

3. Pic and White

HEALTHY WATERS REPORT CARD

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

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>



Pukaskwa Depot Beach. Photo credit: Sue Greenwood/ Ontario Ministry of Natural Resources

Summary/ Description

The Pic and White regional unit is located on the northeastern shore of Lake Superior. Including the associated nearshore waters this regional unit is 13,098.83 km² in size. The regional boundaries for this unit are found north of the Pic River (and just south of Marathon) in the east, to just west of Pilot Harbour. Pukaskwa National Park, an 187,800 hectare wilderness national park of boreal forest is located along the Lake Superior coast (Parks Canada 2013). Communities in this regional unit include the Ojibways of the Pic River First Nation, Heron Bay, Moberg, Pic Moberg First Nation, Hillspport, Manitouwadge and White River. The Pic and White regional unit combines two tertiary watersheds, Pic and White, and contains 19 quaternary watersheds. The watersheds are dominated by forests, including protected forests within Pukaskwa National Park. The coast is characterized by rocky shores and cliffs, with scattered nearshore islands. Coastal wetlands and sand beaches are very rare in this region. Pukaskwa National Park protects over 70% of the coast in this region, and is part of the longest roadless stretch of coastline in the Great Lakes.

TABLE 3.1: Pic and White BY THE NUMBERS

Land and Water Cover	Region (km²)	Region %	Lake Superior Total (km²)	Notes
Agriculture	1.90	0.01	1,441.07	
Developed	1.23	0.01	389.55	
Forest	13,204.70	90.65	107,747.13	
Associated Nearshore Waters	237.44	1.63	17,868.03	
Other	637.79	4.38	8,227.57	
Water (inland)	482.88	3.32	9,473.05	
Total Area	14,565.93	100	145,146.40	
Coastal Features	Region	Region %	% of Lake Superior Total for Coastal Feature	
Coastline (km)	380.27	NA	6.52	Based on SOLEC shoreline
Sand Beaches (km)	18.76	4.93	2.91*	*% of Lake Superior Total Sand Beaches
Coastal Wetlands (km ²)	3.09	1.10*	0.28**	*% of Regional Coastal Area ** % of Lake Superior Total Coastal Wetlands
Natural Cover in Coastal Zone	267.95	95.59*	4.34**	*% of Regional Coastal Area ** % of Lake Superior Total Natural Cover in Coastal Area
Number of Islands	387	NA	14.6	
Condition	Region	Region %	% of Lake Superior Total	
Population Density (persons/km ²)	0.12	NA		
Road Density (km/km ²)	0.08	NA		
Number of Dams and Barriers	486	NA	2.1	
Artificial Shoreline (km)	0.13	0.03	0.06	
Land Ownership & Protection	Region (km²)	Region %	Regional Area (km²)	
Private	483.66	3.38	14,328.49	Regional area based on landmass
Public/Crown	11,711.54	81.74	14,328.49	
Tribes/ First Nations	4.52	0.03	14,328.49	
Parks & Protected Areas (total)	2,128.76	14.86	14,328.49	
Parks & Protected Areas (coast)	197.19	70.35*	280.32 **	*% of Regional Coastal Area **Regional Coastal Area (km ²)

Important Biodiversity Features

Nearshore and Inshore Waters

- The Pic and White regional unit contains a number of sites of Important Habitat for Lake Trout; these sites are found in many areas along the coast (Lake Superior Binational Program Habitat Committee 2006) (Figure 3.1).

Coastal Zone and Islands

- This regional unit contains Important Habitat Areas, including one large area which is Pukaskwa National Park. Another Important Habitat Area along the coast extends from the Michipicoten-

Lake Superior Biodiversity Conservation Assessment - Volume 2: Regional Unit Summaries

Magpie and Agawa regional unit into the Pic and White regional unit. Smaller Important Habitat Areas are also located in this regional unit, along with several Important Habitat Sites (Lake Superior Binational Program Habitat Committee 2006) (Table 3.3, Figure 3.3).

