.59%	9.13%	24.82%	16.92%

3. National Wetland Condition Assessment (NWCA) 2011: Wetlands of four freshwater and two estuarine types were randomly selected across the nation. 17 freshwater sites were located in Wisconsin. They are representative of the two study ecoregions that occur in Wisconsin, Upper Midwest and Temperate Plains (Omernik 1987, USEPA 2011). Vegetation, algae, soil and water chemistry sampling was conducted along with characterization of land cover, hydrological setting and stressors in the assessment area and in a 100m buffer area. Data analysis is on-going and results are expected to be published by December of 2014.
4. Lake Superior Basin Floristic Quality Assessment (FQA) Benchmarks Survey: This is a research study of the inland (not coastal) wetland plant communities in the Lake Superior Basin, using timed meander sampling to gather comprehensive presence and abundance data at 265 assessment areas of 9 plant community types during the growing seasons of 2012 and 2013, along with land cover and an assessment of the level of anthropogenic disturbance at each assessment area. The purpose is to study the response of FQA metrics to disturbance for each wetland plant community type, in order to set benchmarks distinguishing between low, medium and high plant community condition for these metrics. Field data was gathered by UW-Superior's Lake Superior Research Institute (LSRI) in accordance with a Quality Assurance Project Plan. Data analysis is on-going and results along with any proposed benchmarks are expected to be released in April 2014 by LSRI and the department's Water Quality Bureau. The study will help guide interpretation of plant community surveys conducted in accordance with its sampling protocol.
5. NWI + Projects for Landscape Level Wetland Functional Assessment
6. 'NWI+" is shorthand for an enhancement of the National Wetland Inventory, adding hydrogeomorphic classifications that describe a wetland's Landscape position, Landform,

Water flow path, and Waterbody type (LLWW descriptors). The US Fish and Wildlife Service have a manual for assigning these descriptors, "Dichotomous Keys and Mapping Codes for Wetland Landscape Position, Landform, Water Flow Path, and Waterbody Type Descriptors: Version 2.0" (R. Tiner 2011). This system has been used to describe wetland functional assessment at the watershed scale in several projects in Wisconsin. The closest NWI + project to the Mine Site were in the Upper St Croix Watershed (Watershed Study Report For The Headwaters of the St. Croix River Basin, WI", US Army Corps of Engineers, 2013). Two other similar projects have been recently completed using this methodology: "A Landscape-Scale Wetland Functional Assessment and Identification of Potential Wetland Restoration Sites for the Stockbridge-Munsee Community" (J.Stark and D. Jensen, St Mary's University Geospatial Services 2013) and "The Duck-Pensaukee Watershed Approach: Mapping Wetland Services, Meeting Watershed Needs" (N. Miller, et al., The Nature Conservancy 2012).

Surface Water Quality Information and Resources

The department has several continuing or completed monitoring projects. Because the data are collected to meet the requirements of the specific project, an understanding of the goals and objectives the projects is necessary to interpret these data.

Baseline Stream Tier 1 monitoring: This is a category for a number of baseline monitoring programs that usually consists of a single year of sampling for macroinvertebrate assemblages, fish assemblages, qualitative habitat rating and a single water chemistry grab sample using standard WDNR methods, index periods and biotic indices.

Long Term Trend Wade-able: A monitoring program that samples every year at static regionally least disturbed reference sites to track changes in wadeable streams. Monitoring consists of macroinvertebrate assemblages, fish assemblages, quantitative habitat rating and a single water chemistry grab sample using standard WDNR methods, index periods and biotic indices.

Long Term Trend River: A monitoring program that monitors monthly or quarterly (depending on site) at non-wadeable river sites associated with a USGS gauge to track changes in water quality parameters concentration and loading from grab samples collected during both base flow and runoff events. This monitoring program has the longest continuous period of record and most extensive chemical parameters.

Severely impacted streams: A monitoring program that monitors a single visit at sites predicted to be regionally most disturbed based on anthropogenic stressors. Monitoring consists of macroinvertebrate assemblages, fish assemblages, qualitative habitat rating and a single water chemistry grab sample using standard WDNR methods, index periods and biotic indices.

Tyler Forks Watershed Project 2012 and 2013: A watershed monitoring project was conducted in the Tyler Forks River watershed in 2012 and 2013. Additional waterways were monitored in portions of the Upper Bad, and Potato River watersheds. The purpose of the monitoring was to collect water quality information on area streams. The data gathered will be used for the purposes of updating waterbody assessment status (i.e. future monitoring for 303(d) or ERW/ORW status), for making management recommendations and updating water body and watershed narratives in our WATERS database, and for use in watershed planning. The monitoring included; water chemistry sampling, fish surveys, macroinvertebrate kick samples, habitat assessments, field parameters (dissolved oxygen, conductivity, pH, temperature, transparency tube) and continuous

temperature monitoring. The water chemistry sampling included nutrients, trace metals, sulfate, chloride, harness, alkalinity, and total organic carbon at 13 sites on 10 waterways.

National Streams Assessment: The National Rivers and Streams Assessment (NRSA) is an EPA lead monitoring project designed to provide regional and national estimates of stream condition using a probabilistic site selection. All chemical measures should be directly comparable to WDNR collected data; however physical habitat measurements and biologic assessment protocols are different from WDNR protocols and may not be directly comparable.

Citizen Lake Monitoring: Trained citizen volunteers measure Secchi depth bimonthly, and temperature, dissolved oxygen profiles, total phosphorus, and chlorophyll *a* during spring and fall turnover plus three times during summer. This monitoring has broad spatial coverage, with approximately 925 volunteers monitoring water quality at more than 800 monitoring stations throughout the state. This data is used to determine trophic status and assess lakes for water quality. http://dnr.wi.gov/lakes/clmn/

Long Term Trend Lakes: WDNR collects samples from 65 lakes throughout the state to monitor long-term trends in water quality and provide regional reference conditions for each lake class. The following variables are measured once during spring turnover and three times during summer: Secchi depth, temperature/dissolved oxygen profile, total phosphorus, chlorophyll *a*, and optionally, conductivity and pH. Water color, nitrate, nitrite, and total Kjeldahl nitrogen are measured once each year in the middle of summer. Calcium and Magnesium are measured on a 5-year cycle. http://dnr.wi.gov/topic/surfacewater/monitoring/strategy/Tier1/Ch1-Lakes_MonStrat_11-6-2008.pdf

Lake Clarity from Satellite Imagery: WDNR Science Services analyzes satellite imagery each year to estimate water clarity in more than 3000 lakes across the state.

