

4.14 MA 14 – Summer Islands Management Area

Summary of Use and Management

Management in the Summer Islands management area (MA) (Figure 4.14.1) will focus on protection and enhancement of Great Lake Islands' special features and ecological functions. Since the state forest land is found on islands there will not be intensive vegetative management within this management area. Management will protect areas of unique habitat for threatened and endangered species and provide for recreational uses. Expected issues in this 10-year planning period include: increased recreational pressure, introduced pests and diseases, invasive species and fluctuating water levels.

Introduction

The Summer Islands management area includes Summer and Little Summer islands in Lake Michigan. These islands are located in the eastern Upper Peninsula in Delta County at the end of the Garden Peninsula. It has 1,377 acres of state-owned land. The primary attribute for this management area is that it consists of islands. Additional attributes which were important in identifying this management area include:

- The islands are found within the Niagaran Escarpment and Lake Plain subsection 8.1 (Albert, 1995).
- The landforms are characterized by limestone bedrock at or near the surface.
- All islands in the Great Lakes are designated as special conservation areas. Summer Island has a limestone pavement lakeshore ecological reference area.
- Recreational opportunities includes: kayaking, boating, camping, hiking, hunting and fishing. The area around the islands is one of the most popular Chinook salmon fisheries in the Upper Peninsula.

Coastline areas are important, since shallow near shore area of islands can provide important fish spawning and nursery habitat. Many plants and animals use unique habitats on these islands. Critical seasonal use occurs, such as spawning shoals and migration stops. In years of lower water levels small sand and gravel spits and bars are created. These are very important to nesting and migrating shorebirds.

The Summer Islands management area falls within Shingleton Forest Management Unit. The predominant cover types, acreages and projected harvest acres for the management area are shown in Table 4.14.1.

Table 4.14.1. Current cover types, acreages, projected harvest acres and projected ten-year cover type acreage for the Summer Islands management area, eastern Upper Peninsula ecoregion (2012 Department of Natural Resources inventory data).

Cover Type	Cover %	Current Acreage	Hard Factor Limited Acres	Manageable Acres	10 Year Projected Harvest (Acres)		Projected Acreage in 10 Years	Desired Future Harvest (Acres)	
					Final Harvest	Partial Harvest		Final Harvest	Partial Harvest
Northern Hardwood	37%	507	0	507	0	0	507	0	253
Cedar	34%	462	0	462	0	0	462	29	0
Lowland Conifers	17%	229	114	115	0	0	229	13	0
Paper Birch	13%	179	179	0	0	0	179	0	0
Misc Other (Water, Local, Urban)	0%	0	0	0	0	0	0	0	0
Others	0%	0	0	0	0	0	0	0	0
Total	100%	1,377	293	1,084	0	0	1,377	42	253