- Arctic-alpine disjunct species can be found in Pukaskwa National Park (Parks Canada 2013).
- Woodland Caribou are still found within Pukaskwa National Park, an area they have inhabited since the retreat of the last glaciers (Parks Canada 2013).
- Craig's Pit Provincial Nature Reserve is an important migratory bird observation area, and contains bluffs and kettle holes. This area also contains examples of landform processes and themes which are environmental indicators from the Lake Minong stage and later (OMNR 2006l).

Tributaries and Watersheds

- Historically 21 tributaries in Lake Superior had Lake Sturgeon spawning runs (Lake Superior Lake Sturgeon Work Group 2012, unpublished data). Two of these historical spawning tributaries, the White River (Ontario) and the Pic River are in the Pic and White regional unit. The White River population status and population trajectory are both listed as unknown (Golder Associates Ltd. 2011); however, recent research in 2011 and 2012 suggests that the population status in the White River is extant (Ecclestone 2013). The population status is still currently described as unknown (Lake Superior Lake Sturgeon Work Group 2012, unpublished data). Ongoing research indicates Lake Sturgeon abundance, sex ratio, natural recruitment and year class structure are approaching criteria for self-sustaining classification, based on the criteria listed in the Lake Sturgeon Rehabilitation Plan for Lake Superior (Ecclestone 2013).
- The White River (Ontario) is one of ten Lake Superior tributaries where Lake Sturgeon have currently been documented spawning (as of 2012); this is the same number as 2005, however the specific tributaries have changed (Lake Superior Lake Sturgeon Work Group 2012, unpublished data). The White River (Ontario) and the St. Louis River (Minnesota) have recent evidence of natural reproduction, while there is not recent evidence from the Gravel and Michipicoten rivers. The White River (Wisconsin) had been removed as it is a tributary to the Bad River and is not a separate spawning population (Lake Superior Lake Sturgeon Work Group 2012, unpublished data).
- The Pic River Lake Sturgeon population status is extant, while the population trajectory is unknown (Golder Associates Ltd. 2011). Although recent research has indicated that the Pic River Lake Sturgeon population abundance is relatively low and the sex ratio is unequal, a total of 24 year classes are present in the system and natural recruitment has been documented at Manitou and Kagiano Falls (Ecclestone et al. 2013).
- A Lake Sturgeon Rehabilitation Plan for Lake Superior (Auer 2003) identifies the Pic and White (identified as the Big Pic) Rivers as two of the seventeen tributaries to Lake Superior in which there should be a focus on Lake Sturgeon rehabilitation.
- The Lake Superior Highlands Recommended Conservation Reserve is a 54,007 hectare area along the northeastern Lake Superior coast, in the Pic and White and Michipicoten-Magpie and Agawa regional units. The boundary was extended to include a waterway which would help allow gene flow to the Lake Superior shoreline. This area provides critical habitat for caribou (OMNR 2006h).
- Pukaskwa River Provincial Park is linked to Pukaskwa National Park. It is described as free-flowing, and with spectacular scenery and geology (OMNR 2006j).
- The Pokei Lake / White River Wetlands Provincial Park area includes riparian wetlands in the floodplain of the White River. The area of the wetlands is described as extensive, and includes marsh, fen and various swamps. The site is also noted for backwater ponds along the river which are suitable for waterfowl, eagle nesting sites, and caribou have been viewed in the area (OMNR 2006k).

