4.33 Sturgeon Sloughs Management Area

Summary of Use and Management

Vegetative management in the Sturgeon Sloughs management area (MA) (Figure 4.33.1) will provide a variety of forest products; maintain or enhance wildlife habitat; protect areas with unique characteristics; and provide for forest based recreational uses. Timber management objectives for the 10-year planning period include; maintaining existing cover types on the landscape; and maintaining non-forest vegetation types. Wildlife management objectives addressing the habitat requirements identified for the following featured species: American woodcock, black bear, Canada goose and eastern bluebird. Management activities may be constrained by site conditions and special conservation area objectives. Early successional forest conditions (associated with alder, riparian zones or forested wetlands); mast (hard and soft); providing green browse such as winter wheat or rye for the fall (hunting) season; and large open land complexes (with snags in open lands) will be issues for during this 10-year planning period.

Introduction

The Sturgeon Sloughs management area is on a floodplain in northwestern Baraga and eastern Houghton Counties. The state forest covers 8,073 acres and is mostly contiguous. The major ownership in this vicinity is non-industrial private. The management area is dominated by the tamarack, northern hardwood and lowland deciduous cover types. Other attributes that played a role in the definition of this management area include:

- Dominated by two natural communities: poor conifer swamp and deciduous lowlands;
- Low-range in site quality;
- Most of this area is in lowland open/semi-open lands.

The management priority for this area is waterfowl habitat management. Timber management will be limited.

The predominant cover types, composition and projected harvest areas for the Sturgeon Sloughs management area are shown in Table 4.33.1.

Table 4.33.1. Summary of cover types, composition, limited factor area, manageable area and projected harvest area for the Sturgeon Sloughs management area (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
Tamarack	25%	2,043	851	1,192	170	0	2,043	170	0
Northern Hardwood	11%	894	321	573	0	101	894	0	286
Lowland Deciduous	10%	801	645	156	60	0	801	17	0
Upland Open/Semi-Open Lands	11%	915	0	915	0	0	915	0	0
Lowland Open/Semi-Open Lands	31%	2,513	0	2513	0	0	2,513	0	0
Misc Other (Water, Local, Urban)	2%	200	0	200	0	0	200	0	0
Others	9%	707	192	515	56	19	707	56	19
Total		8,073	2,010	6,063	285	120	8,073	243	305