Summer Islands

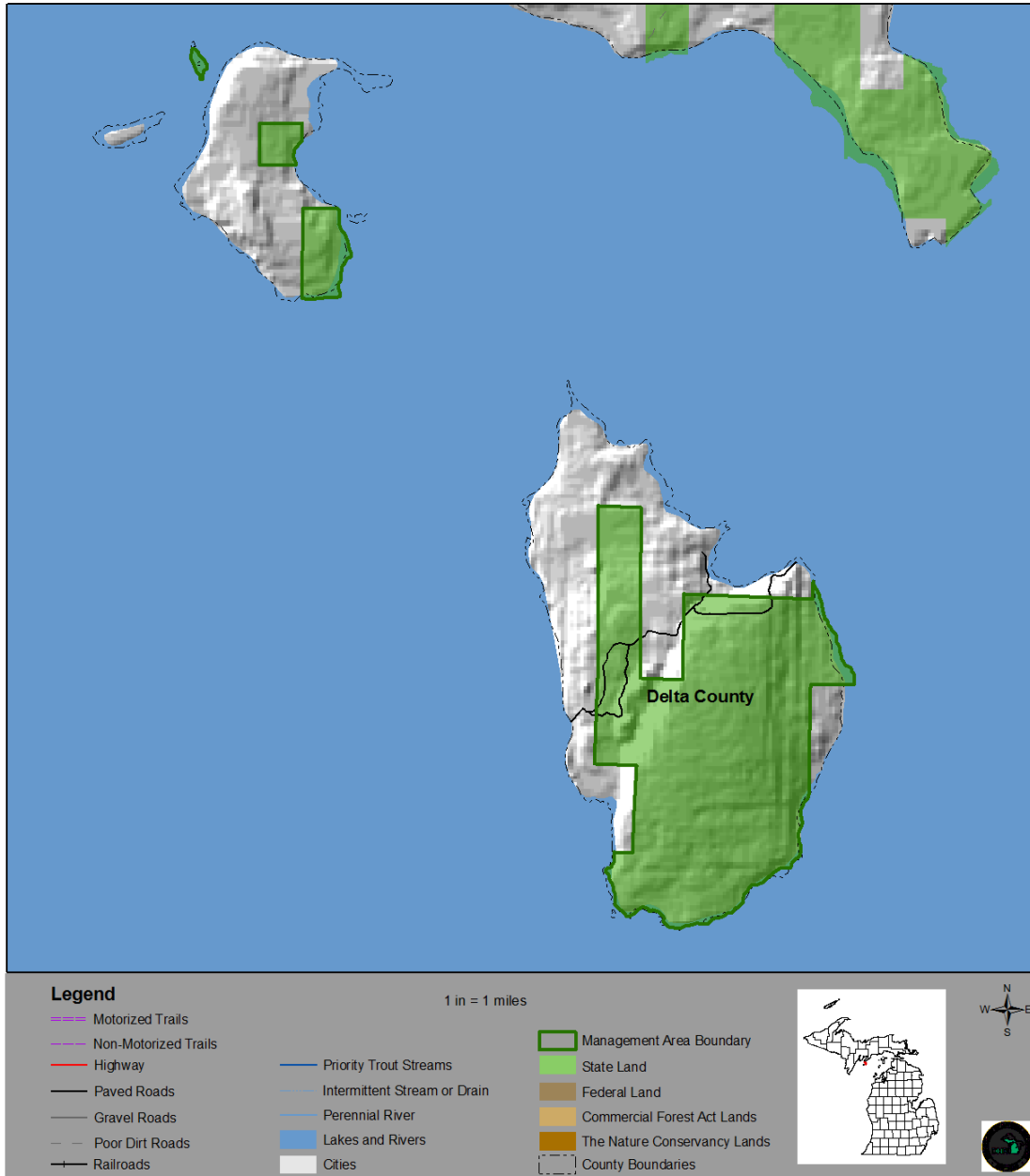


Figure 4.14.1. Location of Summer Islands management area (dark green boundary) in relation to state forest lands, other ownerships and Lake Michigan.

4.14.1 Forest Cover Type Management Direction

The following sections contain information on vegetation management direction in the form of Desired Future Conditions, 10-Year Management Objectives and Long-Term Management Issues for each of the major cover types or forest communities within the management area. This information applies to those portions of the forest where active management (i.e., timber harvest, prescribed fire, planting and mowing) will be conducted. In other portions of the state forest, passive management resulting in natural succession will achieve ecological objectives. While most stands have a variety of tree species and other vegetation, they are classified by the predominant species.

All of the following cover types are valued commercially for their timber products; ecologically as sources of habitat for numerous species; and for the variety of recreational opportunities they provide. Harvesting these cover types would provide for a continuous flow of forest products and values.

Section 4.14.1.1 Forest Cover Type Management – Northern Hardwood

Current Condition

Northern hardwood occurs on 507 acres (37%) of the management area (Table 4.14.1). Northern hardwood stands are distributed on the islands on lake plains, moraines and outwash plains. Kotar habitat types include PArVAa, ATFD and AFOAs. Habitat types are not available for hardwood stands on the limestone rock. In the 1950s, bird’s eye maple veneer was harvested from state forest land on Big Summer Island. Since then, timber harvesting has not occurred. Most of the northern hardwood stands contain beech and loss is expected from beech bark disease.

Currently, there are no stands prescribed for harvest (Figure 4.14.2). At this time there are no acres of northern hardwood with site conditions limiting harvest. When coding is updated, these island stands will all be identified with hard factor limits.