Figure 3.1: Pic and White - Coastal and Watershed Features

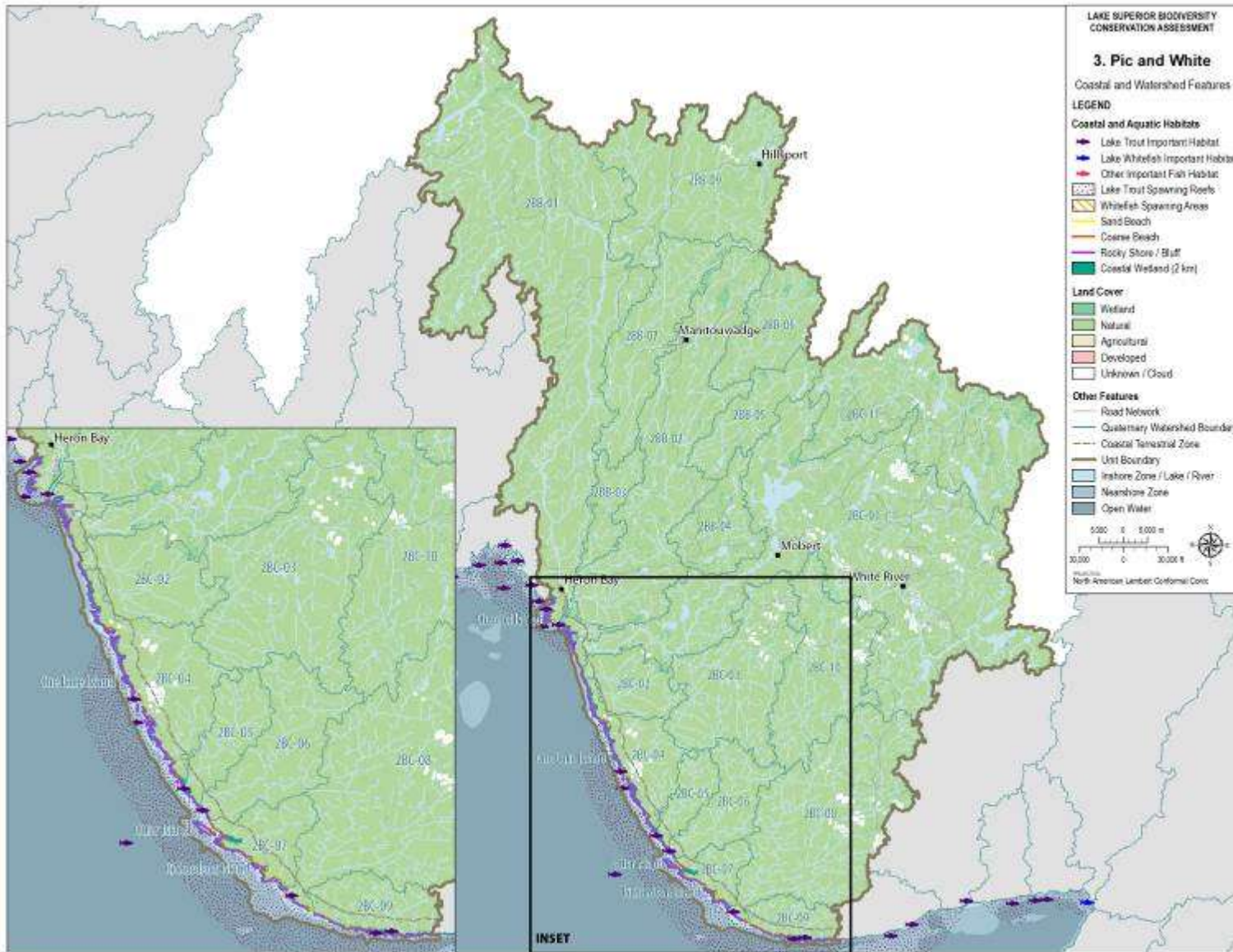


TABLE 3.2: Pic and White CONDITION AND TRENDS

Target (Data Source)	Condition	Trends
Offshore ¹	NA	NA
Nearshore ¹	B (0.73)	Unknown
Embayments and Inshore ^{1,2}	A (0.80)	Unknown
Coastal Wetlands ^{2,3}	A (0.863)	Unknown
Islands ⁴	A	Unknown
Coastal Terrestrial ³	A+ (1.000)	Unknown
Tributaries and Watersheds ²	A (0.86)	Unknown