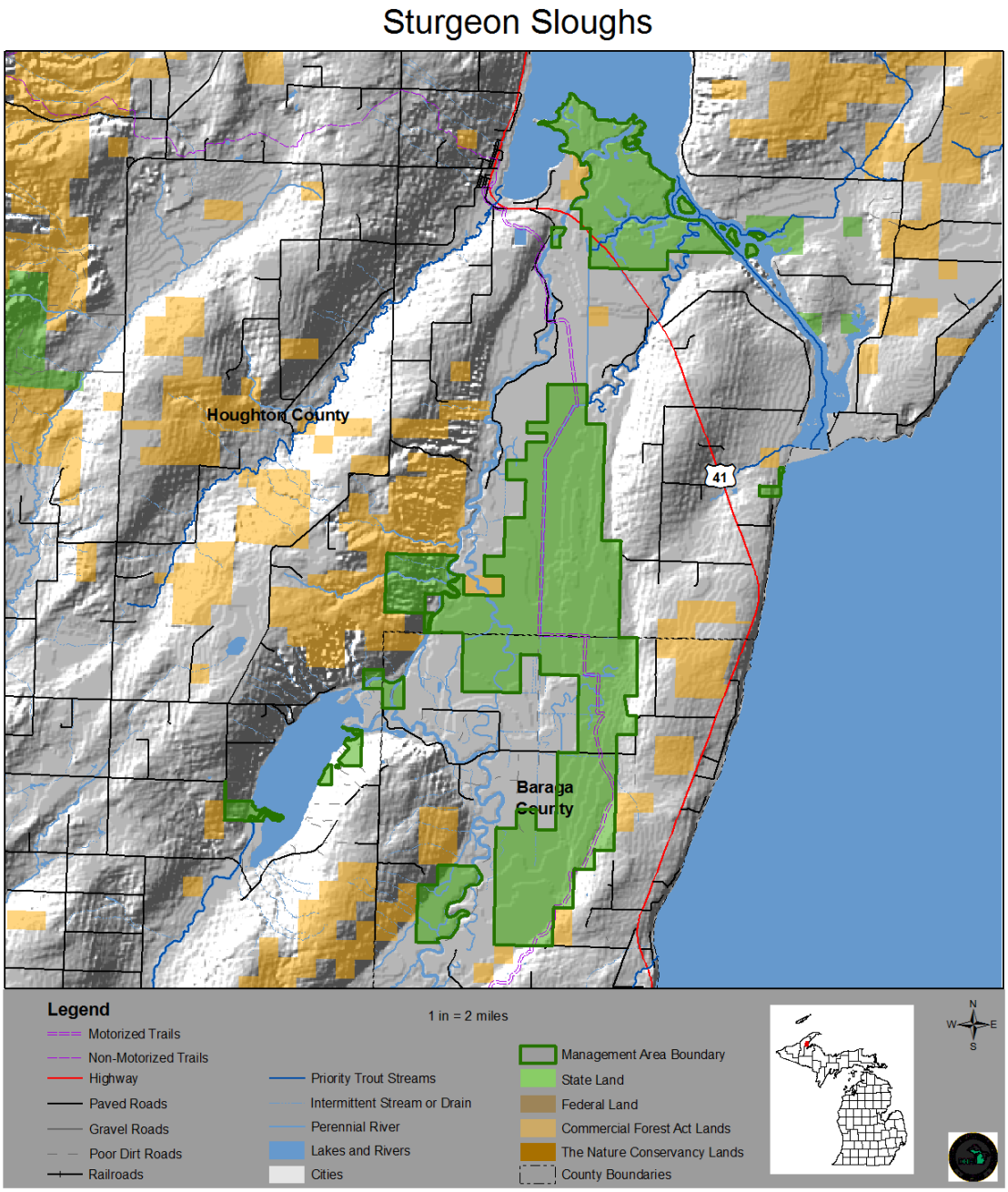

Figure 4.33.1. A map of the Sturgeon Sloughs management area (dark green boundary) in relation to surrounding state forest and other lands in Baraga and Houghton Counties Michigan.

4.33.1 Forest Cover Type Management Direction

The following sections contain information on vegetation management for each of the major cover types, a grouping of minor cover types and important non-forested vegetation types for the Sturgeon Sloughs management area in the form of Desired Future Condition, 10-Year Management Objectives and Long-Term Management Objectives. This information applies to those portions of the forest where active management (i.e., timber harvest, prescribed fire, planting or mowing) will be conducted. In other portions of the state forest, the natural processes of succession and disturbance will provide ecological benefits. While most stands have a variety of tree species and other vegetation, they are classified by the species with dominant canopy coverage.

The following cover types are valued commercially for their timber products; ecologically as sources of habitat for numerous wildlife species; and for the variety of recreational opportunities they provide. Harvesting and regenerating these cover types will provide for a continuous flow of forest products and will help to ensure (or provide) wildlife habitat.

Tamarack Cover Type

Current Condition

Currently there are about 2,043 acres (25%) of the tamarack type in the management area (Table 4.33.1). Tamarack is often found in association with mixed lowland conifer, cedar and lowland spruce/fir types. Tamarack in this management area does not have a well-balanced age-class distribution. Most of the tamarack in this area is over 80 years in age. There are 851 acres that have hard factor limitations and they have been removed from harvest calculations.

