4.21 MA 21 – Maxton Plains Management Area

Summary of Use and Management

Management in the Maxton Plains management area (MA) (Figure 4.21.1) will emphasize protecting and enhancing the unique habitats for rare communities, sensitive species and game and non-game wildlife. This management area contains several ecological reference areas, high conservation value areas and the Maxton Plains non-dedicated natural area (a special conservation area); these areas will be managed according to their specific plans. Timber harvesting is low priority in this management area. The DNR is working with Drummond Island stakeholders on a management planning process for the island. Recommendations have been formed based on stakeholder input and were presented to the Natural Resources Commission. The purpose of the process is to create a comprehensive plan for the island which will provide for the wise use and enjoyment of the island's wildlife, forests and related natural resources while preserving and protecting the values of the resources, including the island's rare and unique features.

Introduction

The Maxton Plains management area is located on Drummond Island in the far eastern part of the Upper Peninsula in Chippewa County. It has 4,363 acres of state-owned land. The primary attribute in distinguishing this management area from the rest of Drummond Island is the different management options due to the unique natural communities. Additional attributes which were important in identifying this management area include:

- The management area falls within the Niagaran Escarpment and Lake Plain subsection 8.1 of the eastern Upper Peninsula (Albert, 1995).
- The dominant landform is the Drummond Moraine and Drummond Outcrop. These landforms are characterized by thin to discontinuous glacial till over limestone bedrock. Part of the Niagaran Escarpment, underlying limestone bedrock is typically less than 50 feet below the surface. Limestone bedrock is exposed in many places and expressed in the natural communities of alvar and limestone bedrock pavement.
- This management area is characterized primarily by open grass and sedge communities, lowland conifers and aspen.
- Alvar is a globally rare vegetative community. An alvar or pavement barren is a biological environment based on a limestone plain with thin or no soil and sparse vegetation. Trees and bushes are absent or severely stunted.
- The rare plant communities of this area attract tourism to the island for bird watching and viewing rare plants.
- A large portion of the management area is within ecological reference areas and special conservation areas.
- There are two coastal environmental area high conservation value areas. The Lake Huron coastline is important because shallow near shore areas can provide important fish spawning and nursery habitat. This area also provides breeding areas for waterfowl and other riparian wildlife.

This management area consists of a fairly contiguous block of state forest land in the north part of Drummond Island. A large portion of this ownership was purchased using funding from the State Game Fund. The Maxton Plains management area is within the Sault Forest Management Unit. The predominant cover types, acreages and projected harvest acres for the management area are shown in Table 4.21.1.
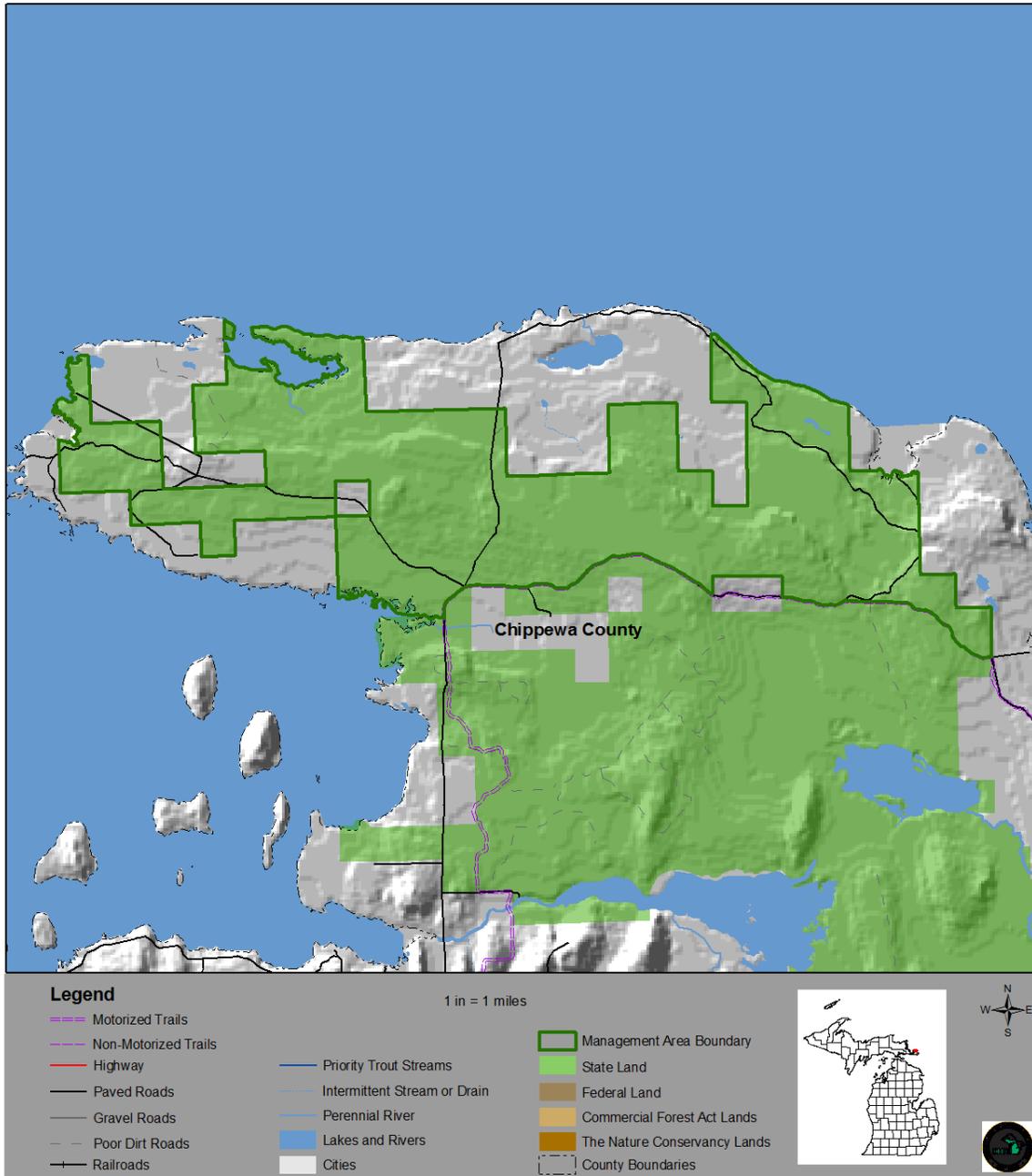
Maxton Plains

