

13. Nemadji to Fish Creek

HEALTHY WATERS REPORT CARD

OFFSHORE	NA	ISLANDS	A
NEARSHORE	C	COASTAL WETLANDS	B
EMBAYMENTS & INSHORE	C	COASTAL TERRESTRIAL	A
TRIBUTARIES & WATERSHEDS	C	OVERALL B	

Report card denotes general condition/health of each biodiversity target in the region based on condition/stress indices. See introduction to the regional summaries.



A Very Good	<i>Ecologically desirable status; requires little intervention for maintenance</i>
B Good	<i>Within acceptable range of variation; may require some intervention for maintenance.</i>
C Fair	<i>Outside of the range of acceptable variation and requires management. If unchecked, the biodiversity target may be vulnerable to serious degradation.</i>
D Poor	<i>Allowing the biodiversity target to remain in this condition for an extended period will make restoration or preventing extirpation practically impossible.</i>
Unknown	<i>Insufficient information.</i>



The sandstone in the Apostle Islands have eroded into unique cliff formations, including sea caves. Photo credit: National Park Service

Summary/ Description

The Nemadji to Fish Creek regional unit is located along the southern Lake Superior coast. It is 6736 km² in size, including the associated nearshore waters. The regional unit boundary extends along the Lake Superior shoreline from near Superior, Wisconsin to past Ashland, Wisconsin. In this Biodiversity Conservation Assessment the Beartrap Creek subwatershed is considered part of the Lower Bad River subwatershed and the Bad-Montreal regional unit. This regional unit delineation reflects local management boundaries as adopted by the Bad River Band of Lake Superior Tribe of Chippewa Indians and the Wisconsin Department of Natural Resources (N. Tillison, pers. comm., April 26 2013). Inland, most of this regional unit is located in Wisconsin; however the western portion of this regional unit extends into Minnesota. Approximately 15% of the regional unit land base is in two Minnesota counties (Carlton and Pine counties) and 85% of the regional unit land base is in Wisconsin (in Bayfield, Ashland and Douglas counties) (USDA NRCS No date c). The reservation of the Red Cliff Band of Lake Superior Chippewa is located in this regional unit. A portion of the reservation of the Bad River Band of Lake Superior Tribe of Chippewa Indians is also located in this regional unit (A. McCammon Soltis, pers. comm., March 19 2013). The Nemadji to Fish Creek regional unit is part of the territory ceded in the Treaties of 1842 and 1854. The signatory tribes retain rights to hunt, fish, and gather within the regional unit (A. McCammon Soltis, pers. comm., January 5 2015). The eastern portion of this region includes the Bayfield Peninsula, Chequamegon Bay and the Apostle Islands National Lakeshore. This regional unit is referred to as HUC 04010301, and it is part of Subregion 0401 – Western Lake Superior. The Nemadji to Fish Creek regional unit contains one tertiary (HUC 8) watershed, Beartrap-Nemadji, and 11 quaternary (HUC 10) watersheds. This region contains more agricultural land than most other regions, and just over 50% of the region is forested. The coast is dominated by rocky shores and cliffs, and many coastal wetlands.

TABLE 13.1: Nemadji to Fish Creek BY THE NUMBERS

Land and Water Cover	Region (km²)	Region %	Lake Superior Total (km²)	Notes
Agriculture	530.41	7.02	1,441.07	
Developed	20.64	0.27	389.55	
Forest	3,979.84	52.66	107,747.13	
Associated Nearshore Waters	2,682.17	35.49	17,868.03	
Other	317.18	4.20	8,227.57	
Water (inland)	27.53	0.36	9,473.05	
Total Area	7,557.78	100	145,146.40	
Coastal Features	Region	Region %	% of Lake Superior Total for Coastal Feature	
Coastline (km)	488.85	NA	8.39	Based on SOLEC shoreline
Sand Beaches (km)	34.86	7.13	5.42*	*% of Lake Superior Total Sand Beaches
Coastal Wetlands (km ²)	96.02	14.09*	8.70**	*% of Regional Coastal Area ** % of Lake Superior Total Coastal Wetlands
Natural Cover in Coastal Zone	602.73	88.46*	9.76**	*% of Regional Coastal Area ** % of Lake Superior Total Natural Cover in Coastal Area
Number of Islands	63	NA	2.4	
Condition	Region	Region %	% of Lake Superior Total	
Population Density (persons/km ²)	7.09	NA		
Road Density (km/km ²)	0.67	NA		
Number of Dams and Barriers	2,681	NA	11.3	
Artificial Shoreline (km)	25.59	6.05	12.98	
Land Ownership & Protection	Region (km²)	Region %	Regional Area (km²)	
Private	2,828.56	58.02	4,874.79	Regional area based on landmass
Public/Crown	1,715.52	35.19	4,874.79	
Tribes/ First Nations	56.23	1.15	4,874.79	
Parks & Protected Areas (total)	274.49	5.63	4,874.79	
Parks & Protected Areas (coast)	201.49	29.57*	681.34**	*% of Regional Coastal Area **Regional Coastal Area (km ²)

Important Biodiversity Features

Nearshore and Inshore Waters

- The Nemadji to Fish Creek regional unit contains a number of areas identified as Important Habitat for Lake Whitefish and Lake Trout, especially in and around the Bayfield Peninsula and the Apostle Islands (Lake Superior Binational Program Habitat Committee 2006) (Figure 13.1). The shoals near the Apostle Islands National Lakeshore’s one-quarter mile lakeward boundary are especially important for Lake Trout and Lake Whitefish, as they provide critical spawning areas (NPS 2013b).

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- Chequamegon Bay is noted as a Lake Superior embayment important for Lake Sturgeon (Auer 2003). In the Nemadji to Fish Creek regional unit this embayment and the nearshore zone, which provides corridors for movement, are identified as critical management areas for Lake Sturgeon in the Lake Superior basin (Auer 2003).
- The waters around the Apostle Islands are described as relatively shallow, with a diverse and complex fish community for Lake Superior (NPS 2013b).