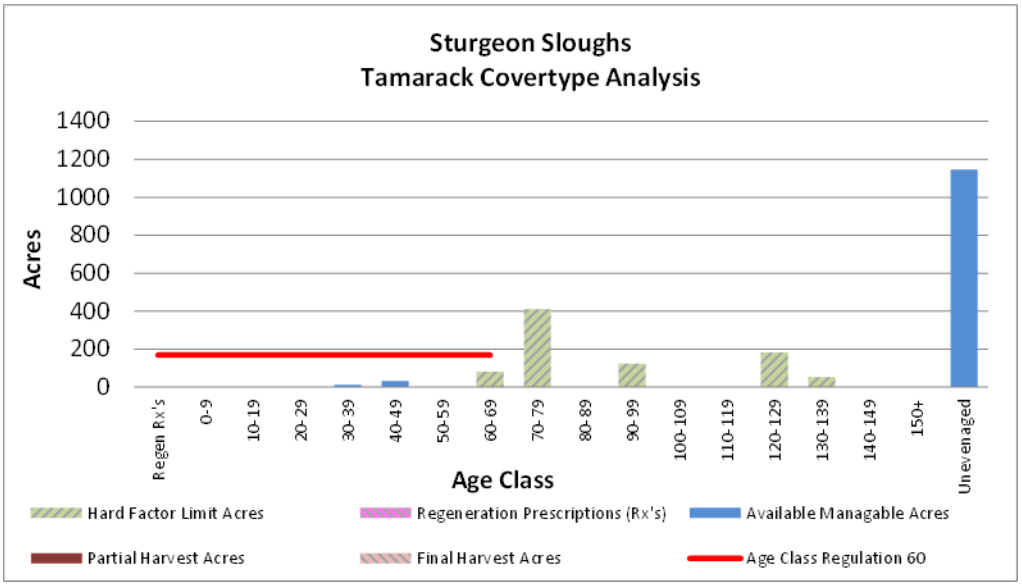

Figure 4.33.2. Graph of the age-class distribution for the tamarack cover type on the Sturgeon Sloughs management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Maintain approximately the current level of tamarack type with stands representing a variety of age classes; and
- Balanced age classes for those stands that are not factor limited.

Long-Term Management Objective

- Once equal age-class distribution is established, harvest and regenerate mature tamarack types on a 60-year rotation resulting in an estimated 170 acres harvested each decade.

10-Year Management Objectives

- Harvest 170 acres in this 10-year planning period with much of this acreage coming from those stands classified as uneven-aged (Figure 4.33.2).
- More aggressive harvesting in this type maybe needed in this 10-year planning period to reduce mortality losses in the older stands.

Northern Hardwoods Cover Type

Current Condition

Northern hardwood stands make up 894 acres (11%) of this management area (Table 4.33.1). They occur on medium-quality sugar maple sites. Most stands have been managed on a selection harvest basis. Due to low deer numbers in this area, there are few problems with herbivory and most areas regenerate successfully. Northern hardwood is typically managed using an uneven-aged harvest system based on basal area rather than age.