Fish Contaminants: Tissue from a variety of fish species in lakes and rivers across the state is sampled for mercury and other metals. Priority lakes are sampled every 10-15 years, whereas other lakes have only been visited once.
http://intranet.dnr.state.wi.us/int/water/fhp/pages/database-fishcontaminants.html

Trout Lake Research Station: . Long-term research on mercury cycling in lakes near the Trout Lake Long Term Ecological Research field station is available and can provide baseline data to characterize lakes prior to, during, and after mining.

National Lakes Assessment 2007 and 2012: Lakes were randomly selected (39 lakes in 2007, 50 lakes in 2012) for sampling by the US Environmental Protection Agency and therefore, should be representative of lakes throughout the state. This survey included the following indicators: Algal Toxins, Benthic Macroinvertebrates, Chlorophyll A, Nutrients, Phytoplankton, Sediment Dating, Sediment Diatoms, Sediment Mercury, Water Chemistry, and Zooplankton.

Early Detection Invasive Species Monitoring for Lakes: In 2011, the WDNR received a Great Lakes Restoration Initiative grant to develop a statewide AIS monitoring protocol to evaluate the rate of AIS spread in state and determine AIS distribution.

GLRI Lake Superior Phosphorus Study: A monitoring program at static stations that measure flow with USGS gauges and phosphorus concentrations through monthly and event based grab samples to calculate phosphorus loading to Lake Superior.

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Trout stream classifications: Pursuant to s. NR 1.02(7), Wis. Adm. Code, the department is directed to identify and classify trout streams according to standards in that section to ensure adequate protection and proper management of this unique resource. The Fisheries Bureau uses the results from ~900 surveys of stream sites conducted annually across the state to continuously update the classification system based on the standards and procedures in the administrative code. The code requires the department to maintain a list of classified streams for public information but specifically states that the list "shall not be assumed to be exhaustive." Trout stream classifications have formal legal standing in high capacity well and certain water regulations permit reviews, and have been the basis for making WPDES program use classifications.

The Mercer WDNR Fish Team (charged with fisheries management responsibilities in Iron and Ashland Counties) is considering the following waterbodies for classification as trout streams in the vicinity of the proposed mine. Any proposed updates will follow the classification process as outlined in NR 1.02(7). The following listing includes the WDNR's Waterbody Identification Code (WBIC) and Stream Name:

4000019 – Unnamed Cr.
2906450 – Unnamed Cr.
2930200 – Unnamed Cr.
2926600 – Unnamed Cr.
2930900 – Unnamed Cr.

Fisheries baseline monitoring: Fisheries Management has established baseline fish monitoring protocols for all wadeable streams, non wadeable rivers, and lakes which contain fish populations that are actively managed by the program. The protocols include standard gear deployment, number of sites to be sampled for each waterbody, and a schedule under which the frequency of sampling is related to the use and importance of the waterbody. The baseline monitoring program is intended to allow local fisheries biologists to make decisions on stocking, harvest regulation and habitat management actions for primary managed species.

Fisheries "Tier 2" Monitoring: Fisheries Management at times designs ad hoc special "Tier 2" surveys to collect information on managed species that are not adequately covered by our baseline protocol (e.g., sturgeon and catfish in some waters), or to follow up on specific management problems identified by baseline monitoring which require more detailed information.

The department has water quality data stored in several data bases. These data were collected as part of various monitoring programs or special projects each with their own specific objectives. The department can provide data from the data bases electronically upon request.

The following tables identify the streams and lakes where WDNR data are available. These data tables list survey sites in the following HUC 10 watersheds; Tyler Forks, Upper Bad, Lower Bad, Potato River, Montreal River, Marengo River, and Portions of the West Fork and East Fork of the Chippewa River and Upper North Fork Flambeau River. Data are available for lakes within a 50 mile radius of the mine site.

Table 1 Streams in the Penokee Region with water resources data.

Waterbody	WBIC	Earliest Sample	Latest Sample	Number of Stations	WQ Unique Sample Events	Macroinvertebrate Unique Sample Events	HUC10
Tyler Forks	2923100	10/14/2009	10/17/2013	6	53	12	Tyler Forks Watershed
Scott Tyler Creek	2923300	11/02/2005	10/17/2012	2	1	2	Tyler Forks Watershed
Unnamed Creek	2923400	06/01/2012	10/29/2012	1	1	1	Tyler Forks Watershed
Gehrman Creek	2923500	05/30/2012	10/29/2012	2	2	1	Tyler Forks Watershed
Camp Four Creek	2923600	05/30/2012	10/18/2012	1	1	1	Tyler Forks Watershed
Feldcher Creek	2923800	05/30/2012	10/29/2012	1	1	1	Tyler Forks Watershed
Vogue Creek	2924100	11/02/2005	10/29/2012	2	1	2	Tyler Forks Watershed
Unnamed Creek	2924300	05/30/2012	11/08/2012	1	1	1	Tyler Forks Watershed
Javorsky Creek	2924600	10/04/2011	10/15/2013	1	14	3	Tyler Forks Watershed
Erickson Creek	2924800	05/27/2011	11/08/2012	1	3	3	Tyler Forks Watershed
Rouse Creek	2925000	09/27/2006	09/24/2008	2	0	14	Tyler Forks Watershed
Unnamed Creek	2925100	05/27/2011	10/05/2012	1	3	0	Tyler Forks Watershed
Mud Creek	2926000	04/30/2008	09/28/2012	2	2	1	Tyler Forks Watershed
Unnamed Creek	2926200	11/03/2005	10/15/2013	2	10	1	Tyler Forks Watershed
Unnamed Creek	2926600	06/01/2012	10/01/2013	2	2	1	Tyler Forks Watershed
Bull Gus Creek	2926700	11/03/2005	10/15/2013	2	15	2	Tyler Forks Watershed
Unnamed Creek	2927400	11/03/2005	11/03/2005	1	0	1	Tyler Forks Watershed
Bad River	2891900	07/28/2005	10/17/2013	4	14	1	Upper Bad River Watershed
Devils Creek	2929300	09/21/2000	10/15/2013	4	17	6	Upper Bad River Watershed
Montreal Creek	2929400	05/30/2012	10/18/2012	1	1	1	Upper Bad River Watershed
Opergard Creek	2929700	05/27/2011	10/05/2012	1	2	2	Upper Bad River Watershed
City Creek	2930100	05/24/2011	09/19/2012	1	2	2	Upper Bad River Watershed
Ballou Creek	2930700	05/19/2011	10/15/2013	2	18	5	Upper Bad River Watershed
Unnamed Creek	2930900	05/31/2013	11/05/2013	1	1	0	Upper Bad River Watershed
Brush Creek	2933600	04/28/1993	04/28/1993	1	0	3	Upper Bad River Watershed
Bad River	2891900	4/17/61	10/8/13	1	359	0	Bad River Watershed
Potato River	2906200	06/08/1979	10/17/2013	5	10	7	Potato River Watershed
Vaughn Creek	2906300	06/22/1979	11/28/2006	3	1	4	Potato River Watershed
Frieberg Creek	2907600	04/23/2012	09/28/2012	1	1	0	Potato River Watershed
Sixteen Creek	2908850	05/13/2013	10/15/2013	1	10	0	Potato River Watershed
Norman Creek	2910400	05/13/2013	10/15/2013	1	10	0	Potato River Watershed
Unnamed Creek	3000519	04/25/2007	09/23/2008	2	0	14	Potato River Watershed
Unnamed Creek	3000520	04/25/2007	09/15/2008	1	0	4	Potato River Watershed