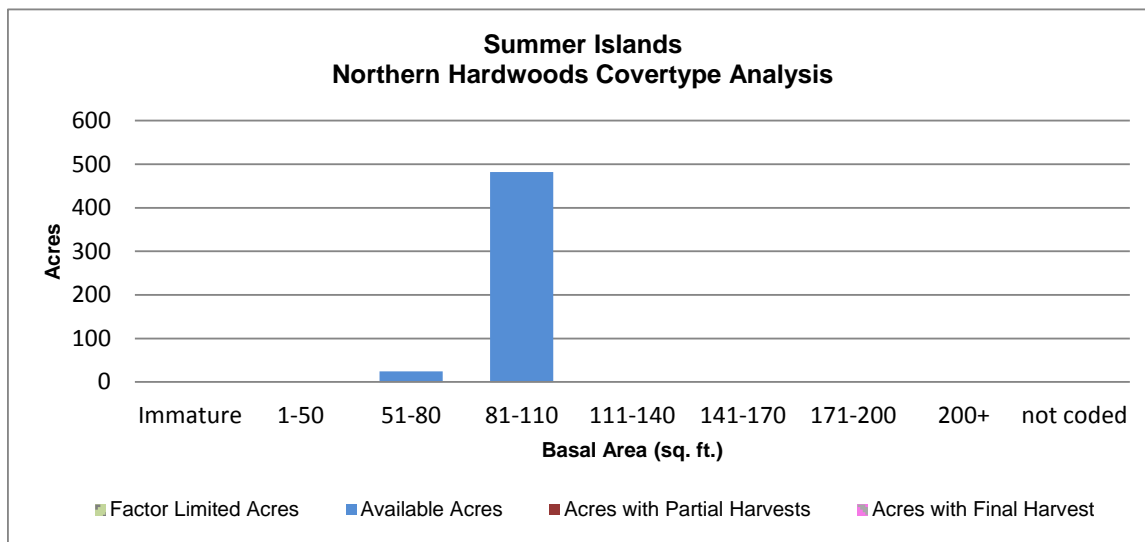


Figure 4.14.2. Basal area distribution of northern hardwood in the Summer Islands management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Northern hardwood stands will remain through natural rotation, providing for wildlife habitat and recreational opportunities.

10-Year Management Objectives

- As the islands are generally inaccessible for timber harvesting, the 10-year projected partial harvest of northern hardwood is zero acres.

Long-Term Management Objectives

- Monitor use and condition of the northern hardwood communities following the 10-year forest inventory schedule.

Section 4.14.1.2 Forest Cover Type Management – Cedar

Current Condition

Cedar occurs on 462 acres (34%) of the management area (Table 4.14.1). Cedar provides important closed canopy habitat for wintering deer found on the islands. Figure 4.14.3 shows that a regulated harvest would allow approximately 29 acres of cedar to be harvested each decade.

There are no acres of cedar prescribed for harvest at this time (Figure 4.14.3). Currently, there are no acres of cedar identified with hard factor limits. When coding is updated, these island stands will all be identified with hard factor limits.