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>

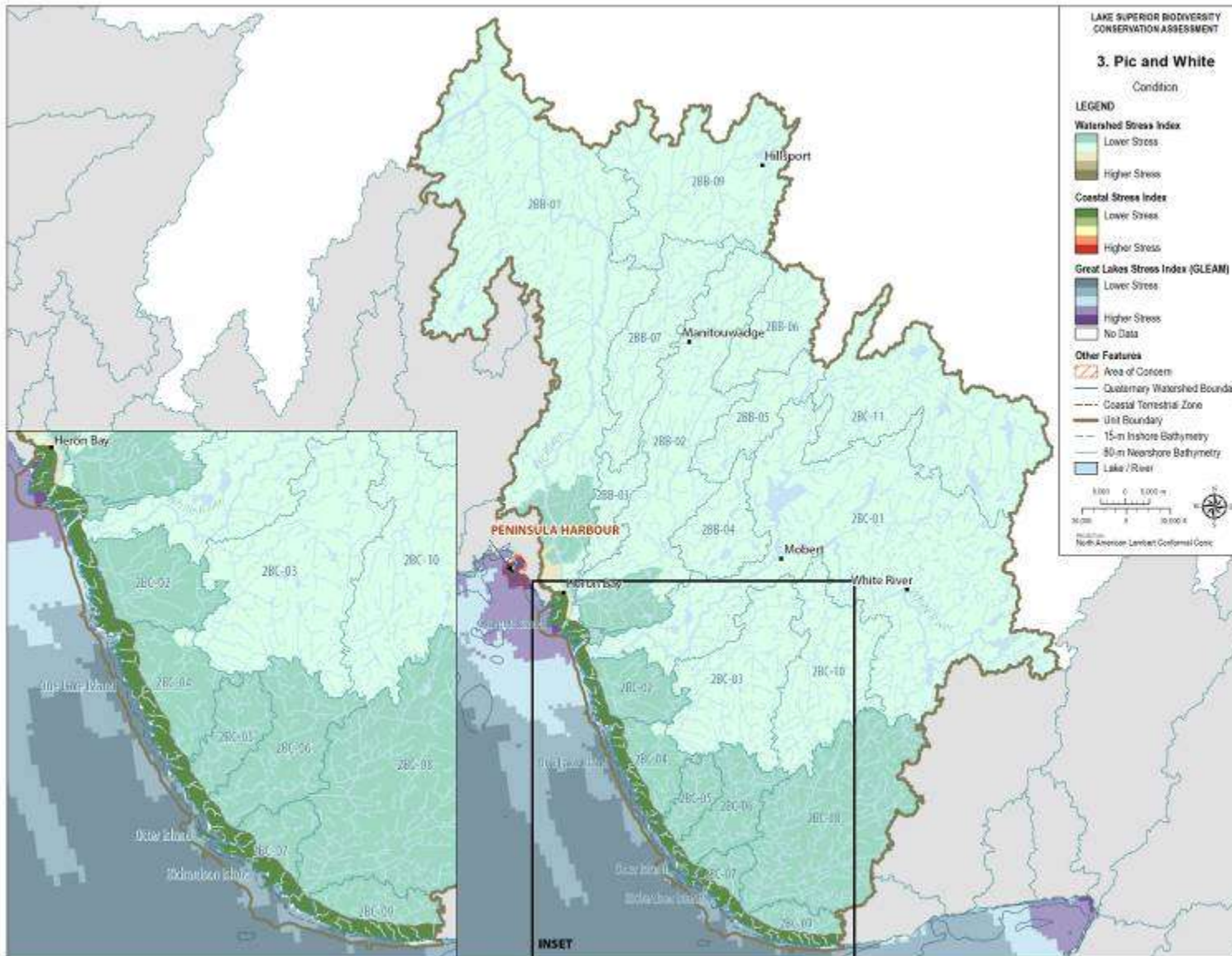
1: Great Lakes Cumulative Stress (GLEAM 2012, Allan et al. 2013)

2: Watershed Stress Index (GLEI 2013)

3: Coastal Condition Index (developed for this report)