Coastal Zone and Islands

- The Wisconsin Department of Natural Resources (WDNR) has identified primary coastal wetlands deemed to be ecologically significant coastal wetlands. This assessment has been completed for both the Lake Superior and Lake Michigan basins. Several of these Lake Superior ecologically significant coastal wetlands are located in the Nemadji to Fish Creek regional unit, including S-06 Nemadji River Bottoms, S-08 Allouez Bay-Wisconsin Point, S-09 Port Wing, S-11 Lost Creek, S-17 Big Bay Wetlands and S-22 Mouth of the Brule River (WDNR 2012c, 2012d). A number of the ecologically significant coastal wetlands are located on the islands of the Apostle Islands National Lakeshore (WDNR 2012d). A complete list of the Lake Superior ecologically significant wetlands and their specific site attributes is available on the WDNR website (WDNR 2012c, 2012d).
- A number of Important Habitat Sites are located along the Lake Superior shore, as well as a number of additional sites inland. Several Important Habitat Areas are also located in the Nemadji to Fish Creek region; the group of Apostle Islands are one of these Important Habitat Areas (Lake Superior Binational Program Habitat Committee 2006) (Table 13.3, Figure 13.3).
- Resident breeding birds and neotropical migrant birds use the islands within the Apostle Islands National Lakeshore for important habitat. Important migratory bird concentration points are also located in the lakeshore (NPS 2013b).
- Chequamegon Bay is described as among the best Wisconsin birding locations. More than 300 bird species have been observed in the area (a 40-mile radius around Ashland, Wisconsin) since 1972 (NPS 2013b).
- Stockton Islands, part of the Apostle Islands National Lakeshore, has one of the highest concentrations of Black Bears in North America. Many other mammals, including White-tailed Deer, Snowshoe Hare, Red Fox and Beaver are found on the islands. Many common mainland species, such as Raccoon, Skunk, Porcupines and Eastern Gray Squirrels are not found on the islands (NPS 2013b).
- Over 800 plant species are known to occur within the Apostle Islands National Lakeshore. Some islands contain old-growth remnant forests, as they were never commercially logged. Wetland, Precambrian sandstone ledges and bluffs, and many dunal features provide habitat for a number of rare plant species (NPS 2013b).

Tributaries and Watersheds

- There are native, self-sustaining Brook Trout in many of the tributaries of this regional unit (M. Jennings, pers. comm., March 13 2013).
- The deeply cut streams characteristic of this watershed have influenced land use in the regional unit. The valleys remain largely forested, while flat upland areas tend to be used for agriculture and recreation (USDA NRCS No date c).
- The Nemadji to Fish Creek regional unit is in the Northern Lakes and Forest Ecoregion. Portions of the regional unit are located within the Lake Superior Lacustrine Clay Plain and the Minnesota/Wisconsin Upland Till Plain (USDA NRCS No date c).

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- The Nemadji River Floodplain Forest contains a floodplain forest which is unusual in its composition, and may be unique to Wisconsin. An unusual mix of tree species and a rich herb layer are found. Floodplain forests are very rare along Lake Superior tributaries. The Nemadji River Floodplain Forest is located along the Nemadji River, on terraces 15 feet above normal water levels. It was designated a State Natural Area in 1997, and is owned by Douglas County (WDNR 2013a).