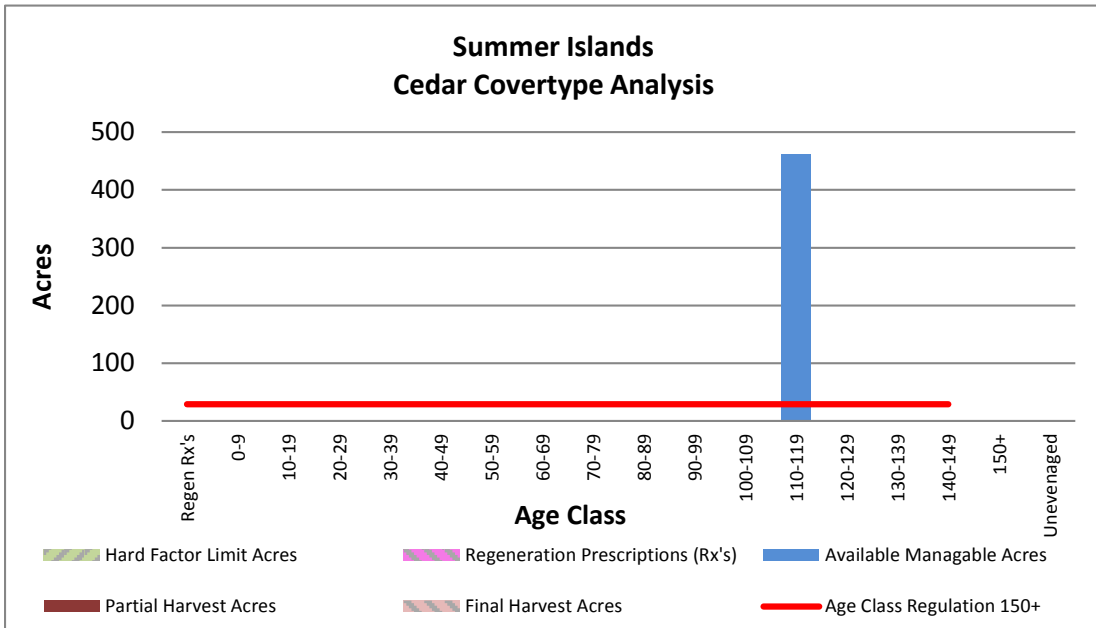


Figure 4.14.3. Age-class distribution of cedar in the Summer Islands management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Cedar will remain through natural rotation, providing for wildlife habitat and recreational opportunities.

10-Year Management Objectives

- As the islands are generally inaccessible for timber harvesting, the 10-year projected final harvest of cedar is zero acres.

Long-Term Management Objectives

- Focus cedar management on winter habitat for deer.

Section 4.14.1.3 Forest Cover Type Management – Lowland Conifers

Current Condition

Lowland conifers occur on 229 acres (17%) of the management area (Table 4.14.1). The lowland conifer stands in the management area fall into only two age classes (Figure 4.14.4). Figure 4.14.4 shows that a regulated harvest would allow approximately 25 acres of lowland conifers to be harvested each decade.

Currently there are not any acres of lowland conifers with a final harvest prescribed. There are 114 acres of lowland conifers with site conditions limiting harvest coded. As these stands are on islands, when site condition coding is updated all of the acres of lowland conifers will have hard factors limiting their harvest.

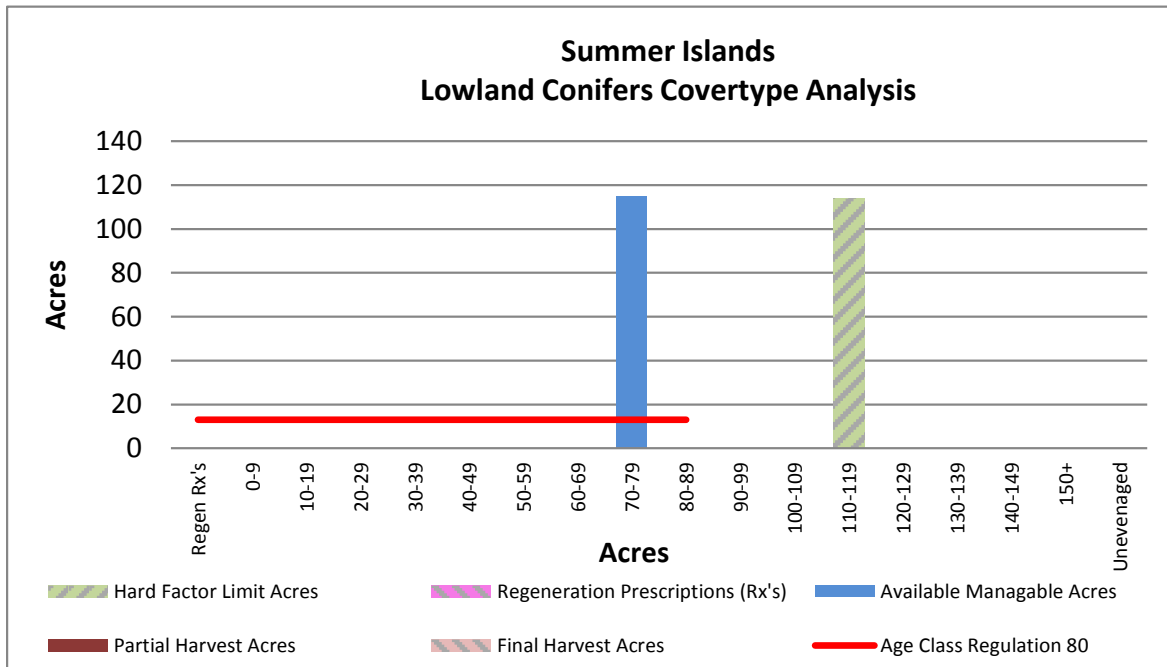


Figure 4.14.4. Age-class distribution of lowland conifers in the Summer Islands management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Lowland conifers will remain through natural rotation, providing for wildlife habitat and recreational opportunities.