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

Figure 3.2: Pic and White - Condition



Important Issues & Threats

- In 2014 the Stillwater Mining Company announced that subsidiary Stillwater Canada Inc would reduce activities associated with the Marathon Platinum Group Metals-Copper Project near the north shore of Lake Superior, approximately 10 kilometres north of the community of Marathon Ontario. Future development will be contingent on an improved economic return from the project, and the results of limited exploration activities undertaken in 2014. An Environmental Assessment had previously been submitted, however the permitting process was suspended prior to the September 2014 announcement. Stillwater Mining Company has stated that Stillwater Canada Inc will maintain tenure of the project, look for opportunities to realize value from the project and maintain existing relationships with local aboriginal communities and municipalities (Stillwater Mining Company 2014).
- The rehabilitation of lean Lake Trout and Lake Whitefish in the nearshore waters of the east end of the lake has not progressed to the same extent as the remainder of the lake. Ensuring that the unregulated fish harvests in the region are at levels that maintain sustainable populations will provide for the opportunity to resume cooperative rehabilitative fish stocking efforts.
- Although there has been no logging in Pukaskwa National Park since the early 1900s, anthropogenic disturbance on lands adjacent to Pukaskwa National Park has likely caused changes to populations of animals within the boundaries of the park (C. Drake, pers. comm., Dec 18 2014).
- Barrick Gold operates two gold mines at the Hemlo property, approximately 20 kilometres north of Pukaskwa National Park. The David Bell mine is an underground mine, and the Williams mine is an underground and open pit mine. The mines share facilities for milling, processing, and tailings (Barrick 2014).

The Nuclear Waste Management Organization (NWMO) is in the process of selecting a site for the long-term management of Canada's used nuclear fuel (NWMO 2010a). In January 2015, the NWMO completed the first phase of a preliminary assessment for six Northern Ontario communities that expressed interest in learning more about the site selection process. Two of the communities, the Township of Manitouwadge and the Township of White River are in the Lake Superior basin, in the Pic and White regional unit. Both communities are assessed with strong potential to meet the site requirements, and will be studied further. Technical suitability and safety have not been confirmed in the preliminary findings, and several more years of studies are expected before a preferred site and informed and willing host is identified (NWMO 2010b).

Conservation In Action

Parks & Protected Areas

- Pukaskwa National Park
- Pokei Lake White River Wetlands Provincial Park
- White Lake Provincial Park
- White Lake Peatlands Provincial Nature Reserve
- Pen Lake Fen Provincial Park
- Craig's Pit Provincial Nature Reserve (also in Little Pic regional unit)
- Lake Superior Shoreline Enhanced Management Area (also in Little Pic and Nipigon and Jackpine regional units)

Existing Programs & Projects

- The Ojibways of the Pic River First Nation Reserve is located near the mouth of the Pic River, and near the north end of Pukaskwa National Park. The Lands and Resources Department of the Pic River First Nation has recently participated in the Environmental Review Panel for the Stillwater

Lake Superior Biodiversity Conservation Assessment - Volume 2: Regional Unit Summaries

Mine, in land-use mapping, and in ongoing meetings with Pukaskwa National Park for the Park Management Plan and Park Advisory Committee (Ojibways of the Pic River First Nation 2012).

- Peregrine Falcons have been reintroduced to Ontario, including in the Lake Superior basin, following their extirpation as a breeding species in Ontario in the early 1960s (Ontario Peregrine Falcon Recovery Team 2010).
- Pukaskwa National Park has several plans relevant to biodiversity conservation in the park. These include the Pukaskwa National Park Management Plan (anticipated to be available in 2015) and the Pukaskwa National Park Fire Management Plan (2007) (C. Drake, pers. comm., June 27 2014).
- Pukaskwa National Park has several programs and procedures in place to ensure ecological integrity is maintained or improved in the Park (15% of the region, 70% of the coast) in the future. Examples of programs include, 1. Fire Management Program. A history of fire suppression has resulted in an excess of older seral staged forests in Pukaskwa and a paucity of sites that have undergone this natural disturbance, limiting habitat for species that rely on fire disturbance to persist. 2. Ecological Integrity Monitoring Program. The status of Ecological Integrity of the Park is assessed through the Park's long-term Ecological Integrity Monitoring Program (EIMP). Any concerns identified as part of the EIMP are actively managed where possible to ensure the health of the park is restored or maintained. 3. Species at Risk Program. Species at Risk within the Park will have an Action Plan for recovering habitat and/or populations where feasible. E.g. Pitcher's thistle seeds were introduced to two new locations in the summer of 2013 to improve their declining status in the Park (C. Drake, pers. comm., June 27 2014).