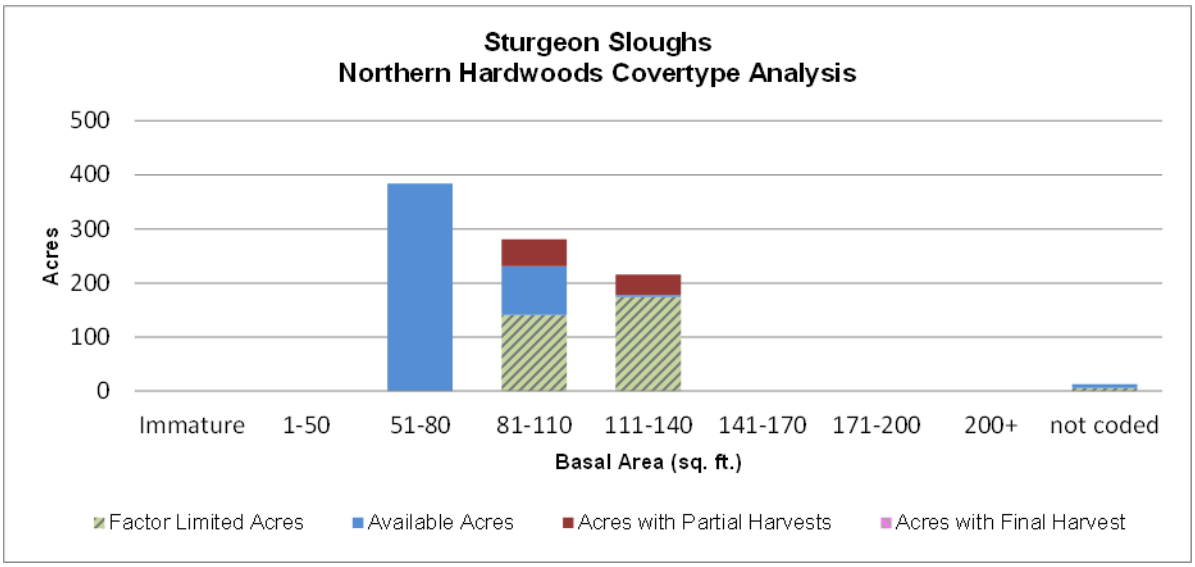

Figure 4.33.3. Graph of the basal area distribution for the northern hardwood cover type on the Sturgeon Sloughs management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Uneven-aged northern hardwood stand structure promoting high-value sugar maple sawlogs;
- Provide for a full complement of tree seedlings recruiting into the overstory; and
- Provide for well-developed shrub and herbaceous layers.

Long-Term Management Objectives

- Using an uneven-aged system, selectively harvest high-quality northern hardwood stands on a 20-year cycle resulting in an estimated 286 acres harvested each decade; and
- Maintain and encourage minor species to increase in-stand diversity.

10-Year Management Objectives

- Selectively harvest 101 acres during this 10-year planning period (this number is lower than the estimated long-term amount due to the current low basal areas); and
- Maintain and promote white pine, oak, hemlock and upland cedar where they occur in stands that are harvested.

Lowland Deciduous Cover Type

Current Condition

Currently there are 801 acres (10%) of the lowland deciduous type in the management area (Table 4.33.1). This type is often found in association with the lowland conifer, cedar and tamarack cover types. Many of the stands have factor limits due to wet conditions or for riparian corridors. Due to the wet site conditions, they are more susceptible to rutting damage from logging equipment and present difficult operating conditions for harvesting. The lowland deciduous cover type on this management area does not have a well-balanced age-class distribution. Most of the stands in this management area are over 80 years in age or classed as uneven-aged.

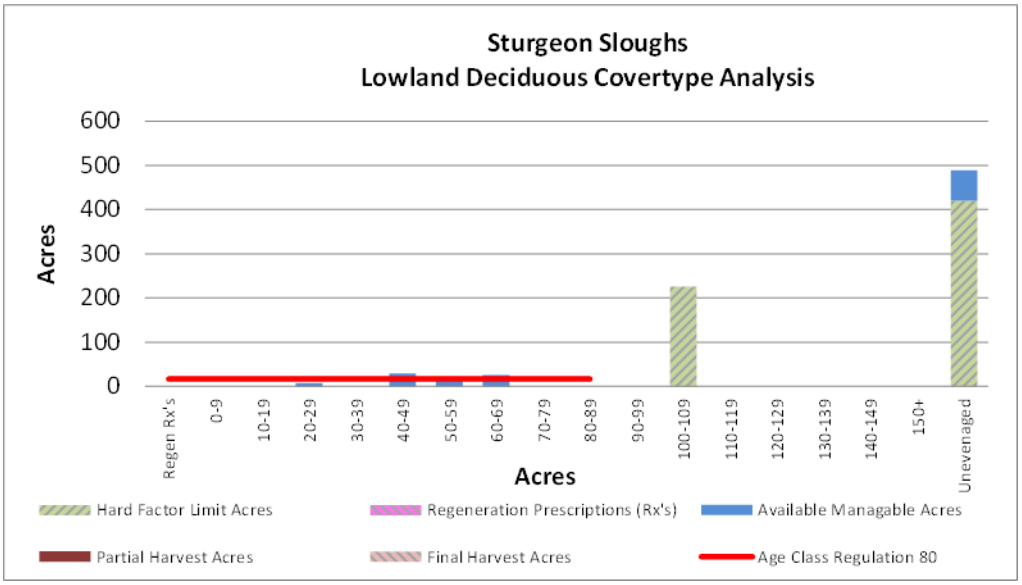

Figure 4.33.4. Graph of the age-class distribution for the lowland deciduous cover type on the Sturgeon Sloughs management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Maintain approximately the current level of the lowland deciduous cover type with stands representing a variety of age classes.