Figure 13.1: Nemadji to Fish Creek - Coastal and Watershed Features

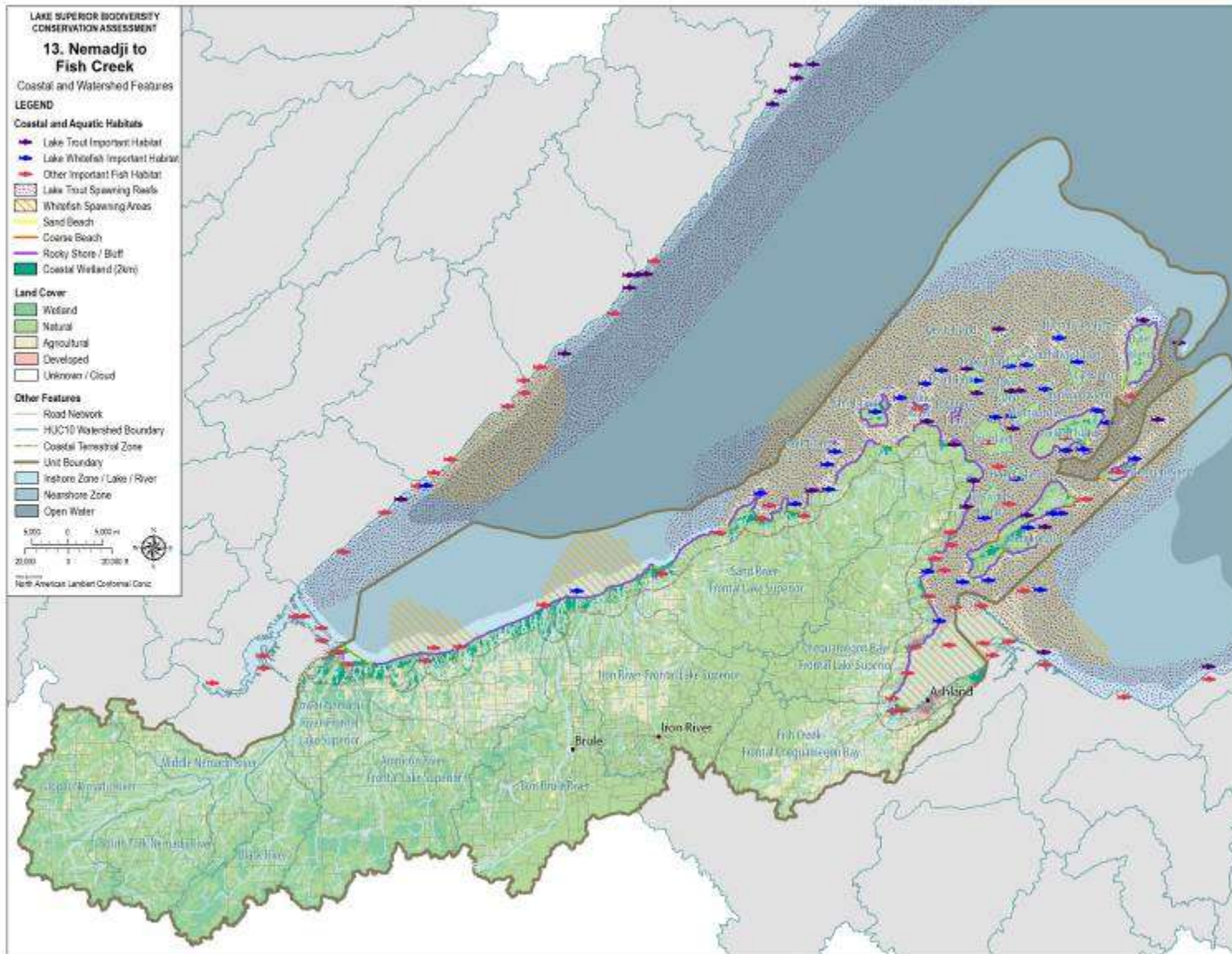


TABLE 13.2: Nemadji to Fish Creek CONDITION AND TRENDS

Target (Data Source)	Condition	Trends
Offshore ¹	NA	
Nearshore ¹	C (0.57)	
Embayments and Inshore ^{1,2}	C (0.51)	
Coastal Wetlands ^{2,3}	B (0.655)	Local experts believe a grade of B may be low for the coastal wetlands target. Although the Nemadji and other smaller wetlands are described as compromised, the Nemadji to Fish Creek unit also contains a dozen or more exemplary sites, including Bark Bay, Raspberry Bay, Lost Creek, and others (R. O'Connor, pers. comm., March 15 2013).
Islands ⁴	A	Local experts believe a condition score of B may be accurate for islands in this regional unit. The islands are under continual management to maintain their current good condition. Without continued management the islands' biodiversity would suffer degradation (C. Hagen et al., pers. comm., March 20 2013).
Coastal Terrestrial ³	A (0.956)	Local experts believe a condition score of B may be accurate for the coastal terrestrial portion of this regional unit. Although there is still quite a bit of public land in this area, significant areas of private land have fragmented the riparian corridor (C. Hagen et al., pers. comm., March 20 2013). In addition, the loss of conifers and prevalence of aspen, which is still being heavily promoted by state agencies, are provided as additional reasons that a condition score of A may be too high. Research has demonstrated that from a water quality standpoint, young aspen (0-15 years) is no different than open land (R. O'Connor, pers. comm., March 15 2013).
Tributaries and Watersheds ²	C (0.44)	

A: Very Good	<i>Ecologically desirable status; requires little intervention for maintenance</i>
B: Good	<i>Within acceptable range of variation; may require some intervention for maintenance.</i>
C: Fair	<i>Outside of the range of acceptable variation and requires management. If unchecked, the biodiversity target may be vulnerable to serious degradation.</i>
D: Poor	<i>Allowing the biodiversity target to remain in this condition for an extended period will make restoration or preventing extirpation practically impossible.</i>
Unknown	<i>Insufficient information.</i>

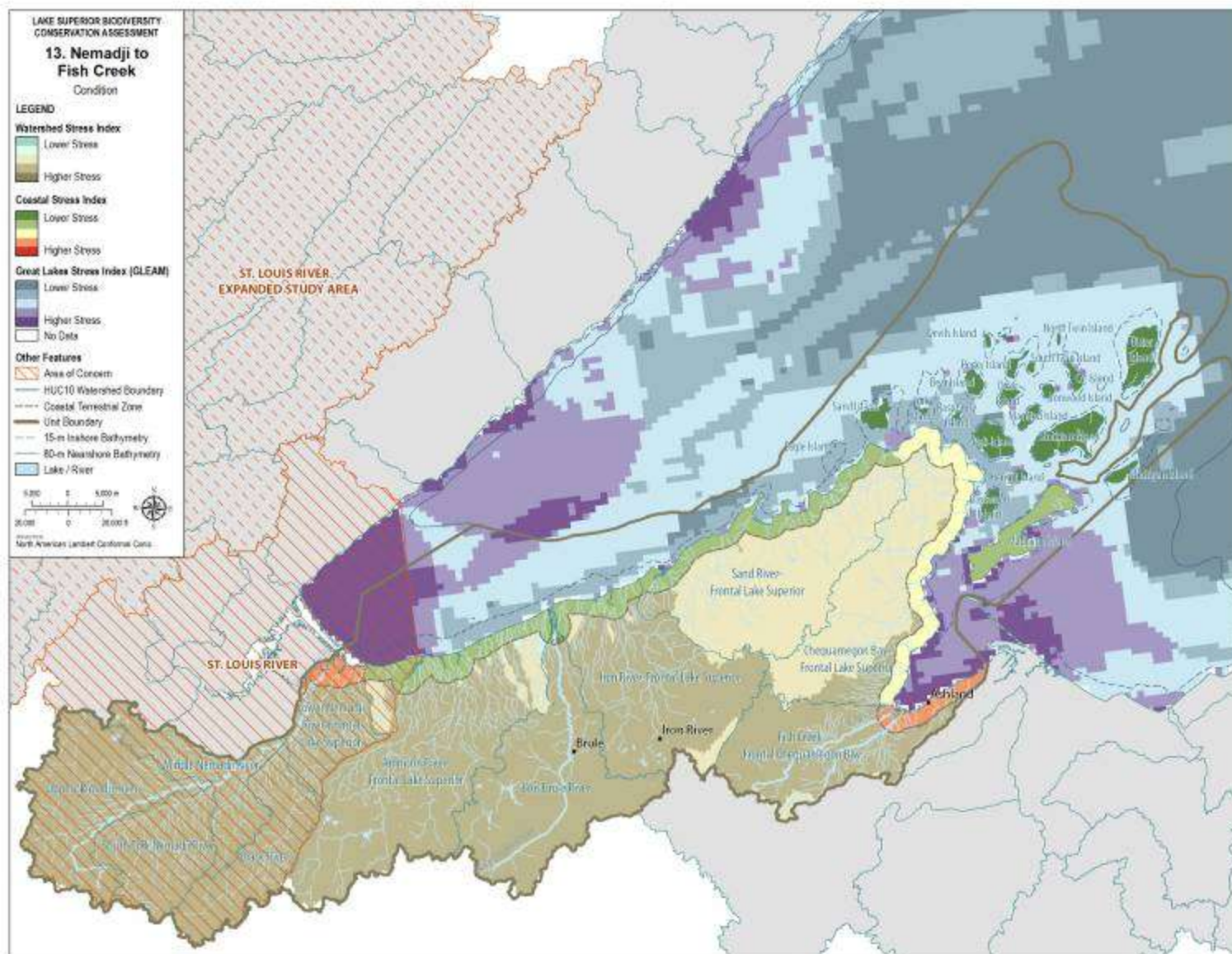
1: Great Lakes Cumulative Stress (GLEAM 2012, Allan et al. 2013)

2: Watershed Stress Index (GLEI 2013)

3: Coastal Condition Index (developed for this report)

4 : Island Condition Score (Henson et al. 2010)