Table 2. Existing lake data in and near the Penokee Range within approximately 50 miles of the mine site. "Limnology" refers to physical and chemical lake data including chlorophyll *a*, "Fish Hg" refers to mercury and other metals data analyzed in fish tissue, "Fish" includes abundance and size data of fish by species, and "Plant" refers to Point-Intercept aquatic plant surveys.

Lake	County	WBIC	Limnology	Fish Hg	Fish	Plant
Spillerberg Lake	Ashland	2936200		1	1	1
English Lake	Ashland	2914800		1	1	
Mineral Lake	Ashland	2916900	1	1	1	1
Meder Lake	Ashland	2935300	1		1	
Augustine Lake	Ashland	2410400	1		1	
Lake Galilee	Ashland	2935500	1	1	1	
Upper Clam Lake	Ashland	2429600	1			
Spider Lake	Ashland	2918600		1	1	
Moquah Lake	Ashland	2918200		1	1	
Potter Lake	Ashland	2917200		1	1	
Gates Lake	Ashland	1850200		1	1	
Bear Lake	Ashland	2403200		1		
Anderson Lake	Bayfield	2754200		1		
Diamond Lake	Bayfield	2897100	1	1	1	
Middle Eau Claire Lake	Bayfield	2742100	1	1	1	
Eagle Lake	Bayfield	2902900	1	1		1
Buskey Bay	Bayfield	2903800	1			1
Upper Eau Claire Lake	Bayfield	2742700	1	1	1	
Lake Millicent	Bayfield	2903700	1	1		1
Twin Bear Lake	Bayfield	2903100	1			1
Hart Lake	Bayfield	2903200	1	1		1
Flynn Lake	Bayfield	2902800	1			1

Namekagon Lake	Bayfield	2732600	1	1		
Lake Owen	Bayfield	2900200	1	1		
Garden Lake	Bayfield	2735500	1			
George Lake	Bayfield	2465700	1			
Lake Tahkodah	Bayfield	2473500	1	1		
Tomahawk Lake	Bayfield	2501700	1			1
Half Moon Lake	Bayfield	2762700	1			
Ellison Lake	Bayfield	2463300	1			
Cranberry Lake	Bayfield	2741700	1			
Bony Lake	Bayfield	2742500	1			
Shunenberg Lake	Bayfield	2743600	1			
Robinson Lake	Bayfield	2743300	1	1		1
Samoset Lake	Bayfield	2494800	1			
Lake Wilipyro	Bayfield	2473600	1			
Island Lake	Bayfield	2470800	1			
Hammil Lake	Bayfield	2467900	1			
Wiley Lake	Bayfield	2729800	1			
Cable Lake	Bayfield	2729700	1			
Long Lake	Bayfield	2767100	1	1		
Sand Bar Lake	Bayfield	2494900	1			1
Pickerel Lake	Bayfield	2489200	1			
Phantom Lake	Bayfield	2771200	1			
Pigeon Lake	Bayfield	2489400	1	1		
Bark Bay Slough	Bayfield	2881200	1			
Dells Lake	Bayfield	1844500	1			
Atkins Lake	Bayfield	2734000	1	1		1
Chippewa Lake	Bayfield	2431300	1			1
Lester Lake	Bayfield	2766500	1			
Perch Lake	Bayfield	2770700		1		1
Lake Delta	Bayfield	2901700		1		
Drummond Lake	Bayfield	2899400		1		
Cisco Lake	Bayfield	2899200		1		
Star Lake	Bayfield	2898400		1		
Siskiwit Lake	Bayfield	2882300		1		
Little Siskiwit Lake	Bayfield	2882200		1		
Twin Lakes	Bayfield	2832200		1		
Sawdust Lake	Bayfield	2773200		1		
Lund Lake	Bayfield	2767800		1		
Long Lake	Bayfield	2767200		1		
Lake Ruth	Bayfield	2765900		1		
Twin Lakes	Bayfield	2761000		1		
Bufo Lake	Bayfield	2757000		1		
Bladder Lake	Bayfield	2756200		1		
Armstrong Lake	Bayfield	2754600		1		
Birch Lake	Bayfield	2743200		1		
Twin Lakes	Bayfield	2731800		1		
Namekagon Lake	Bayfield	2689500		1		
Hildebrand Lake	Bayfield	2469300		1		
East Eightmile Lake	Bayfield	2462200		1		
Bellevue Lake	Bayfield	2755800				1
Moon Lake	Bayfield	2768900				1
Bass Lake	Bayfield	2901100				1
Lower Eau Claire Lake	Douglas	2741600	1		1	
Gile Flowage	Iron	2942300	1	1	1	
Turtle Flambeau Flowage	Iron	2294900	1	1	1	
Mercer Lake	Iron	2313600	1	1		
Spider Lake	Iron	2306300	1	1		
Pardee Lake	Iron	2308000	1			
Trude Lake	Iron	2295200	1	1		
Wilson Lake	Iron	2297000	1	1		
Little Pike Lake	Iron	2313100	1	1		
Little Pine Lake	Iron	2949500	1			
Grand Portage Lake	Iron	2314100	1			
Lake of the Falls	Iron	2298300	1		1	
Long Lake	Iron	2303500	1	1		
Hewitt Lake	Iron	2763300	1			
Rice Lake	Iron	2300600	1			
Randall Lake	Iron	2318500	1			
Sandy Beach Lake	Iron	2316100	1			
Cedar Lake	Iron	2309700	1	1		
Owl Lake	Iron	2307600	1			