Long-Term Management Objectives

- Harvest stands without limiting factors on an 80-year rotation resulting in an estimated 60 acres harvested each decade;
- Regenerate stands to a species mix similar to the pre-harvest conditions; and
- Harvest using small clearcuts or strips with clumped retention.

10-Year Management Objectives

- Harvest 17 acres over this 10-year planning period focusing on the use of “low impact” harvesting systems and successful, reliable regeneration techniques.

Other Forested Cover Types

Current Condition

Other forested types make up 707 acres and are made up of lowland poplar (216 acres), cedar (178 acres), mixed lowland conifers (103 acres), lowland spruce/fir (86 acres), aspen (68 acres), upland conifer (24 acres), lowland mixed forest (12 acres), hemlock (10 acres) and upland mixed forest (10 acres). Together these types make up about 9% of the management area. None of these stands have limiting factors.

Desired Future Condition

- Maintain the presence of the minor cover types within the management area.

Long-Term Management Objectives

- Manage minor cover types to maintain representation using appropriate silvicultural methods; and
- Harvest as opportunities arise in conjunction with other management activities.

10-Year Management Objectives

- Harvest those stands without harvest limitations adjacent to other planned harvest activities and where stand conditions indicate that harvesting is appropriate; and
- Expected harvests in these types will be less than 75 acres during this 10-year planning period.

Other Non-forested Cover Types

Current Condition

The following non-forested cover types are found on this management area: upland open/semi- open lands (915 acres – 11%), lowland open/semi-open lands (2,513 acres – 31%) and miscellaneous other (water, local, urban) (200 acres – 2%).

Desired Future Condition

- These areas will be maintained in the current condition.

Long-Term Management Objective

- Grass will be burned or mowed to prevent forest encroachment.

10-Year Management Objective

- Grass-types will be treated for opening maintenance as needed.

4.33.2 Featured Wildlife Species Management

The wildlife management priority for the Sturgeon Sloughs management area is waterfowl. This area contains the Sturgeon River Sloughs Wildlife Area and Great Lakes marsh. A master plan has been written for the "sloughs" and should guide management activities at a finer scale. The primary focus of wildlife habitat management in the Sturgeon Sloughs management area will be to address the habitat requirements identified for the following featured species: American woodcock, black bear, Canada goose and eastern bluebird. Based on the selected featured species, some of the most significant wildlife management issues in the management area are: early successional forest conditions (associated with alder, riparian zones or forested wetlands); mast (hard and soft); providing green browse such as winter wheat or rye for the fall (hunting) season; large open land complexes (with snags in open lands). During this 10-year planning period, additional analyses to better define the spatial extent of priority areas for featured species will be performed.

American Woodcock

The western Upper Peninsula goal for woodcock is to maintain or increase woodcock habitat. In priority areas, management should focus on maintaining early successional habitat associated with riparian zones and forested lowlands.

Wildlife habitat specifications:

- Maintain aspen cover type within the management area where associated with alder, riparian zones or forested wetlands;
- Balance aspen age-class distribution within the management area;
- Use silvicultural practices that encourage the aspen component in mixed stands associated with alder, riparian zones or forested wetlands; and
- Maintain or create rough openings associated with alder, riparian zones, regenerating aspen or forested wetlands within the management area.

Black Bear

The western Upper Peninsula black bear goal is to maintain or improve habitat. Management for bear should focus on improving existing habitat (e.g., maintaining corridors, mast and refuge trees) in this management area.

Wildlife habitat specifications:

- Maintain or increase the oak cover type and within stand oak component of hardwood forests within the management area;
- Maintain or increase mast by providing forest clearings that promote food sources such as pin cherry, juneberry/serviceberry, hazel, raspberry, blackberry and blueberry;
- Minimize herbicide use that would be detrimental to mast production;
- Maintain lowland conifer and hardwoods along and around drainages, vernal pools and forested wetlands; and
- Maintain refuge tree species with rough bark for cubs to escape (e.g., white pine and hemlock).