Figure 13.2: Nemadji to Fish Creek - Condition



Important Issues & Threats

- The St. Louis River Area of Concern (AOC) is located in three regional units, including portions of the Nemadji to Fish Creek regional unit. The St. Louis River has faced issues of habitat loss and degradation, and pollution and contamination, especially in its lower reaches. The lower 39 miles (63 kilometres) of the St. Louis River are the main focus of the St. Louis River Remedial Action Plan (RAP) (U.S. EPA 2013c) and are designated as a Lake Superior Area of Concern (AOC). Nine beneficial use impairments were identified in the St. Louis River AOC (U.S. EPA 2013c).
- Chequamegon Bay has two highly contaminated sites that were not given AOC designations. These are both Superfund sites. One is located on the Ashland waterfront and upland areas and is called the Ashland/Northern States Power Lakefront Site (U.S. EPA 2013j). The second site is a mostly upland area on the west side of Chequamegon Bay (at Barksdale, Wisconsin) called the DuPont Barksdale Explosives Plant Site (U.S. EPA 2011). These are both priority sites for improving the health of Chequamegon Bay (M. Hudson, pers. comm., March 20 2013).
- The populations of native, self-sustaining Brook Trout in many of the tributaries of this regional unit face a number of threats, since many of the streams are thermally marginal for coldwater fish. Climate change has the potential to make these streams unsuitable for Brook Trout, as well as non-native but self-sustaining trout and salmon. Maintenance of shaded riparian zones is important to conservation in these streams. Conversion of forest cover to cover types that increase runoff would threaten these fish, as would major changes in availability of groundwater, if future demand increases withdrawals (M. Jennings, pers. comm., March 13 2013).
- The Nemadji to Fish Creek watershed is the largest single source of sediment to Lake Superior (USDA NRCS No date c). Because the mouth of the Nemadji River is located in Superior Bay, the U.S. Army Corps of Engineers must dredge Superior Bay annually, to maintain the necessary depth for shipping traffic (USDA NRCS No date c). Estimates completed 15 years ago by the Minnesota Natural Resources Conservation Service (NRCS) indicate that the annual amount of sediment transported by the Nemadji River is on average 120,000 tons, with 33,000 tons of sediment dredged annually (USDA NRCS No date c, Baird & Associates 2000).
- The Nemadji River Basin Project determined that the erosion of valley walls accounts for 98% of the sediment yield from the Nemadji Basin. The amount of sediment eroded and transported along the tributaries of the Nemadji Basin to the mouth of the river (the sediment delivery ration SDR) was nearly 98% (Baird & Associates 2000).
- A top resource concern noted in Rapid Watershed Assessment for this regional unit is Bankfull Flow and Channel Downcutting. Problems with erosion, sedimentation and turbidity in this regional unit can be linked to the conversion of land use from old growth coniferous forests to forests of poplar. The amount of water yielded by the land increased with this cover change. Incompatible forestry (e.g. clear-cut logging) and agriculture may create the same hydrologic system response as open lands¹⁴ on the clay plains of the region (USDA NRCS No date c, C. Hagen et al., pers. comm., March 20 2013).
- This regional unit contains clay plains and sand barrens. Management of certain areas of the regional unit as open lands is desired. For example in the Moquah Barrens open grassland is the management goal, and there is not a detrimental effect to the watershed (C Hagen et al., pers. comm., March 20 2013).

¹⁴ Open lands are defined by Baird & Associates (2000) as meadows, pasture or timber growth aged 0 to 15 years. The definition for open growth is not given in the Rapid Watershed Assessment (USDA No date c)

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- The conversion of land cover to coniferous forests in red-clay soil areas is one management opportunity noted for woodland management which would also address erosion concerns (USDA NRCS No date c).
- Development pressure for this regional unit is described as moderate. Development may occur on farms, timberland, or lakeshore areas (USDA NRCS No date c).
- Agricultural land use accounts for approximately eleven percent of the land-base for this regional unit. There are estimated to be approximately 1,617 farms in this regional unit. Of these farms, approximately sixty percent are less than 180 acres in size, thirty-seven percent are between 180 and 1,000 acres in size, and three percent are larger than 1,000 acres (USDA NRCS No date c).
- A large portion of the soils in this regional unit are classified as having several limitations or very severe limitations through Land Capability Classification. These classifications reflect how the soils would fare with typical field crops, the possibility of damage if they were used for field crops, and how they respond to management (USDA NRCS No date c).
- A number of waterbodies within the Nemadji to Fish Creek regional unit are listed as impaired. Reasons for impairment include excess nutrients, mercury, degraded habitat, e-coli, contaminated sediments, turbidity, and others. Affected uses include aquatic consumption, aquatic life and aquatic recreation (USDA NRCS No date c).
- An Emergency Prevention and Response Plan for Viral Hemorrhagic Septicemia has been developed for Isle Royale National Park, Pictured Rocks National Lakeshore, Apostle Islands National Lakeshore and the Grand Portage Band of the Lake Superior Chippewa Reservation (within which is the Grand Portage National Monument) (NPS 2013a).
- Concerns identified through the Rapid Watershed Assessment are mainly related to the large amounts of sediments transported in the waters, due to the highly erodible clay soil and high riverbanks (USDA NRCS No date c). The sediment transported through the watershed eventually is deposited into Western Lake Superior (USDA NRCS No date c).

Conservation In Action

Parks & Protected Areas

- Apostle Islands National Lakeshore is located in the Nemadji to Fish Creek regional unit. The park is a combination of 21 islands located off the Bayfield Peninsula, and 12 miles of mainland (NPS 2013b).
- Although Long Island is included in the Apostle Islands, it is an extension of the Chequamegon Point barrier spit, and it is the only Apostle Island which does not have a bedrock core.
- The Red Cliff Band of Lake Superior Chippewa dedicated 90 acres of transitional boreal forest and one-quarter mile of pristine sand beach on Lake Superior for the development of Frog Bay Tribal National Park in August 2012. Although within the reservation boundaries, the parcel had been lost by the Tribe and held in private status for generations. Through a substantial donation by former owners David and Marjorie Johnson, and assistance from Bayfield Regional Conservancy, the Tribe was able to recover these lost reservation lands. Red Cliff has opened the doors of this unique area for the quiet enjoyment of tribal members and the general public alike, creating nearly two miles of hiking trails through mature forests of cedar, hemlock and yellow birch. The beach on Lake Superior affords views of five islands on the Apostle Islands National Lakeshore (C. Abel, pers. comm., December 15 2014). The Frog Bay Tribal National Park is the first national park ever designated by a federally recognized tribe (R. O'Connor, pers. comm., March 15 2013).
- Chequamegon National Forest