TABLE 3.3: Pic and White IMPORTANT HABITAT SITES AND AREAS

<i>Code</i>	<i>Site/ Area</i>	<i>Important Habitat Site/Area Name</i>	<i>Key Features</i>
ON-001	Area	Michipicoten Corridor	Habitat for rare plants (arctic disjuncts) and animals; rocky outcrops and shallow soils with acid sensitivity
ON-037	Site	Redsucker Cove	Fish spawning habitat
ON-055	Site	Maple, Hilltop, and Jackfish Lakes	Fish spawning habitat
ON-084	Site	North Skipper Lake	
ON-097	Site	Pipe River Watershed	Excellent Moose habitat; fish spawning area
ON-099	Site	Jarvey Lake	Fish habitat
ON-115	Site	Ogilvy Point Islands	Colonial water bird habitat
ON-122	Site	Starr Island	Colonial water bird habitat
ON-172	Area	Pukaskwa National Park	Large intact protected area, Woodland Caribou population, sand dunes, rare plant habitat
ON-185	Area	White Lake Peatlands Nature Reserve	

Figure 3.3: Pic and White - Important Habitat Sites and Areas

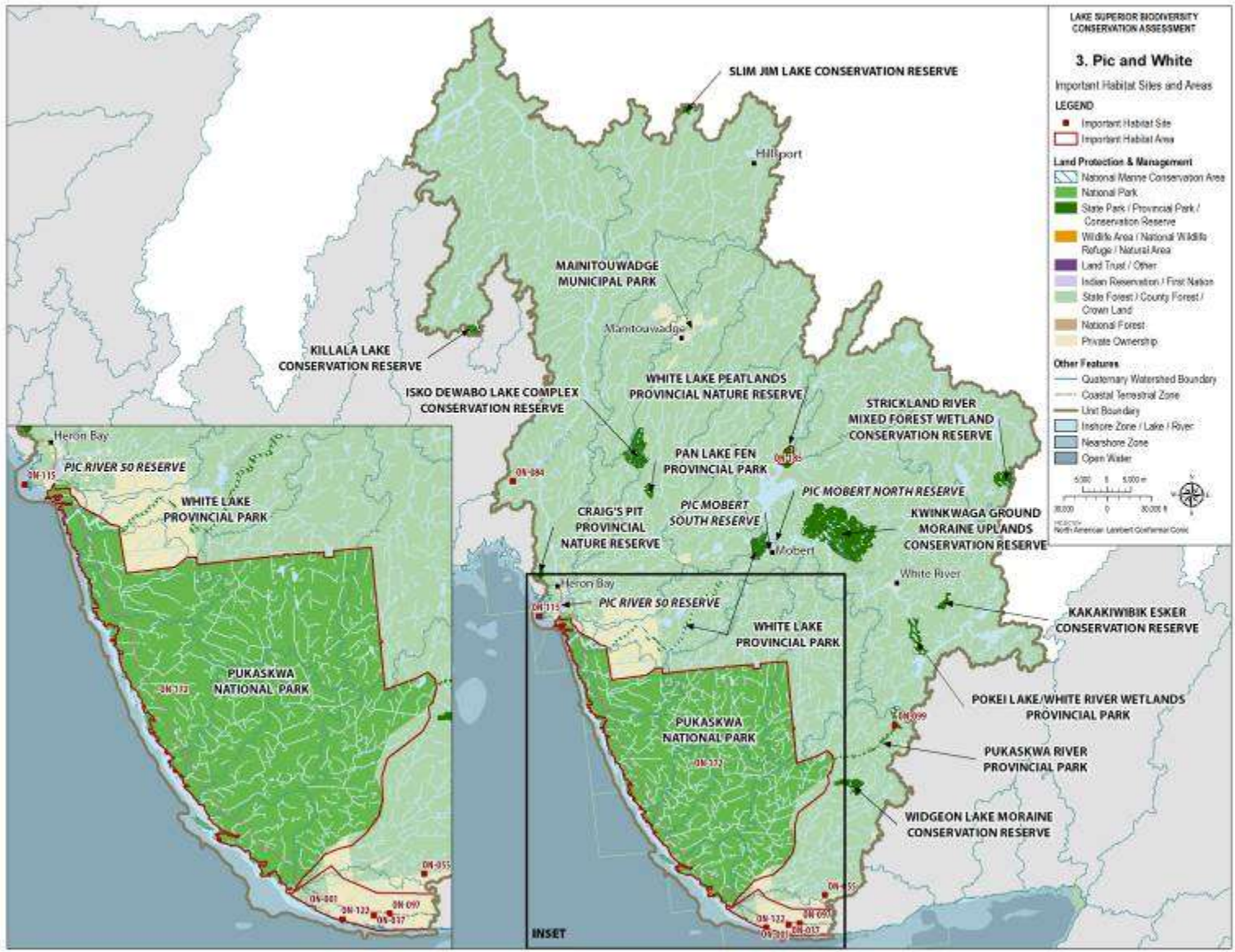


TABLE 3.4: Pic and White LIST OF SPECIES AND COMMUNITIES OF CONSERVATION CONCERN

At least 37 species and communities of conservation concern have been documented in the regional unit. 10 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). 27 species and communities were once known to occur here, but have current conservation ranks of H (Historical).⁴

<i>Present Records (Viability Rankings of A to E)</i>	
Scientific Name	Common Name
American Dune Grass - Beach Pea - Sand Cherry Dune Grassland Type	American Dune Grass - Beach Pea - Sand Cherry Dune Grassland Type
Caprimulgus vociferus	Whip-poor-will
Carex rossii	Ross' Sedge