10-Year Management Objectives

- As the islands are generally inaccessible for timber harvesting, the 10-year projected final harvest of lowland conifers is zero acres.

Long-Term Management Issues

- Monitor use and condition of the lowland conifers during the 10-year forest inventory schedule.

Section 4.14.1.4 Forest Cover Type Management – Paper Birch

Current Condition

Paper birch occurs on 179 acres (13%) of the management area (Table 4.14.1). Currently all of the paper birch stands are over rotation age and are coded as unavailable for harvest due to their location on the islands (Figure 4.14.5). Using a 50-year rotation a regulated harvest would allow approximately 29 acres to be harvested each decade.

There are no acres of paper birch prescribed for harvest at this time. Paper birch stands that are inaccessible for commercial harvest will eventually succeed to mid- or late-successional species.

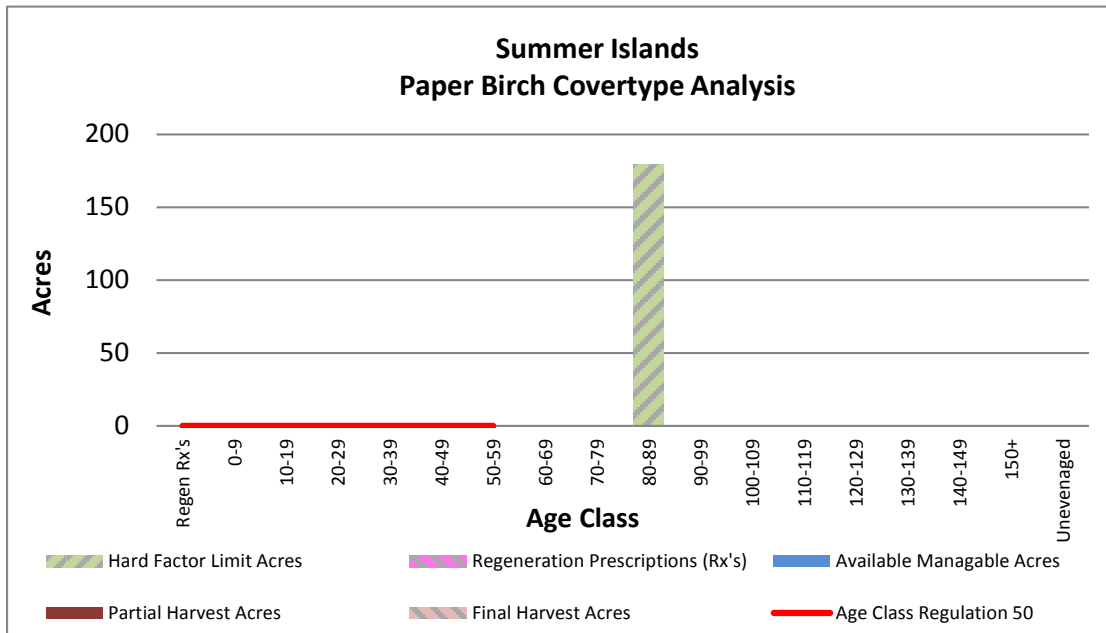


Figure 4.14.5. Age-class distribution of paper birch in the Summer Island management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Paper birch will remain through natural rotation, providing for wildlife habitat and recreational opportunities.

10-Year Management Objectives

- The 10-year projected final harvest of paper birch is zero acres due to the difficulty of logging on islands.

Long-Term Management Objectives

- Monitor use and condition of these stands during the 10-year inventory.