Existing Programs & Projects

- The U.S. Fish and Wildlife Service Iron River National Fish Hatchery is located in the Nemadji to Fish Creek region. The captive brood stock and production fish from the Brook Trout of the Isle Royale region (the Tobin Harbor and Siskiwit Bay strains) are reared at this facility (Newman et al. 2003). The Red Cliff Tribal Fish Hatchery is also located in this region. The Red Cliff Tribal Fish Hatchery rears captive brood stock and production fish from the Lake Nipigon strain of Brook Trout (Newman et al. 2003).
- Bayfield State Fish Hatchery
- The U.S. Fish and Wildlife Service is undertaking early detection monitoring for new aquatic invasive species in Chequamegon Bay (G. Czynski, pers. comm., March 20 2013).
- Bog Lake on Madeline Islands has been designated as a high quality waterbody through the Bad River Band of Lake Superior Tribe of Chippewa Indians Outstanding Tribal Resource Waters (OTRWs) designation (Bad River Band of Lake Superior Tribe of Chippewa Indians 2011).
- The WDNR has a Designated Waters designation for waterbodies with permit requirements. Designated Waters include Areas of Special Natural Resource Interest (ASNRI), Public Rights Features (PRF) and Priority Navigable Waters (PNW) (WDNR No date). These designations offer protection for various important waters, including Wild Rice Waters and Outstanding and Exceptional Resource Waters (C. Hagen et al., pers. comm., March 20 2013).
- Wisconsin's Wildlife Action Plan identified a number of Conservation Opportunity Areas for Wildlife Species of Greatest Conservation Need. In the Superior Coastal Plain Ecological Landscape several areas of State, Continental and Global Significance were identified, including some in the Nemadji to Fish Creek regional unit (WDNR 2008a, 2008b, 2008c).
- The Chequamegon Bay Area Partnership (CBAP) recently published a Strategic Priorities document that outlines important issues and threats to the Chequamegon Bay area (CBAP 2013).
- There are watershed partnership efforts underway to implement the Fish Creek Watershed Restoration and Management Plan and the Marengo River Watershed Action Plan. Fish Creek and the Marengo River quaternary watersheds are two of the largest sediment contributors to the Chequamegon Bay area (M. Hudson, pers. comm., March 20 2013).
- The Bayfield Regional Conservancy, a land trust working within the Nemadji to Fish Creek and the Bad-Montreal regional units, has developed strategic conservation plans for areas in these regional units (M. Hudson, pers. comm., March 20 2013).
- The Wisconsin Wetlands Association has identified a set of representative high quality wetlands in different regions of Wisconsin. These are referred to as Wetland Gems, and were identified by building on existing conservation planning efforts (Wisconsin Wetlands Association No date a). Several Wetland Gems are in the Superior Region, including some in the Nemadji to Fish Creek regional unit (Wisconsin Wetlands Association No date b).
- The Natural Resources Conservation Service (NRCS) Performance Results System (PRS) provides support for reporting the development and delivery of conservation programs (USDA NRCS No date d). From 1999 to 2007 plans were made for a total of 21,798 acres of Total Conservation Systems. From 1999 to 2007 the Total Conservation Systems Applied amounted to 22,439 acres. The activities which contributed the largest amount to the Total Conservation Systems Applied were Total Wildlife Habitat (10,866 acres), Erosion Control Total Soil Saved (7,912 tons/year), Total Nutrient Management (5,589 acres) and Riparian Forest Buffers (4,198 acres). Additional activities involved pest management systems, prescribed grazing, tree and shrub establishment and wetlands (created, restored or enhanced) (USDA NRCS No date c).
- A number of State Important Bird Areas (IBAs) are located in the Nemadji to Fish Creek regional unit. These IBAs are Apostle Islands National Lakeshore IBA, Brule Glacial Spillway IBA, Lower

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Chequamegon Bay IBA, Moose Junction Peatlands IBA, Wisconsin Point IBA, Moquah Barrens IBA and South Shore Wetlands IBA (National Audubon Society 2013, 2012).

- 27 Citizen-based Groups are noted to do work in the Nemadji to Fish Creek regional unit (U.S. EPA 2013r). Additional projects, plans, conservation districts, organizations and partners related to the Nemadji to Fish Creek regional unit are noted in the Rapid Watershed Assessment (USDA NRCS No date c). The Chequamegon Bay Area Partnership is a strong partnership in the area (C. Hagen et al., pers. comm., March 20 2013).

TABLE 13.3: Nemadji to Fish Creek IMPORTANT HABITAT SITES AND AREAS

<i>Code</i>	<i>Site/ Area</i>	<i>Important Habitat Site/Area Name</i>	<i>Key Features</i>
MN-009	Area	Black Lake Bog SNA	Black ash swamp, fen, forested bog, and open bog plant communities, rare plant habitat.
MN-043	Site	Holyoke	Northern hardwood forest
MN-086j	Area	St. Louis Estuary	Great Lakes freshwater estuary, rare plant and animal habitat, colonial waterbird nesting habitat
MN-089	Site	Soo Line	Northern hardwood forest, rare plant habitat
WI-010	Area	Apostle Islands	Extensive and diverse natural plant and animal communities. Rare plant and animal habitat
WI-012	Site	La Pointe Marina	Coastal wetlands, fish spawning habitat
WI-013	Site	Grant's Point	Coastal wetland and beach
WI-014	Site	Bog Lake and Amnicon Point	Unprotected sand beach, open-water coastal wetland
WI-015	Site	North Fish Creek Watershed	Old growth forest, fish spawning habitat, rare plant habitat, migratory wildlife areas
WI-016	Site	Whittlesey Creek Mouth	Coastal wetlands, fish spawning habitat, groundwater fed river system
WI-018	Site	Sioux River Wetland Estuary	Extensive coastal and riparian wetlands, sand beach and sandstone cliffs, rare plant habitat, shoreline bog
WI-019	Site	Onion River	Small coastal estuary, fish spawning habitat
WI-020	Site	Pikes Creek Slough	Coastal estuary wetland community
WI-021	Site	Schooner Bay/Red Cliff Bay	Small coastal estuary with extensive wetlands.
WI-022	Site	Frog Bay	Small coastal wetland estuary complex
WI-023	Site	Raspberry Bay and River	Great Lakes sand, gravel, and rock shoreline, riparian wetlands, fish spawning habitat
WI-024	Site	Little Sand Bay	Coastal wetlands, sand beach, hemlock and cedar forest
WI-025	Site	Big Sand Bay /Sand River	Small coastal freshwater estuary, good fish habitat
WI-026	Site	Mawikwe Bay Tributaries	Three small tributaries form small coastal wetlands at their mouths, sand beach, Lake Trout spawning area off point
WI-027	Site	Siskiwit Bay and River	Bay with spawning area for Lake Whitefish. Shorebirds use the sand beaches of Siskiwit Bay. Riverine fish spawning habitat.
WI-028	Site	Lost Creek Natural Area	Extensive coastal wetland, rare plant habitat, shorebird and fish habitats
WI-029	Site	Bark Bay and Point	Beach dunes landscape, extensive coastal wetlands and bog. The bay supports submergent vegetation.
WI-030	Site	Bark River	Extensive riparian wetlands, cedar and white pine forest, fish habitat
WI-031	Site	Cranberry River State Fishery Area	Great Lakes coastal lagoon and coastal wetlands, diverse fish community
WI-032	Site	Cranberry River Headwaters	Ground water source for fish habitat
WI-033	Site	Flag River Fishery Area & Port Wing Natural Area	Extensive coastal wetland area, old beach ridges, rare plant habitat
WI-034a	Site	Mud Lake	Riparian wetland habitat, bog
WI-034b	Site	Millpond Lake	Riparian wetland habitat