Deertail Lake	Iron	1844300	1			
Shine Lake	Iron	2928200	1			
Bearskull Lake	Iron	2265100	1	1		
McDermott Lake	Iron	2296500	1			
Upper Springstead Lake	Iron	2267100	1			
North Bass Lake	Iron	1868900	1	1		
Lake Six	Iron	2294500	1	1	1	
Fox Lake	Iron	1849500	1		1	1
First Black Lake	Iron	2298500	1		1	
Weber Lake	Iron	2909000			1	1
Pine Lake	Iron	2949200		1	1	
Echo Lake	Iron	2301800		1		
Moose Lake	Iron	2299300			1	1
Squirrel Lake*	Oneida	1536300	1	1		
Franklin Lake	Oneida	986000	1	1	1	
Shishebogama Lake	Oneida	1539600	1	1		1
Blue Lake	Oneida	1538600	1			
Fuller Lake	Oneida	2272000	1			
Squaw Lake	Oneida	2271600	1	1		
Kawaguesaga Lake	Oneida	1542300	1	1		
Diamond Lake	Oneida	1537100	1			
Willow Lake	Oneida	1529500	1	1		
Great Bass Lake	Oneida	1851600	1			
Booth Lake	Oneida	1537800	1	1		
Swamsauger Lake	Oneida	1528700	1	1		
Buckskin Lake	Oneida	2272600		1		
Malby Lake	Oneida	1002900		1		
Minocqua Lake	Oneida	1542400	1		1	
Park Falls Flowage, Lower	Price	2290100	1	1		
Pixley Flowage	Price	2288900	1	1		
Musser Flowage	Price	2245100	1	1	1	1
Solberg Lake	Price	2242500	1	1		
Elk Lake	Price	2240000	1	1		1
Long Lake	Price	2239300	1	1		1
Butternut Lake	Price	2283300	1	1	1	
Lac Sault Dore	Price	2236800	1	1		1
Round Lake	Price	2267800	1	1		
Big Dardis Lake	Price	2244200	1	1		
Newman Lake	Price	1870200	1	1		
Pike Lake	Price	2268300	1	1		
Turner Lake	Price	2268500	1	1		
Blockhouse Lake	Price	2256800	1	1		
Wilson Lake	Price	2239400	1	1		
Schnur Lake	Price	2284000	1			1
Sailor Lake	Price	2254800	1	1		
Price Lake	Price	2234600	1			1
Cranberry Lake	Price	2217000	1	1		
Tucker Lake	Price	2269000	1	1		
Deer Lake	Price	2239100	1			1
Riley Lake	Price	2263400	1	1		1
Duroy Lake	Price	2240100		1		1
Bass Lake	Price	2279800		1		
Twin Lakes	Price	2264200		1		
Cochran Lake	Price	2264000		1		
Sailor Creek Flowage	Price	2252200		1		
Wilson Flowage	Price	2246500		1		
Lake Ten	Price	1859400		1		
Crane and Chase Lake	Price	2237500				1
Grassy Lake	Price	2238100				1
Spider Lake	Sawyer	2435700	1	1		
Nelson Lake (Totagatic Flow)	Sawyer	2704200	1	1		1
Tiger Cat Flowage	Sawyer	2435000	1	1		
Teal Lake	Sawyer	2417000	1	1	1	
Lower Clam Lake	Sawyer	2429300	1	1	1	
Teal River Flowage	Sawyer	2416900	1			
Lost Land Lake	Sawyer	2418600	1	1		
Moose Lake	Sawyer	2420600	1	1		
Clear Lake	Sawyer	1841300	1	1		1
Connors Lake	Sawyer	2275100	1	1		1
Lake Placid	Sawyer	2436500	1			
Blueberry Lake	Sawyer	1835700	1	1		

Barber Lake	Sawyer	2382300	1	1		
Ghost Lake	Sawyer	2423000	1	1		
Black Dan Lake	Sawyer	2381900	1	1		
Black Lake	Sawyer	2401300	1	1	1	
Blaisdell Lake	Sawyer	2402200	1	1		
Barker Lake	Sawyer	2400000	1	1		
Radisson Flowage	Sawyer	2397400	1			
Island Lake	Sawyer	2381800	1	1		
North Lake	Sawyer	2436000	1			
Fawn Lake	Sawyer	2435900	1			
Clear Lake	Sawyer	2435800	1	1		
Christner Lake	Sawyer	1840800	1	1		
Smith Lake	Sawyer	2726100	1	1		
Spring Lake	Sawyer	2724900	1	1		
Winter Lake (Price Flowage)	Sawyer	2381100	1	1		
Indian School Lake	Sawyer	2726000	1	1		
Lake of the Pines	Sawyer	2275300	1	1		
Currier Lake	Sawyer	1842800	1			
Lake Helane	Sawyer	1859100	1	1		1
Silverthorn Lake	Sawyer	2497000	1	1		
Pelican Lake	Sawyer	1873100	1			
Mud Lake	Sawyer	2434800	1			
Callahan Lake	Sawyer	2434700	1	1		
Fishtrap Lake	Sawyer	2401100	1	1		
Round Lake	Sawyer	2395600	1	1		
Little Round Lake	Sawyer	2395500		1		1
Pacwawong Spring	Sawyer	2728900		1		
Pacwawong Lake	Sawyer	2728700		1		
Crane Lake	Sawyer	2436900		1		
Lake Chippewa	Sawyer	2399700		1		
Loretta Lake (U Brunet Flowage)	Sawyer	2382700		1		
Evergreen Lake	Sawyer	2277600		1		
Mason Lake	Sawyer	2277200		1		
Two Axe Lake	Sawyer	1887200		1		
Osprey Lake	Sawyer	2395100				1
Lac Courte Oreilles	Sawyer	2390800	1	1	1	
Trout Lake	Vilas	2331600	1	1		
Little Rock Lake	Vilas	1862100	1			
Dead Pike Lake	Vilas	2316600	1	1		1
Upper Gresham Lake	Vilas	2330800	1	1		1
Johnson Lake	Vilas	1541100	1			
Clear Lake	Vilas	2329000	1	1		
Diamond Lake	Vilas	1844700	1			
Amik Lake	Vilas	2268600	1			
Gunlock Lake	Vilas	1539700	1	1		1
Towanda Lake	Vilas	1022900	1	1		
Rest Lake	Vilas	2327500	1	1		1
Island Lake	Vilas	2334400	1	1		
Moss Lake	Vilas	2322500	1			
Spider Lake	Vilas	2329300	1	1		
Little Spider Lake	Vilas	1540400	1	1		
Arrowhead Lake	Vilas	1541500	1	1		1
Annabelle Lake	Vilas	2953800	1	1		
Lower Gresham Lake	Vilas	2330300	1			1
Horsehead Lake	Vilas	2953100	1	1		
Plummer Lake	Vilas	1875100	1			
Morton Lake	Vilas	2960300	1			
Hiawatha Lake	Vilas	2328400	1			
North Turtle Lake	Vilas	2310400	1	1		
Papoose Lake	Vilas	2328700	1	1		
Pokegama Lake	Vilas	2320800	1			
Birch Lake	Vilas	2311100	1	1		
Harris Lake	Vilas	2958500	1	1		
Crab Lake	Vilas	2953500	1	1		
South Turtle Lake	Vilas	2310200	1	1		
Bills Lake	Vilas	1835500	1			
Carlin Lake	Vilas	2757900	1			
Crystal Lake	Vilas	1842400	1			1
Little Crawling Stone Lake	Vilas	2324000	1			
Presque Isle Lake	Vilas	2956500	1	1		
Bobidosh Lake	Vilas	1836100	1			