4.14.2 – Featured Species Management

A considerable portion of the biological diversity unique to Michigan is supported by the nearly 600 islands contained within Michigan’s borders. Great Lakes Islands provide significant habitat for numerous other species including many rare plants and animals, several of which are endemic or largely restricted to the Great Lakes region. Due to their isolation, islands provide good examples of many Great Lakes-associated natural communities and ecosystems and thus have potential to provide insights for understanding the consequences of human disturbance on the increasingly fragmented ecosystems of the mainland. Specific wildlife values include their value to colonial nesting waterbirds, migratory waterfowl and neotropical migrants who rest and feed on islands on their migration through the Great Lakes.

The primary management objectives for the Summer Islands include the protection of ecological and natural functioning ecosystems and of the above mentioned groups of species.

4.14.3 – Rare Species and Special Resource Area Management

All forest operations must be reviewed for potential conflicts between rare species and proposed forest operations following the guidance in “DNR’s Approach to the Protection of Rare Species on State Forest Lands” (IC4172). This is especially important when listed species are present, past surveys have indicated a possibility of their presence, or when appropriate habitat is available and the species is known to occur in the general region.

Past surveys have noted and confirmed four listed species as well as two natural communities of note occurring in the management area as listed in Table 4.14.2. Any established management guidelines will be followed. Further surveys for special species and natural communities will be carried out as a matter of course during the inventory process and opportunistically for special more focused surveys.

Table 4.14.2 Occurrence information for special concern, rare, threatened and endangered communities and species for the Summer Islands management area.

Common Name	Scientific Name	Status	Status in Management Area	Climate Change Vulnerability Index (CCVI)	Confidence	Natural Community Association	Probable Cover Types	Successional Stage
Natural Communities								
Limestone bedrock lakeshore		S2/G3	Confirmed				Upland open/semi-open	N/A
Limestone cliff		S2/G4G5	Confirmed				Upland open/semi-open	N/A
Birds								
Bald eagle	<i>Haliaeetus leucocephalus</i>	SC/G5/S4	Confirmed	IL	Moderate	Bog	Lowland open/semi-open	N/A
						Hardwood-conifer swamp	Lowland Mixed	Mid
						Northern hardwood swamp	Black Ash	Late
						Poor conifer swamp	Tamarack	Late
						Floodplain forest	Lowland mixed	Mid
						Dry northern forest	Jack Pine, Red Pine	Late
						Dry-mesic northern forest	White Pine	Late
						Mesic northern Forest	Northern Hardwood	Late
Plants								
Climbing fumitory	<i>Adlumia fungosa</i>	SC/G4/S3	Confirmed			Sand and gravel beach	Upland open/semi-open	N/A
						Limestone cobble shore	Upland open/semi-open	N/A
						Open dunes	Upland open/semi-open	N/A
						Northern hardwood swamp	Black Ash	Late
						Granite bedrock glade	Upland open/semi-open	N/A
						Limestone bedrock glade	Upland open/semi-open	N/A
						Limestone bedrock lakeshore	Upland open/semi-open	N/A
						Limestone cliff	Upland open/semi-open	N/A
						Limestone lakeshore cliff	Upland open/semi-open	N/A
						Mesic northern forest	Northern Hardwood	Late
						Northern bald	Upland open/semi-open	N/A
						Volcanic bedrock glade	Upland open/semi-open	N/A
Dwarf lake iris	<i>Iris lacustris</i>	LT/T/G3/S3	Confirmed			Open dunes	Upland open/semi-open	N/A
						Alvar	Upland open/semi-open	N/A
						Wooded dune & swale complex	Upland open/semi-open	N/A
						Boreal forest	Upland & Lowland Sp/F	Mid
						Limestone bedrock glade	Upland open/semi-open	N/A
						Limestone cobble shore	Upland open/semi-open	N/A
						Limestone bedrock lakeshore	Upland open/semi-open	N/A
Lake Huron pansy	<i>Tanacetum huronense</i>	T/G5T4T5/S3	Confirmed			Open dunes	Upland open/semi-open	N/A
						Limestone cobble shore	Upland open/semi-open	N/A
						Wooded dune & swale complex	Upland open/semi-open	N/A

Climate Change Vulnerability Index: EV – Extremely Vulnerable; HV – Highly Vulnerable; MV – Moderately Vulnerable; PS – Presumed Stable; and IL – Increase Likely.