Cirsium pitcheri	Pitcher's Thistle
Euchloe ausonides	Large Marble
Falco peregrinus	Peregrine Falcon
Haliaeetus leucocephalus	Bald Eagle
Ichthyomyzon fossor	Northern Brook Lamprey
Rangifer tarandus caribou	Woodland Caribou (Forest-dwelling boreal population)
Tofieldia pusilla	Small False Asphodel
<i>Historical Records</i>	
Scientific Name	Common Name
Acipenser fulvescens pop. 3	Lake Sturgeon (Great Lakes - Upper St. Lawrence River population)
Anaptychia setifera	A Lichen
Bombus affinis	Rusty-patched Bumble Bee
Botrychium acuminatum	Pointed Moonwort
Botrychium hesperium	Western Moonwort
Botrychium spathulatum	Spatulate Moonwort
Bromus pumpellianus	Pumpelly's Brome
Chelydra serpentine	Snapping Turtle
Coregonus zenithicus	Shortjaw Cisco
Dicranella grevilleana	A Moss
Erebia mancinus	Taiga Alpine
Listera auriculata	Auricled Twayblade
Listera borealis	Northern Twayblade
Packera obovata	Round-leaved Groundsel
Pannaria conoplea	A Lichen
Peltigera collina	A Lichen
Potamogeton confervoides	Alga Pondweed
Scapania gymnostomophila	A Liverwort
Schoenoplectus heterochaetus	Slender Bulrush
Splachnum luteum	A Moss
Splachnum rubrum	A Moss
Stereocaulon glaucescens	A Foam Lichen

⁴ Data included here were provided by the Ontario Ministry of Natural Resources and Forestry. Copyright Queen's Printer for Ontario (2012).

Lake Superior Biodiversity Conservation Assessment - Volume 2: Regional Unit Summaries

Trichophorum clintonii	Clinton's Clubrush
Umbilicaria arctica	A Lichen
Vaccinium membranaceum	Mountain Huckleberry
Vertigo elatior	Tapered Vertigo
Zizia aptera	Heart-leaved Alexanders