Ike Walton Lake	Vilas	2321800	1	1		
Ross Allen Lake	Vilas	1878100	1			
Van Vliet Lake	Vilas	2956800	1	1		
Little Crooked Lake	Vilas	2335500	1	1		
Stearns Lake	Vilas	2323600	1	1		
White Sand Lake	Vilas	2321100	1			
High Lake	Vilas	2344000	1	1		
Jag Lake	Vilas	1855900	1	1		
Middle Gresham Lake	Vilas	2330700	1			1
Wildcat Lake	Vilas	2336800	1	1		
Crawling Stone Lake	Vilas	2322800	1			
Circle Lily Lake	Vilas	2326700	1	1		
Big Muskellunge Lake	Vilas	1835300	1	1		
Armour Lake	Vilas	2953200	1			
Alder Lake	Vilas	2329600	1	1		
Nichols Lake	Vilas	1870400	1			
Oxbow Lake	Vilas	2954800	1	1		
Fishtrap Lake	Vilas	2343200	1	1		
Rock Lake	Vilas	2311700	1	1		
Sparkling Lake	Vilas	1881900	1	1		
Beaver Lake	Vilas	2960600	1			
Edith Lake	Vilas	1846900	1			
Mermaid Lake	Vilas	2768100	1			
Lower Sugarbush Lake	Vilas	2317600	1			
Little John Lake	Vilas	2332300	1	1		
Placid Twin Lake, North	Vilas	2323800	1			
Geneveive Lake	Vilas	1850500	1			
Snake Lake	Vilas	1541700	1			
Little Star Lake	Vilas	2334300	1	1		
Fence Lake	Vilas	2323000	1	1		
Tenderfoot Lake	Vilas	2962400	1	1		
Sanborn Lake	Vilas	2960200	1			
Wishow Lake	Vilas	2046800	1			
Tippecanoe Lake	Vilas	1886000	1			
Nixon Lake	Vilas	2341200	1			1
Vandercook Lake	Vilas	1176400	1	1		
Cochran Lake	Vilas	2963500	1			
Allequash Lake	Vilas	2332400	1	1		1
Lost Canoe Lake	Vilas	2339800	1			
White Sand Lake	Vilas	2339100	1	1		
Boulder Lake	Vilas	2338300	1	1		
Big Lake	Vilas	2334700	1	1		
Mann Lake	Vilas	2332000	1			
Apeekwa Lake	Vilas	2269400	1			
Brandy Lake	Vilas	1541300	1	1		
Round Lake	Vilas	2334900	1	1		
Little Crab Lake	Vilas	2955900	1			
Big Crooked Lake	Vilas	2321400	1	1		
McCullough Lake	Vilas	2960400	1			
Twin Island Lake	Vilas	2959300	1			
Lower Aimer Lake	Vilas	2955000	1			
Knife Lake	Vilas	2954000	1			
Little Trout Lake	Vilas	2321600	1	1		
Favil Lake	Vilas	2269900	1	1		
Grassy Lake	Vilas	2343900	1			
Manitowish Lake	Vilas	2329400	1	1		
Wild Rice Lake	Vilas	2329800		1		1
Day Lake	Vilas	1843500		1		1
Lynx Lake	Vilas	2954500		1		
Escanaba Lake	Vilas	2339900		1		
Little Sand Lake	Vilas	2322200		1		
Middle Sugarbush Lake	Vilas	2317700		1		
Wabasso Lake	Vilas	2045000		1		
Signal Lake	Vilas	1880900		1		
Sherman Lake	Vilas	1880700		1		
Pallette Lake	Vilas	1872100		1		
Oswego Lake	Vilas	1871800		1		
Little Gibson Lake	Vilas	1861500		1		
Camp Lake	Vilas	1839100		1		
Broken Bow Lake	Vilas	1837300		1		
Big Gibson Lake	Vilas	1835200		1		

Benedict Lake	Vilas	971200		1		
Stateline Lake	Vilas	2952100	1			

Table 3. Existing lake data in and near the Penokee Range within approximately 15 miles of the mine site. "Limnology" refers to physical and chemical lake data including chlorophyll *a*, "Fish Hg" refers to mercury and other metals data analyzed in fish tissue, "Fish" includes abundance and size data of fish by species, and "Plant" refers to Point-Intercept aquatic plant surveys.

Lake	County	WBIC	Limnology	Fish Hg	Fish	Plant
Spillerberg Lake	Ashland	2936200		1	1	1
English Lake	Ashland	2914800		1	1	
Mineral Lake	Ashland	2916900	1	1	1	1
Meder Lake	Ashland	2935300	1	1		
Augustine Lake	Ashland	2410400	1	1		
Lake Galilee	Ashland	2935500	1	1	1	
Potter Lake	Ashland	2917200		1	1	
Gile Flowage	Iron	2942300	1	1	1	
Shine Lake	Iron	2928200	1			
Lake Six	Iron	2294500	1	1	1	
Weber Lake	Iron	2909000		1		1
Spillerberg Lake	Ashland	2936200		1	1	1

Table 4. Streams in Middle Tyler Forks Watershed (HUC 12 #040103020202) identified by stream name and waterbody identification code (WBIC) along with the respective length of the stream, number of access points surveyed, the number of fisheries surveys conducted, and respective trout classification.