The Summer Islands management area is part of the special conservation area for Great Lakes islands (Figure 4.14.6).

Although there have been no high conservation value areas identified there is one ecological reference area. The limestone bedrock lakeshore ecological reference area (12 acres) is shown in Figure 4.14.6. This ecological reference area will be managed to protect and enhance the natural vegetative and wildlife communities as directed by an ecological reference area-specific management plan.

Management goals during this planning period:

- Document occurrences of rare, threatened, endangered and special concern species and natural communities for the management area through the inventory process or with occasional focused surveys.
- Evaluate all potential Type 1, potential Type 2 and potential old growth areas to determine their status as a special resource area.
- Develop and maintain management and monitoring plans for ecological reference areas on state forest land.

4.14.4 – Forest Health Management

Although forest health issues span the entire landscape, some specific threats are more important in this management area due to the species composition, site quality or other factors. Some of the more important forest health pests in this management area by major cover type include:

- Northern hardwoods: beech bark disease

For further information on forest health refer to Section 3.

Invasive Species

Invasive exotic species, specifically plants, may pose a significant forest health threat to forested and non-forested areas throughout the management area. The statewide database of invasive plant species does not yet document any known species or locations within or surrounding the management area. Absence of data is likely due to lack of surveys and it should not be assumed there are no species present. Monitoring efforts should specifically look for new populations of the 10 priority invasive plant species identified in Section 3 of this plan. Prescribe eradication treatments to any new populations of priority invasive plant species found in the management area.

4.14.5 – Fire Management

These islands contain private lands with some development. Fires on these islands will be monitored and appropriate suppression action taken as necessary. Use of prescribed fire is not anticipated.