Canada Goose

The western Upper Peninsula Canada goose goal is to provide recreational opportunity by attracting migrating geese to state forest lands. The focus of such management is to provide favorable water features and fields.

Wildlife habitat specifications:

- Attract geese to hunt able areas during the fall season;
- Plant green browse such as winter wheat or rye;
- Manage water features as necessary; and
- Manage small grain fields, leaving the maximum possible amount of waste grain.

Eastern Bluebird

The western Upper Peninsula goal for bluebirds is to maintain or improve habitat. State forest management efforts during this planning period will focus on maintaining or expanding open land conditions, protection of snags or dying standing trees associated with opening and managing opening complexes/savanna with prescribed fire.

Wildlife habitat specifications:

- Maintain herbaceous open-land complexes within the management area using prescribed burns or mowing and consider the spatial arrangement.
- Protect snags or dying standing trees within the open-lands. If nest cavities are not present, consider: leaving standing live trees (e.g., aspen) trees in final harvest timber sales; and/or planting scattered oak.
- Leave a ½-chain buffer around openings to limit aspen encroachment following aspen timber harvests.

4.33.3 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, when 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 three listed species as well as one natural community of note occurring in the management area as listed in Table 4.33.2. 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.

The Sturgeon Sloughs management area has the Sturgeon River Sloughs and the Otter Lake Dam Flooding state wildlife management areas as shown in Figure 4.33.5 that are special conservation areas.

Table 4.33.2. Occurrence information for special concern, rare, threatened and endangered communities and species for the Sturgeon Sloughs 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 Comminity								
Great Lakes marsh		S3/G2	Confirmed				Lowland open/semi-open	N/A
Birds								
American bittern	*Botaurus lentiginosus*	SC/G4/S3-4	Confirmed	MV	Very High	Great Lakes marsh	Lowland open/semi-open	N/A
						Emergent marsh	Lowland open/semi-open	N/A
						Coastal plain marsh	Lowland open/semi-open	N/A
						Northern wet meadow	Lowland open/semi-open	N/A
						Lakeplain wet prairie	Lowland open/semi-open	N/A
						Lakeplain wet-mesic prairie	Lowland open/semi-open	N/A
						Wet-mesic sand prairie	Lowland open/semi-open	N/A
						Wet prairie	Lowland open/semi-open	N/A
						Northern fen	Lowland open/semi-open	N/A
						Poor fen	Lowland open/semi-open	N/A
						Coastal fen	Lowland open/semi-open	N/A
Common moorhen	*Gallinula chloropus*	T/G5/S3-4	Confirmed	PS	Very High	Great Lakes marsh	Lowland open/semi-open	N/A
						Coastal plain marsh	Lowland open/semi-open	N/A
						Emergent Marsh	Lowland open/semi-open	N/A
Common loon	*Gavia immer*	T/G5/S3-4	Confirmed	HV	Very High	Emergent Marsh	Lowland open/semi-open	N/A
						Bog	Lowland open/semi-open	N/A
Bald eagle	*Haliaeetus leucocephalus*	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	Early
						Dry-mesic northern forest	White Pine	Late
						Mesic northern Forest	Northern Hardwood	Late
Fish								
Lake sturgeon	*Acipenser fulvescens*	T/G3G4/S2	Confirmed	HV	Moderate	Great Lakes	Aquatic	N/A
						Rivers	Aquatic	N/A
						Mainstem streams	Aquatic	N/A
Bigmouth shiner	*Notropis dorsalis*	SC/G5/S4	Confirmed	MV	Moderate	Rivers	Aquatic	N/A
Sauger	*Sander canadensis*	T/G5/S1	Confirmed	HV	Low	Rivers	Aquatic	N/A
						Great Lakes	Aquatic	N/A
Reptile								
Wood turtle	*Glyptemys insculpta*	SC/G4/S2S3	Confirmed	MV	Moderate	Northern wet meadow	Lowland open/semi-open	N/A
						Bog	Lowland open/semi-open	N/A
						Rich conifer swamp	Tamarack	Late
						Hardwood-conifer swamp	Lowland Mixed	Mid
						Northern shrub thicket	Upland open/semi-open	N/A
						Mesic northern forest	Northern Hardwood	Late
Plants								
Douglas's hawthorn	*Crataegus douglasii*	CS/G5/S3S4	Confirmed			Volcanic bedrock glade	Upland open/semi-open	N/A
						Volcanic bedrock lakeshore	Upland open/semi-open	N/A
						Boreal forest	Upland & Lowland Sp/F	Mid
						Mesic northern forest	Northern Hardwood	Late
						Northern bald	Upland open/semi-open	N/A
						Open dunes	Upland open/semi-open	N/A
						Sand and gravel beach	Upland open/semi-open	N/A
						Sandstone bedrock lakeshore	Upland open/semi-open	N/A
						Volcanic cliff	Upland open/semi-open	N/A
						Volcanic cobble shore	Upland open/semi-open	N/A
						Volcanic lakeshore cliff	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