HUC12 NAME	STREAM NAME	WBIC	LENGTH (MILES)	# of Access Points Surveyed	# of Surveys	Trout Classification
Middle Tyler Forks	Tyler Forks	2923100	9.8	Iron 7 Ashland 8	18 101	1 & 2 1 & 2
Middle Tyler Forks	Javorsky Creek	2924600	3.0	1	4	1
Middle Tyler Forks	Dunn Creek	2924700	1.7	1	1	3
Middle Tyler Forks	Erickson Creek	2924800	5.1	5	5	2
Middle Tyler Forks	Rouse Creek	2925000	2.3	3	8	3
Middle Tyler Forks	Unnamed	2925100	0.7	1	1	No Classification
Middle Tyler Forks	Mud Creek	2926000	3.7	4	4	2
Middle Tyler Forks	Unnamed	2926200	1.7	2	2	No Classification
Middle Tyler Forks	Unnamed	2926600	1.4	2	2	Pending
Middle Tyler Forks	Bull Gus Creek	2926700	2.5	1	3	3
Middle Tyler Forks	Unnamed	4000019	Pending	1	2	Pending

Table 5: Streams in Devils Creeks-Bad River Watershed (HUC12 #040103020304) identified by stream name and waterbody identification code (WBIC) along with the respective length of the stream, number of access points surveyed, the number of fisheries surveys conducted, and respective trout classification.

HUC12 NAME	STREAM NAME	WBIC	LENGTH (MILES)	# of Access Points Surveyed	# of Surveys	Trout Classification

Devils Creeks-Bad River	Devils Creek	2929300	6.9	8	21	1
Devils Creeks-Bad River	Montreal Creek	2929400	7.6	6	7	2
Devils Creeks-Bad River	Unnamed	2929600	1.7	1	2	No Classification
Devils Creeks-Bad River	Opergard Creek	2929700	3.8	1	1	2
Devils Creeks-Bad River	City Creek	2930100	3.1	5	9	2
Devils Creeks-Bad River	Unnamed	2930200	1.1	1	2	Pending
Devils Creeks-Bad River	Ballou Creek	2930700	3.6	3	9	1
Devils Creeks-Bad River	Unnamed	2930900	1.5	3	3	Pending
Devils Creeks-Bad River	Unnamed	5002727	0.2	2	2	No Classification

Table 6. The following table shows the trout stream classification status of streams and rivers in the two hydrologic units expected to be directly impacted by the proposed mine. Each waterbody is specifically identified by its water body identification code (WRIC).

HUC12 NAME	STREAM NAME	WBIC	LENGTH (MILES)	# of Access Points Surveyed	# of Surveys	Trout Classification
Devils Creeks-Bad River	Devils Creek	2929300	6.9	8	21	1
Devils Creeks-Bad River	Montreal Creek	2929400	7.6	6	7	2
Devils Creeks-Bad River	Unnamed	2929500	1.0	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	2929600	1.7	1	2	No Classification
Devils Creeks-Bad River	Opergard Creek	2929700	3.8	1	1	2
Devils Creeks-Bad River	Unnamed	2929900	1.3	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	2930000	0.6	No data	No data	No Classification
Devils Creeks-Bad River	City Creek	2930100	3.1	5	9	2
Devils Creeks-Bad River	Unnamed	2930200	1.1	1	2	Pending
Devils Creeks-Bad River	Unnamed	2930300	0.5	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	2930500	0.7	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	2930600	0.7	No data	No data	No Classification
Devils Creeks-Bad River	Ballou Creek	2930700	3.6	3	9	1
Devils Creeks-Bad River	Unnamed	2930800	2.0	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	2930900	1.5	3	3	Pending
Devils Creeks-Bad River	Unnamed	2931200	0.2	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002496	0.8	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002507	0.7	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002548	0.5	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002566	0.5	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002610	0.2	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002612	0.5	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002653	0.4	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002661	0.8	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002664	0.9	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002669	0.5	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002672	0.0	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002676	0.6	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002682	0.4	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002684	0.1	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002695	0.5	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002698	0.1	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002711	0.5	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002713	0.6	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002727	0.2	2	2	No Classification
Devils Creeks-Bad River	Unnamed	5002739	0.0	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002747	0.1	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002749	0.5	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002757	0.7	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002761	0.8	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002762	0.9	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002765	1.0	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002767	0.3	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002768	0.7	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002771	0.7	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002774	0.7	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002783	0.3	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002785	0.6	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002798	0.1	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002799	0.2	No data	No data	No Classification
Devils Creeks-Bad River	Unnamed	5002802	0.3	No data	No data	No Classification

HUC12 NAME	STREAM NAME	WBIC	LENGTH (MILES)	# of Access Points Surveyed	# of Surveys	Trout Classification
				Iron 7	18	1 & 2
Middle Tyler Forks	Tyler Forks	2923100	9.8	Ashland 8	101*	1 & 2
Middle Tyler Forks	Javorsky Creek	2924600	3.0	1	4	1
Middle Tyler Forks	Dunn Creek	2924700	1.7	1	1	3
Middle Tyler Forks	Erickson Creek	2924800	5.1	5	5	2
Middle Tyler Forks	Unnamed	2924900	0.6	No data	No data	No Classification
Middle Tyler Forks	Rouse Creek	2925000	2.3	3	8	3
Middle Tyler Forks	Unnamed	2925100	0.7	1	1	No Classification
Middle Tyler Forks	Unnamed	2925200	1.1	No data	No data	No Classification
Middle Tyler Forks	Unnamed	2925300	1.4	No data	No data	No Classification
Middle Tyler Forks	Unnamed	2925400	1.1	No data	No data	No Classification
Middle Tyler Forks	Unnamed	2925500	1.1	No data	No data	No Classification
Middle Tyler Forks	Unnamed	2925600	0.7	No data	No data	No Classification
Middle Tyler Forks	Unnamed	2925700	2.2	No data	No data	No Classification
Middle Tyler Forks	Unnamed	2925800	0.9	No data	No data	No Classification
Middle Tyler Forks	Mead Creek	2925900	3.1	No data	No data	2
Middle Tyler Forks	Mud Creek	2926000	3.7	4	4	2
Middle Tyler Forks	Unnamed	2926100	0.6	No data	No data	No Classification
Middle Tyler Forks	Unnamed	2926200	1.7	2	2	No Classification
Middle Tyler Forks	Unnamed	2926300	0.7	No data	No data	No Classification
Middle Tyler Forks	Unnamed	2926500	0.9	No data	No data	No Classification
Middle Tyler Forks	Unnamed	2926600	1.4	2	2	Pending
Middle Tyler Forks	Bull Gus Creek	2926700	2.5	1	3	3
Middle Tyler Forks	Unnamed	2926800	1.1	No data	No data	No Classification
Middle Tyler Forks	Unnamed	2926900	1.5	No data	No data	No Classification
Middle Tyler Forks	Unnamed	2927000	0.0	No data	No data	No Classification
Middle Tyler Forks	Unnamed	4000019	Pending	1	2	Pending
Middle Tyler Forks	Unnamed	5002426	0.8	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002442	0.5	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002444	0.4	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002491	0.3	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002514	0.1	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002560	1.7	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002571	0.8	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002574	0.9	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002587	0.7	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002590	0.5	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002596	0.2	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002602	0.6	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002607	0.6	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002609	0.3	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002617	0.2	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002618	0.9	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002631	0.3	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002634	0.5	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002657	0.3	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002666	0.3	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002678	0.3	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002725	0.6	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002740	1.0	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002769	0.7	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002782	0.2	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002793	0.4	No data	No data	No Classification
Middle Tyler Forks	Unnamed	5002823	1.4	No data	No data	No Classification
* Some surveys are from historical downloads that are incomplete or do not contain fisheries data.						