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<i>Code</i>	<i>Site/ Area</i>	<i>Important Habitat Site/Area Name</i>	<i>Key Features</i>
WI-034c	Site	Sand Barrens	Rare plant habitat, representative natural community, ecological processes
WI-034d	Site	Iron River Mouth	Great lakes coastal wetlands, fish spawning habitat
WI-034e	Area	Iron River Watershed	Fish spawning habitat
WI-035	Site	Reefer Creek	Small freshwater estuary, fish spawning habitat
WI-036	Site	Fish Creek	Small estuary with coastal wetlands, eroding scarps in unconsolidated sediments
WI-037	Site	Martinson's Landing	Freshwater estuary and coastal wetlands, sand beach, erodible clay banks
WI-038	Site	Brule River Watershed	Great Lakes coastal wetlands, fish spawning habitat, old growth forest, riparian wetlands
WI-038	Area	Brule River Watershed	Great Lakes coastal wetlands, fish spawning habitat, old growth forest, riparian wetlands
WI-039	Site	Smith Creek Estuary	Coastal wetlands
WI-040	Site	Pearson Creek Estuary	Coastal wetlands, gravel beach, eroding red clay bluffs
WI-041	Site	Poplar River Estuary	Coastal freshwater wetland estuary, fish spawning habitat
WI-042	Site	Middle River Estuary	Lake Superior freshwater estuary with coastal wetlands, fish spawning habitat, eroding red clay deposits.
WI-043	Site	Amnicon River Estuary	Freshwater estuary with coastal wetlands and sheltered vegetated banks, fish spawning habitat
WI-044	Site	Small Estuaries	Several small streams flow through red clay soils and form small estuaries where they enter Lake Superior, alder thickets, shrub carr wetlands
WI-045	Site	Wisconsin Point & Allouez Bay	Bay mouth bar geological feature, longest freshwater sand spit, sand dune ecosystem, colonial waterbird nesting area, migratory wildlife habitat
WI-046	Site	Nemadji River Mouth	Extensive riparian wetlands, great lakes coastal marsh
WI-047	Site	Hog Island	Shallow open water and wetlands, breeding and migrating waterfowl habitat
WI-051	Site	Chequamegon Bay	Fish spawning habitat, coastal wetlands
WI-052	Site	Ashland Tern Island	Colonial waterbird nesting habitat, rare animal habitat
WI-053	Site	NSP Tern Island	Colonial waterbird nesting habitat, rare animal habitat
WI-055	Area	Big Bay State Park	Coastal lagoon and wetlands complex, floating bog, sand beaches, and unique plant communities.
WI-059	Site	Ashland County, WI (island)	Piping Plover critical habitat site
WI-060	Site	Gull Island Refuge	Critical nesting areas for gulls and colonial waterbirds (gulls, double-crested cormorants)
WI-061	Site	Devil's Island	The Devils Island Formation, between the sandstones, represents deposition across sand flats that were intermittently covered by shallow ponded water

Figure 13.3: Nemadji to Fish Creek - Important Habitat Sites and Areas

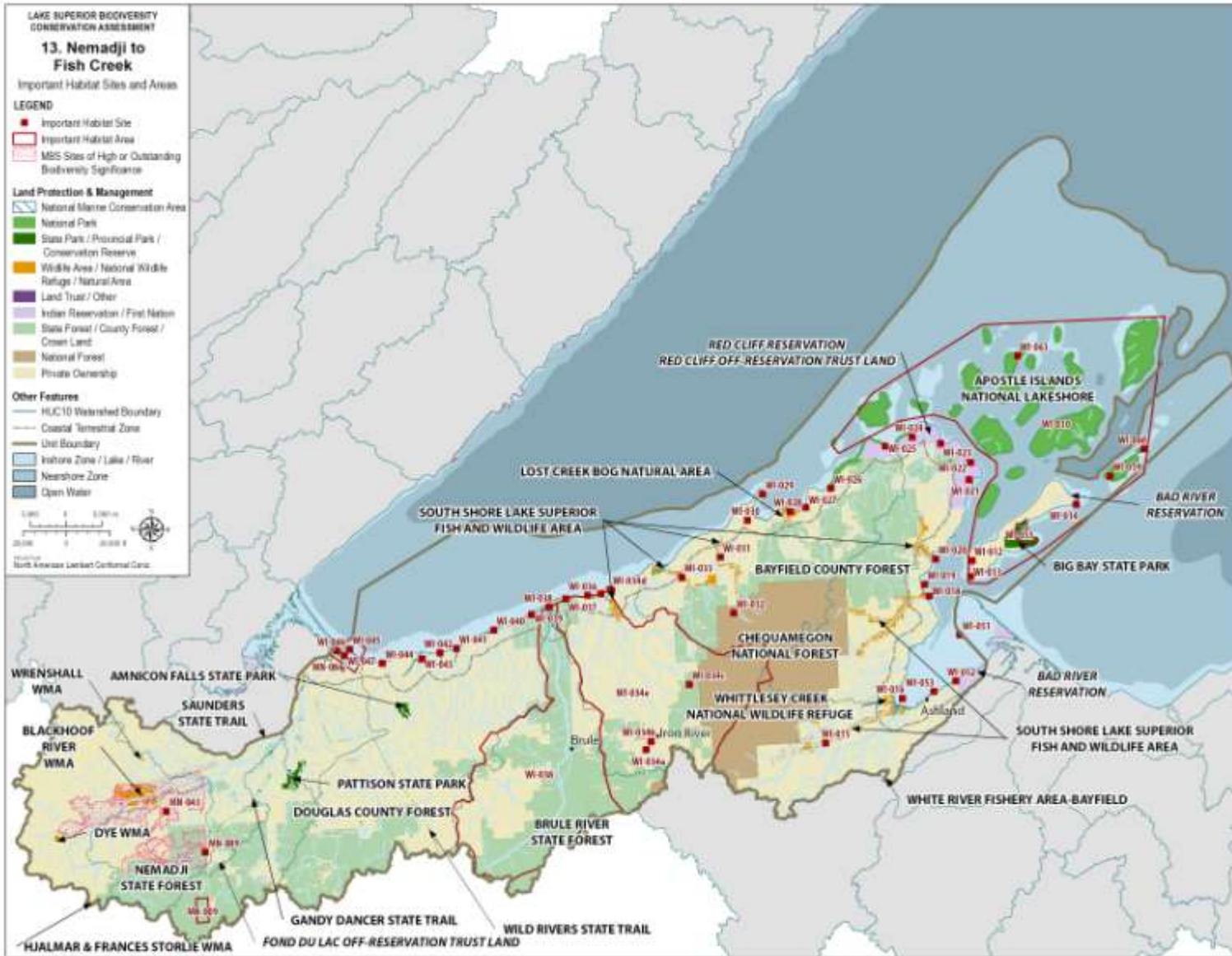


TABLE 13.4: Nemadji to Fish Creek LIST OF SPECIES AND COMMUNITIES OF CONSERVATION CONCERN