Although there are no high conservation value areas, there are two ecological reference areas, the Sturgeon River Great Lakes Marshes (991.1 acres and 5.3 acres) representing the Great Lakes marsh natural community, as shown in Figure 4.32.5.

Management goals during this planning period:

Goal 1: To develop and maintain a list of rare, threatened, endangered and special concern species and natural communities for the management area through a continuous inventory and through opportunistic focused inventory surveys.

Objective 1-1: Field staff should be trained and aware of the identification characteristics and natural history of rare, threatened, endangered and special concern species.

Objective 1-2: Occurrences of rare, threatened, endangered and special concern species noted during the inventory process by inventory staff should be verified and added to the body of knowledge for the management area.

Goal 2: To develop and maintain management plans for ecological reference areas on state forest land.

Objective 2-1: Complete ecological reference area planning by the end of this 10-year planning period.

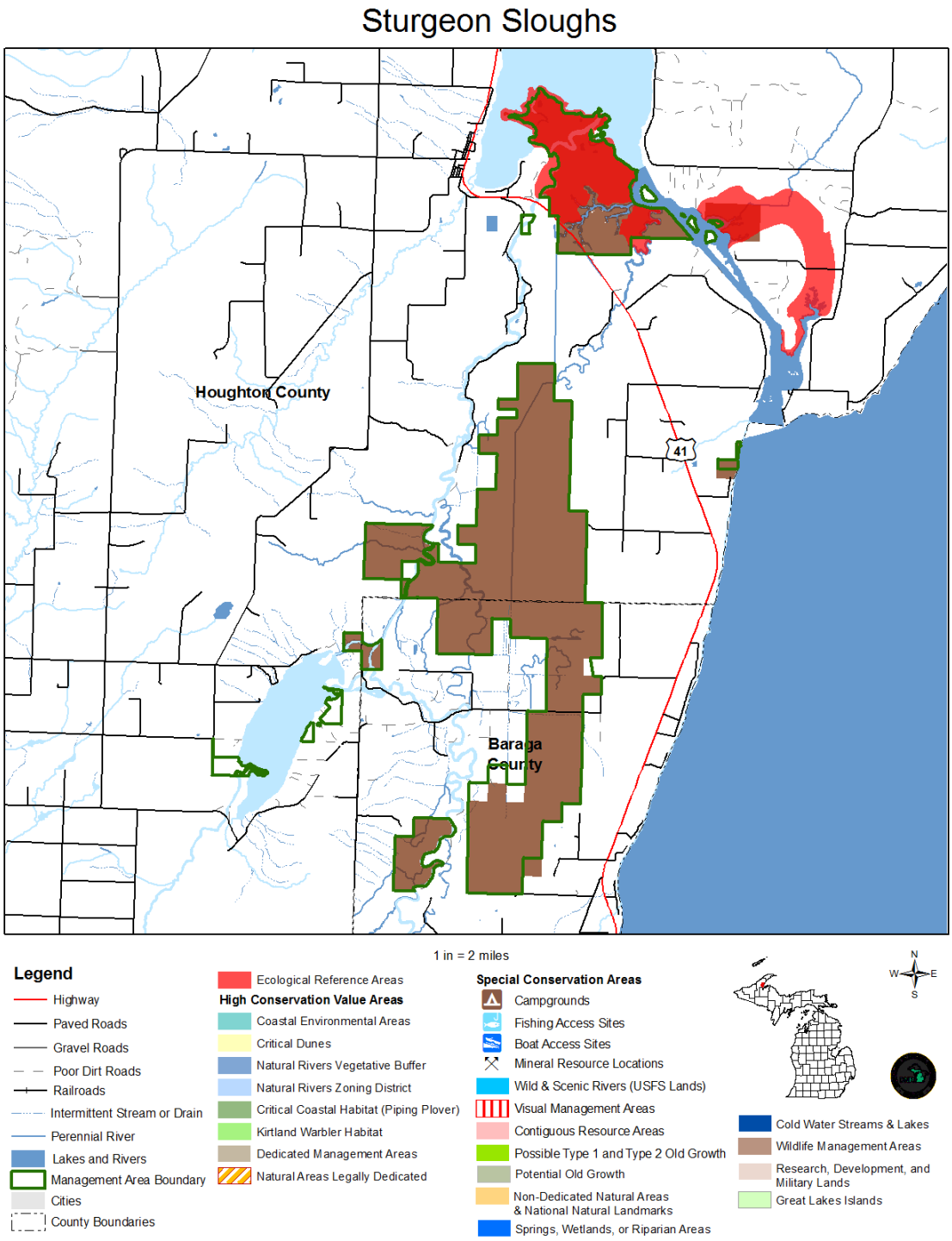

Figure 4.33.5. A map of the Sturgeon Sloughs management area showing the special resource areas.

4.33.4 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 area include:

- Spruce budworm
- Emerald ash borer
- Eastern larch beetle
- Larch casebearer.

When forest pests are detected, they are to be reported to the forest health specialist for treatment recommendations. The treatment of large outbreaks of forest pests will be coordinated on a state and regional level.

Several invasive exotic species of plants are thought to be located in the vicinity. When invasive species are detected, they will be reported to the forest health specialist and treatment options will be reviewed. Priority for treatment should be given to those species that threaten sensitive sites due to their location or growth characteristics and have population levels that may be successfully controlled. Following is a list of species of concern that been documented in or near this management area:

- Canada thistle
- Glossy buckthorn
- Japanese knotweed
- Purple loosestrife
- Reed canary grass
- Spotted knapweed
- Tatarian honeysuckle.

4.33.5 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. Designated high priority trout streams are identified in the Integrated Forest Monitoring Assessment and Prescription Geographic Decision Support Environment. Remove or discourage beaver populations on designated high priority trout streams.

High priority trout streams in this management area as shown in Figure 4.33.1.

4.33.6 Fire Management

This area is dominated by wetland communities. Fire return interval is uncertain, with significant fire growth possible where absence of canopy would see higher winds and grass fuels becoming flammable with low water levels during periods of drought.

- All wildfires are subject to appropriate initial attack suppression response.

4.33.7 Public Access and Recreation

This area is a popular waterfowl hunting and wildlife viewing area. The Baraga/Chassell snowmobile trail crosses the area from south to north as shown in Figure 4.33.1. There are several boating access sites on inland lakes. Access is across mostly small private ownerships.

- Work to establish legal access for management and public use.

4.33.8 Oil, Gas and Mineral Resources

Exploration and development for oil and gas has been limited to a few wells drilled in the eastern Upper Peninsula. No economic oil and gas production has been found in the Upper Peninsula.

Surface sediments consist of coarse-textured till, postglacial alluvium and peat and muck. The glacial drift thickness variesbetween 10 and 50 feet. Sand and gravel pits are not located in the management area and potential for additional pits is unlikely.

The Precambrian Jacobsville Sandstone subcrops below the glacial drift. The Jacobsville was used as a building stone in the past.

Metallic mineral exploration has not occurred in the general area of the management area in the past and potential appears to be limited.