Groundwater and Drinking Water Information and Resources

1. Water Supply Well Construction Reports [available on CD from Dept. upon request]
2. Groundwater quality sampling results from Groundwater Retrieval Network (GRN) System [available on spreadsheet from Dept. upon request]
3. Pre-1988 Water Supply Well Construction Reports [available on web at DATCP website http://datcpgis.wi.gov/WellLogs/]
4. Groundwater quality sampling results from UW-Stevens Point database system [available on web at UW-Stevens Point website https://www.uwsp.edu/cnr-ap/watershed/Pages/wellwaterviewer.aspx]
5. USGS 2004 Wisconsin Bedrock Map [available on the web at: http://mrdata.usgs.gov/geology/state/state.php?state=WI]
6. USGS National Water Quality Information System - Wisconsin groundwater level monitoring and groundwater quality sampling results [available on the web at: http://maps.waterdata.usgs.gov/mapper/index.html]
7. USGS National Water Quality Information System – Iron County, WI groundwater level monitoring and groundwater quality sampling results [available on the web at: http://maps.waterdata.usgs.gov/mapper/nwisquery.html?URL=http://nwis.waterdata.usgs.gov/wi/nwis/gwlevels?county_cd=55051&format=sitefile_output&sitefile_output_format=xml&column_name=agency_cd&column_name=site_no&column_name=station_nm&date_format=YYYY-MM-DD&rdb_compression=file&list_of_search_criteria=county_cd&column_name=site_tp_cd&column_name=dec_lat_va&column_name=dec_long_va&column_name=agency_use_cd
8. WGNHS publications related to geology/hydrogeology of Northern WI [listed on web at: http://wisconsingeologicalsurvey.org/pdfs/loppdf/lop08.pdf]
9. USGS 2008 Professional Paper #1730 The Gogebic Iron Range – A Sample of the Northern Margin of the Penokean Fold and Thrust Belt [available on the web at: http://pubs.usgs.gov/pp/pp1730/pdf/PP1730.pdf]
10. Minnesota Dept. of Natural Resources 2008 paper titled Sources and Fate of Sulfate in Minnesota Watersheds - A Minerals Coordinating Committee Progress Report [available on the web at: http://www.miningminnesota.com/uploads/SO4paperProgReport_7_2008__3_.pdf]
11. USGS 2002 Water-Resources Investigation Report 02-4198 titled Characterization of Ground-Water Flow Between the Canisteo Mine Pit and Surrounding Aquifers, Mesabi Iron Range, Minnesota [available on the web at: http://pubs.usgs.gov/wri/wri024198/pdf/wri024198.pdf]

Forestry

The department maintains a variety of information concerning the nature of County Forest lands in the state. Some of this information may be used to evaluate the environmental impact of the project and to expedite the preparation of County Forest Withdrawal documents and the environmental impact report and the environmental impact statement.

The department maintains a forest reconnaissance database that contains forest attributes at a stand level in conjunction with a spatial GIS representation of those stands, for the lands enrolled as Iron County Forest. This forest reconnaissance data has been collected by Iron County and department forestry staff and is of varying ages and has varying levels of detail by stand. The attributes that are included for all stands are: stand number, exam date, primary forest type, acres,

invasive level, soil type, and management objective. The database also has some conditionally required and optional fields that include: primary size class (forested types), primary density (forested types), year of origin (even-aged forest types), total height (even-aged forest types), mean stand diameter (forested types), site index (even-aged forest types), total basal area (forested types if poles or saw-timber), total volume cords & board feet (forested types if poles or saw-timber), primary tree species information (forested types, listing the first major tree species and its associated basal area and volume), planned management prescription (forested types), invasive species and density, and potentially a management treatment if scheduled (type, treatment purpose, and forester year of treatment).

Managed Forest Land Information and Resources
The department has maps of the lands that were submitted by the landowner at the time of enrollment in the MFL program. The maps show landscape features, such as roads, lakes, streams, timber types, and other vegetation types. The actual forest reconnaissance data is owed and maintained by the landowner and/or the landowner's agents.

Wildlife

The Gogebic-Penokee Range is considered an Important Bird Area (IBA) and a Conservation Opportunity Area (COA) for wildlife species of greatest conservation need. This is because it features large blocks of forest containing a majority of older forest. These forests provide an opportunity to manage for the mature to older age classes. Areas feature a continuum of an extensive matrix of older northern hardwood forest with imbedded lakes, wetlands, and bedrock including Northern Mesic Forest, Northern Dry-Mesic Forest, Northern Wet-Mesic Forest, Northern Wet Forest, Open Bog, Muskeg, Northern Hardwood Swamp, Northern Sedge Meadow, and Bedrock Glades.