At least 207 species and communities of conservation concern have been documented in the regional unit. 108 of these have viability rankings which indicate the species or community is currently present, or was at the date of last sampling. The viability rankings of these species varies from A to E (A – Excellent predicted viability, B – Good predicted viability, C – Fair predicted viability, D – Probably not viable, E – Verified extant). 19 species and communities were once known to occur here, but have current conservation ranks of F (Failed to find) or H (Historical). A further 80 species and communities of conservation concern are known to occur in this regional unit, but are currently not ranked for viability.¹⁵

<i>Present Records (Viability Rankings of A to E)</i>	
Scientific Name	Common Name
<i>Accipiter gentilis</i>	Northern Goshawk
Alder thicket	Alder Thicket
<i>Armoracia lacustris</i>	Lake-cress
<i>Asclepias ovalifolia</i>	Dwarf Milkweed
<i>Asio otus</i>	Long-eared Owl
Bedrock shore	Bedrock Shore
Black spruce swamp	Black Spruce Swamp
Boreal forest	Boreal Forest
<i>Botrychium lanceolatum</i> ssp. <i>angustisegmentum</i>	Lanceleaf Grapefern
<i>Botrychium oneidense</i>	Blunt-lobed Grapefern
<i>Botrychium rugulosum</i>	Rugulose Grape-fern
<i>Calamagrostis stricta</i>	Slim-stem Small Reed Grass
<i>Callitriche hermaphroditica</i>	Autumnal Water-starwort
<i>Caltha natans</i>	Floating Marsh-marigold
<i>Carex capillaris</i>	Hair-like Sedge
<i>Carex concinna</i>	Beautiful Sedge
<i>Carex exilis</i>	Coast Sedge
<i>Carex lenticularis</i>	Shore Sedge
<i>Carex livida</i> var. <i>radicaulis</i>	Livid Sedge
<i>Carex merritt-fernaldii</i>	Fernald's Sedge
<i>Carex michauxiana</i>	Michaux's Sedge
<i>Carex prasina</i>	Drooping Sedge
<i>Contopus cooperi</i>	Olive-sided Flycatcher
<i>Cygnus buccinator</i>	Trumpeter Swan
<i>Cypridium arietinum</i>	Ram's-head Lady's-slipper

¹⁵ For the Minnesota portions of this unit, data included here were provided by the Division of Ecological and Water Resources, Minnesota Department of Natural Resources (DNR), and were current as of December 3 2014. These data are not based on an exhaustive inventory of the state. The lack of data for any geographic area shall not be construed to mean that no significant features are present.

For the Wisconsin portions of this unit, data included here were provided by the Bureau of Natural Heritage Conservation, Wisconsin Department of Natural Resources (DNR). Although the NHI database is the most up-to-date and comprehensive database on the occurrences of rare species and natural communities available, many areas of the state have not been inventoried. Similarly, the presence of one rare species at a location does not imply that all taxonomic groups have been surveyed for at that site. As such, the data should be interpreted with caution and an "absence of evidence is not evidence of absence" philosophy should be followed.

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<i>Cystopteris laurentiana</i>	Laurentian Bladder Fern
<i>Deschampsia cespitosa</i>	Tufted Hairgrass
Dry cliff	Dry Cliff
<i>Dryopteris fragrans</i>	Fragrant Fern
<i>Elatine triandra</i>	Three Stamened Waterwort
<i>Eleocharis compressa</i>	Flat-stemmed Spike-rush
<i>Eleocharis mamillata</i>	Mamillate Spike-rush
<i>Eleocharis nitida</i>	Slender Spike-rush
<i>Eleocharis robbinsii</i>	Robbins' Spike-rush
<i>Elliptio complanata</i>	Eastern Elliptio
Emergent marsh	Emergent Marsh
<i>Enallagma clausum</i>	Alkali Bluet
<i>Epilobium strictum</i>	Downy Willow-herb
<i>Equisetum palustre</i>	Marsh Horsetail
<i>Eriophorum chamissonis</i>	Russet Cotton-grass
Floodplain forest	Floodplain Forest
<i>Geum macrophyllum</i> var. <i>macrophyllum</i>	Large-leaved Avens
<i>Glaucmys sabrinus</i>	Northern Flying Squirrel
<i>Glyptemys insculpta</i>	Wood Turtle
<i>Goodyera oblongifolia</i>	Giant Rattlesnake-plantain
Great lakes barrens	Great Lakes Barrens
Great lakes dune	Great Lakes Dune
<i>Gymnocarpium jessoense</i> ssp. <i>parvulum</i>	Northern Oak Fern
<i>Haliaeetus leucocephalus</i>	Bald Eagle
Hardwood swamp	Hardwood Swamp
<i>Hesperia metea</i>	Cobweb Skipper
<i>Huperzia selago</i>	Fir Clubmoss
Inland beach	Inland Beach
Interdunal wetland	Interdunal Wetland
<i>Juncus vaseyi</i>	Vasey's Rush
Lake--soft bog	Lake--Soft Bog
<i>Listera auriculata</i>	Auricled Twayblade
<i>Listera convallarioides</i>	Broad-leaved Twayblade
<i>Lonicera involucrata</i>	Fly Honeysuckle
<i>Martes americana</i>	American Marten
Mesic floodplain terrace	Mesic Floodplain Terrace
Muskeg	Muskeg
<i>Myosotis laxa</i>	Small Forget-me-not
<i>Myotis lucifugus</i>	Little Brown Bat
Northern dry forest	Northern Dry Forest
Northern dry-mesic forest	Northern Dry-mesic Forest
Northern mesic forest	Northern Mesic Forest
Northern sedge meadow	Northern Sedge Meadow
Northern wet forest	Northern Wet Forest
Northern wet-mesic forest	Northern Wet-mesic Forest
<i>Omalothea sylvatica</i>	Woodland Cudweed
Open bog	Open Bog
<i>Orobanche uniflora</i>	One-flowered Broomrape
<i>Osmorhiza berteroi</i>	Chilean Sweet Cicely
<i>Packera indecora</i>	Plains Ragwort
<i>Parnassia palustris</i>	Marsh Grass-of-Parnassus
<i>Petasites sagittatus</i>	Arrow-leaved Sweet-coltsfoot
Pine barrens	Pine Barrens
<i>Pinguicula vulgaris</i>	Common Butterwort
<i>Piptatherum canadense</i>	Canada Mountain-ricegrass
<i>Platanthera hookeri</i>	Hooker's Orchid