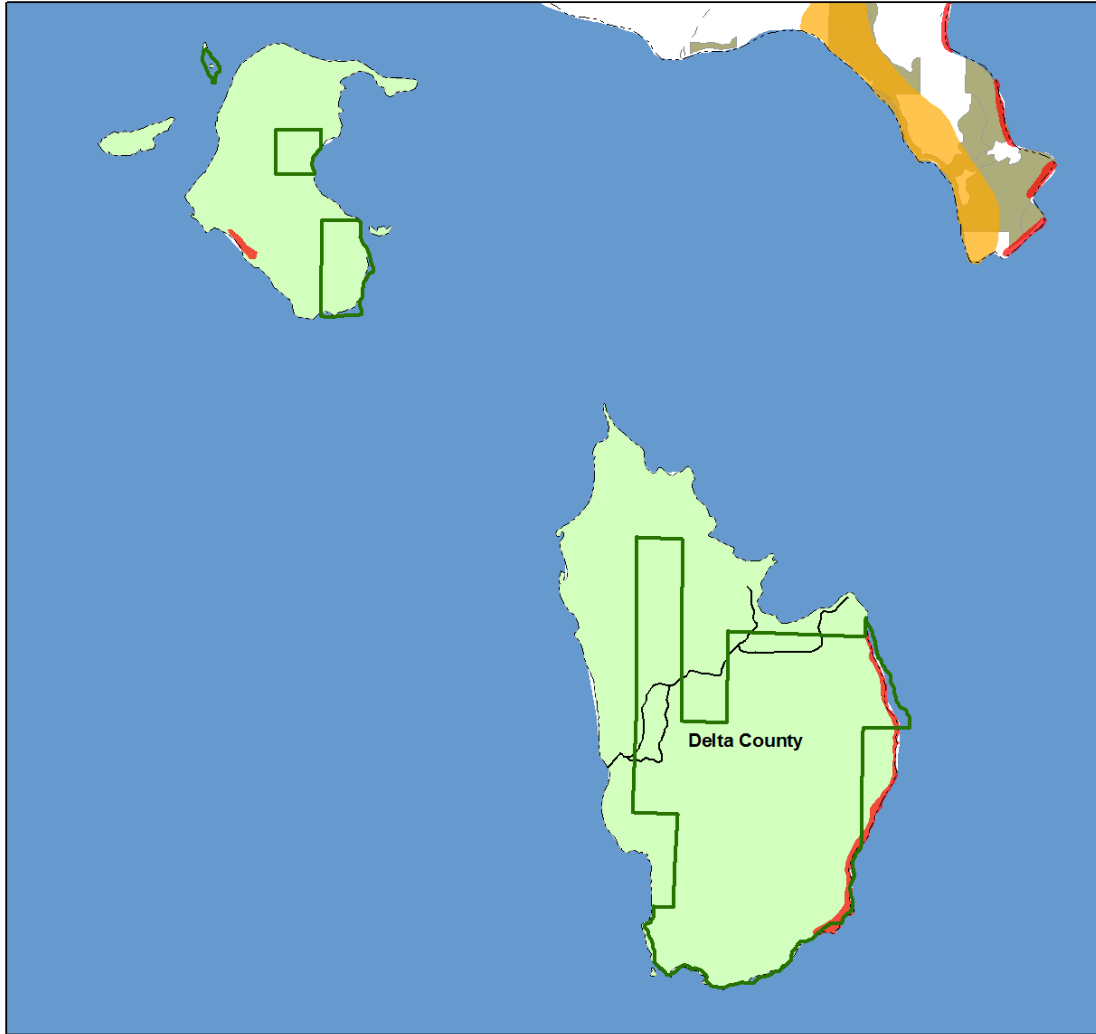
4.14.6 – Public Access and Recreation

Summer Islands may be accessed by private boat, small plane (airfield on Little Summer) and depending on the weather off-road vehicles, snowmobiles and other vehicles that can access the islands across the ice. There are roads and trails on either island.

There are no recreational facilities on the islands.

These islands provide for recreational boating, camping, hunting, fishing and waterfowl hunting.

Summer Islands



Legend

- Highway
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Railroads
- Intermittent Stream or Drain
- Perennial River
- Lakes and Rivers
- Management Area Boundary
- Cities
- County Boundaries

Ecological Reference Areas

High Conservation Value Areas

- Ecological Reference Areas
- Coastal Environmental Areas
- Critical Dunes
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Critical Coastal Habitat (Piping Plover)
- Kirtland Warbler Habitat
- Dedicated Management Areas
- Natural Areas Legally Dedicated

1 in = 1 miles

Special Conservation Areas

- Campgrounds
- Fishing Access Sites
- Boat Access Sites
- Mineral Resource Locations
- Wild & Scenic Rivers (USFS Lands)
- Visual Management Areas
- Contiguous Resource Areas
- Possible Type 1 and Type 2 Old Growth
- Potential Old Growth
- Non-Dedicated Natural Areas & National Natural Landmarks
- Springs, Wetlands, or Riparian Areas



- Cold Water Streams & Lakes
- Wildlife Management Areas
- Research, Development, and Military Lands
- Great Lakes Islands

Figure 4.14.6 A map of the Summer Islands management area showing the special resource areas.

4.14.7 – Aquatic Resource Management

Fisheries Division management unit biologists will review proposed forest management activities using the compartment review process and will consider the potential impact of proposed prescriptions upon riparian and aquatic values. Management prescriptions will be modified to account for riparian and aquatic values by applying the standards and guidance documents listed in the introduction to this plan section to the unique conditions specific to any given forest stand.

Prescription of riparian management zone widths greater than the minimum widths provided in IC4011 (*Sustainable Soil and Water Quality Practices on Forest Land*) must be justified and documented during the compartment review process.

Forested stands adjacent to designated high priority trout streams will specifically be managed to discourage beaver use in accordance with both DNR Policy and Procedure 39.21-20 Beaver Management and IC 4011. There are no designated high priority trout streams in this management area.

4.14.8 – Minerals

Surface sediments consist of thin to discontinuous sediments over bedrock. The glacial drift thickness is very thin. Sand and gravel pits are not located on the islands and potential for additional pits is limited.

The Silurian Engadine, Manistique and Burnt Bluff Groups outcrop on the islands. The Engadine and Burnt Bluff are quarried for stone in the Upper Peninsula.

Exploration and development for oil and gas has been limited to a few wells drilled in the Upper Peninsula (four in Delta County). No economic oil and gas production has been found in the Upper Peninsula.

Metallic mineral production is not supported by the geology given the depth to known metallic bearing formations.