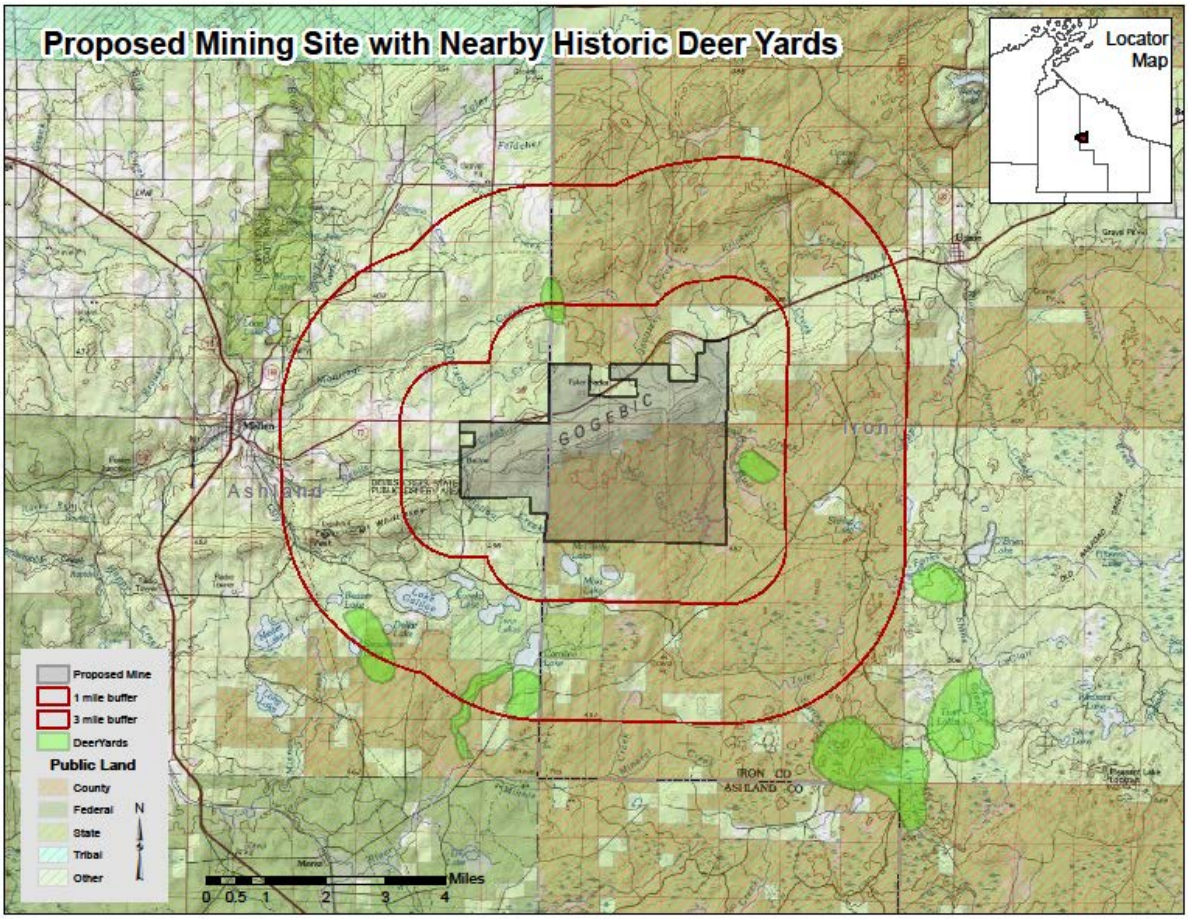
The Gogebic-Penokee Range COA can support several species of greatest conservation need including Boreal Chorus Frog, Four-toed Salamander, Mink Frog, Pickerel Frog, Wood Turtle, American Bittern, Black-backed Woodpecker, Black Tern, Black-throated Blue Warbler, Bobolink, Boreal Chickadee, Canada Warbler, Connecticut Warbler, Golden-winged Warbler (bog edges and stream corridors), Least Flycatcher, Northern Goshawk, Northern Harrier, Olive-sided Flycatcher, Red-shouldered Hawk, Rusty Blackbird, Solitary Sandpiper, Sharp-tailed Grouse, Spruce Grouse, Veery, Wood Thrush, American Marten, Eastern Red Bat, Gray Wolf, Hoary Bat, Moose, Northern Long-eared Bat, Northern Flying Squirrel, Silver-haired Bat, Water Shrew, Woodland Jumping Mouse, Bog Fritillary, Frigga Fritillary, Freija Fritillary, Harris Checkerspot, Red-disked Alpine, Jutta Arctic, Brown Elfin, West Virginia White, and Laurentian Skipper.

Not all of the species of greatest conservation need are found within the proposed mining site and not the entire site is located within the COA. However the Gogebic-Penokee Range has the potential to host these species as well as many other common species. Following is a list of what the department considers high-profile wildlife species that are known to be found in or near the proposed mining site.

Deer (*Odocoileus virginanus*)
The proposed mining site is located within deer management unit 28. The department does not have specific data for the proposed site but as a whole unit 28 can only support a moderate deer population based on habitat. Hunting pressure is low with an opening day density of about 6 hunters per square mile. Buck harvest ranges from 1 to 2 harvested per square mile. It is expected

that harvest numbers and opening day pressure would be even lower in the proposed mining site location.

There are no known deer yards within the boundary of the proposed mining site however there are 2 deer yards within a mile of the site and 3 additional deer yards within 3 miles of the site. There are travel corridors within the proposed mining site boundary in which deer use to move to these deer yards as part of their winter range. The map below contains approximate locations. *Please note that boundary lines are estimated and do not represent exact boundary lines.*



Black Bear (Ursus americanas)
There is good bear range located within the proposed mining site as well as a healthy and stable bear population in the area. This area is hunted with both hound dogs and bait hunters. It is possible that hound dogs will run through the closed area if released on county land nearby creating potential conflict.

Bobcat (*Lynx rufus*)
There are bobcats throughout the proposed mining site however they are more common in other areas of the county. Because the bobcat does not depend exclusively on the deep forest it is more typically found in lowland areas, agricultural areas, or swamps near forested tracts outside the proposed mining site.

Gray Wolf (*Canis lupus*)
There is one wolf pack that's territory is located within the proposed mining site. There are three additional packs within the nearby area. Mining could impact the wolves' territory and they may be forced to create a new home range. The most likely area where they would move to would be to the west near the city of Mellen potentially increasing wolf-human conflict.

American Marten (*Martes americana*)
The American marten is Wisconsin's only endangered mammal. Its range encompasses the proposed mining site.

Bald Eagle (*Haliaeetus leucocephalus*)
Eagle nests have been found within the area nearby the proposed mining site.

Northern Goshawk (*Accipiter gentilis*)
Northern goshawk is a species of special concern and has been found in Iron and Ashland counties.

Wood Turtle (*Glyptemys insculpta*)
The wood turtle is a state threatened species and has been observed within the nearby area of the proposed mining site.

Available Bird Survey Data

The department collects and maintains a variety of data from internal and public sources regarding avian species composition and distribution that may be valuable. In particular, there was a bird survey completed in 2006 for an area just east of the proposed project area close to the town of Iron Belt. Data from that survey describes avian habitats available, species observed, and protection recommendations for the area.

Other Sources of Information

- United States Geological Survey maintains stream flow data and lake level data
- North Temperate Lakes Long Term Ecological Research site (University of Wisconsin Madison) monitors lakes in Vilas County
- Bad River Watershed Association
- Northland College
- Bad River Tribe

- Iron County Land Conservation Department
- Ashland County Land Conservation Department