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Poor fen	Poor Fen
Potamogeton confervoides	Algae-like Pondweed
Primula mistassinica	Bird's-eye Primrose
Ranunculus cymbalaria	Seaside Crowfoot
Ranunculus lapponicus	Lapland Buttercup
Regulus calendula	Ruby-crowned Kinglet
Rhynchospora fusca	Brown Beak-rush
Ribes oxycanthoides	Canada Gooseberry
Salix pellita	Satiny Willow
Salix planifolia	Tea-leaved Willow
Schoenoplectus torreyi	Torrey's Bulrush
Scirpus georgianus	Georgia Bulrush
Shore fen	Shore Fen
Shrub-carr	Shrub-carr
Somatochlora incurvata	Warpaint Emerald
Spermophilus franklinii	Franklin's Ground Squirrel
Spring pond	Spring Pond
Stream--fast, soft, cold	Stream--Fast, Soft, Cold
Submergent marsh	Submergent Marsh
Tamarack (poor) swamp	Tamarack (Poor) Swamp
Thalictrum venulosum	Veined Meadowrue
Tsuga canadensis	Eastern Hemlock
Utricularia resupinata	Northeastern Bladderwort
Vaccinium vitis-idaea ssp. minus	Mountain Cranberry
Waldsteinia fragarioides var. fragarioides	Barren Strawberry
Woodsia oregana ssp. cathcartiana	Oregon Woodsia
Xyris montana	Montane Yellow-eyed Grass
Historical or Failed to Find Records	
Scientific Name	Common Name
Amerorchis rotundifolia	Round-leaved Orchis
Botrychium lunaria	Moonwort Grape-fern
Botrychium minganense	Mingan's Moonwort
Calylophus serrulatus	Yellow Evening Primrose
Calypso bulbosa	Fairy Slipper
Chlidonias niger	Black Tern
Cirsium pitcheri	Dune Thistle
Drosera anglica	English Sundew
Drosera linearis	Slenderleaf Sundew
Glycyrrhiza lepidota	Wild Licorice
Lasmigona compressa	Creek Heelsplitter
Leucophysalis grandiflora	Large-flowered Ground-cherry
Pyrola minor	Lesser Wintergreen
Ranunculus gmelinii	Small Yellow Water Crowfoot
Senecio congestus	Marsh Ragwort
Sterna hirundo	Common Tern
Streptopus amplexifolius	White Mandarin
Triglochin palustris	Slender Bog Arrow-grass
Trisetum spicatum	Narrow False Oats
Unranked Records	
Scientific Name	Common Name
Actaea pachypoda	White Baneberry
Adoxa moschatellina	Moschatel
Aeshna sitchensis	Zigzag Darner

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Aeshna subarctica	Subarctic Darner
Ambystoma maculatum	Spotted Salamander
Ammodramus leconteii	Le Conte's Sparrow
Anguilla rostrata	American Eel
Bartramia longicauda	Upland Sandpiper
Bidens discoidea	Bur-marigold
Bird Rookery	Bird Rookery
Black Spruce Bog Type	Black Spruce Bog
Black Spruce Bog; Semi-Treed Subtype	Black Spruce Bog, Semi-Treed Subtype
Bog Birch - Alder Shore Fen Type	Bog Birch - Alder Shore Fen
Boloria chariclea	Arctic Fritillary
Botaurus lentiginosus	American Bittern
Botrychium matricariifolium	Matricary Grapefern
Botrychium pallidum	Pale Moonwort
Botrychium simplex	Least Moonwort
Brachycentrus lateralis	A Humpless Casemaker Caddisfly
Bucephala clangula	Common Goldeneye
Canis lupus	Gray Wolf
Carex gynandra	A Species of Sedge
Carex ormostachya	Necklace Spike Sedge
Catharus ustulatus	Swainson's Thrush
Charadrius melodus	Piping Plover
Chloea abdominalis	Rocky Mountain Sprinkled Locust
Cicindela hirticollis rhodensis	Beach-dune Tiger Beetle
Cicindela patruela patruela	A Tiger Beetle
Coregonus zenithicus	Shortjaw Cisco
Coturnicops noveboracensis	Yellow Rail
Dryopteris expansa	Spreading Woodfern
Emydoidea blandingii	Blanding's Turtle
Ephemeral pond	Ephemeral Pond
Falciennis canadensis	Spruce Grouse
Falco peregrinus	Peregrine Falcon
Great lakes beach	Great Lakes Beach
Gymnocarpium robertianum	Limestone Oak Fern
Haliphus canadensis	A Crawling Water Beetle
Haploperla orpha	Quadrate Sallfly
Hemidactylum scutatum	Four-toed Salamander
Huperzia appalachiana	Appalachian Clubmoss
Hydraena angulicollis	A Minute Moss Beetle
Hygrotus falli	A Predaceous Diving Beetle
Hygrotus farctus	A Predaceous Diving Beetle
Ichthyomyzon fossor	Northern Brook Lamprey
Ilybius angustior	A Predaceous Diving Beetle
Ilybius subaeneus	A Predaceous Diving Beetle
Isogenoides frontalis	A Perlodid Stonefly
Isogenoides olivaceus	A Perlodid Stonefly
Ixobrychus exilis	Least Bittern
Lake--deep, hard, drainage	Lake--Deep, Hard, Drainage
Littorella americana	American Shore-plantain
Lycaena dione	Gray Copper
Maccaffertium pulchellum	A Flat-headed Mayfly
Malaxis monophyllos var. brachypoda	White Adder's-mouth
Migratory Bird Concentration Site	Migratory Bird Concentration Site
Moist cliff	Moist Cliff
Myriophyllum tenellum	Leafless Water Milfoil
Najas gracillima	Thread-like Naiad

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Native Plant Community, Undetermined Class	Native Plant Community, Undetermined Class
<i>Oeneis chryxus</i>	Chryxus Arctic
<i>Oporornis agilis</i>	Connecticut Warbler
<i>Oreodytes scitulus</i>	A Predaceous Diving Beetle
<i>Persicaria careyi</i>	Carey's Smartweed
<i>Potamogeton vaseyi</i>	Vasey's Pondweed
<i>Psectraglaea carnososa</i>	Pink Sallow
Red Oak - Sugar Maple - Basswood - (Bluebead Lily) Forest Type	Red Oak - Sugar Maple - Basswood - (Bluebead Lily) Forest
<i>Rhithrogena undulata</i>	A Flat-headed Mayfly
<i>Sanfilippodytes pseudovilis</i>	A Predaceous Diving Beetle
<i>Setophaga cerulea</i>	Cerulean Warbler
<i>Somatochlora forcipata</i>	Forcipate Emerald
<i>Sparbarus maculatus</i>	A Small Square-gilled Mayfly
<i>Sparganium glomeratum</i>	Clustered Bur-reed
Springs and spring runs, soft	Springs and Spring Runs, Soft
<i>Sturnella neglecta</i>	Western Meadowlark
Sugar Maple - Basswood - (Bluebead Lily) Forest Type	Sugar Maple - Basswood - (Bluebead Lily) Forest
<i>Tympanuchus phasianellus</i>	Sharp-tailed Grouse
<i>Vertigo paradoxa</i>	Mystery Vertigo
Willow - Dogwood Shrub Swamp Type	Willow - Dogwood Shrub Swamp
<i>Zoogenetes harpa</i>	Boreal Top