Figure 4.21.1. Location of Maxton Plains management area (dark green boundary) in relation to surrounding state forest lands, other ownerships and Lake Huron.

Table 4.21.1. Current cover types, acreages, projected harvest acres and projected ten-year cover type acreage for the Maxton Plains 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) Final Harvest	Partial Harvest	Projected Acreage in 10 Years	Desired Future Harvest (Acres) Final Harvest	Partial Harvest
Upland Mixed Forest	25%	1,079	0	1,079	0	0	1,079	120	539
Aspen	22%	962	819	143	0	0	962	24	0
Upland Open/Semi-Open Lands	17%	752	0	752	0	0	752	0	0
Upland Conifers	9%	396	0	396	0	0	396	44	198
Lowland Open/Semi-Open Lands	9%	375	0	375	0	0	375	0	0
Cedar	6%	261	10	251	0	0	261	16	0
Misc Other (Water, Local, Urban)	1%	52	0	52	0	0	52	0	0
Others	11%	486	338	148	0	0	486	19	15
Total	100%	4,363	1,167	3,196	0	0	4,363	223	752

Others include: lowland aspen/balsam poplar, lowland deciduous, lowland mixed forest, upland spruce/fir, red pine, lowland conifers, and natural mixed pines.

4.21.1 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 Objectives 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 will provide for a continuous flow of forest products and values.

Section 4.21.1.1 Forest Cover Type Management – Upland Mixed Forest

Current Condition

Upland mixed forest stands occur on 1,079 acres (25%) of the management area (Table 4.21.1). The upland mixed forest cover type contains a mixture of deciduous and coniferous trees with neither type being dominant. Upland mixed forest stands are distributed on dry-mesic to mesic-poor to medium-nutrient sites with Kotar habitat types of PArVAa and ATFD. There has not been any recent harvest work in this cover type and all of these stands have been classified as uneven-aged (Figure 4.21.2). Due to the alvar natural community and other special features balancing of age classes has not been a focus here. A regulated harvest using an 80-year rotation would allow approximately 120 acres of upland mixed forest to be harvested per decade (red line in Figure 4.21.2).

Currently there are not any acres of upland mixed forest with a final harvest prescribed. At this time there are no acres of upland mixed forest with site conditions limiting harvest. Inaccessible stands of upland mixed forest will gradually succeed to more shade tolerant species.

Desired Future Condition

- Upland mixed forest stands may be maintained on operable sites generally through even aged management providing for a regulated harvest, wildlife habitat and recreational opportunities.

10-Year Management Objectives

- Due to the alvar natural community and other special features, widespread harvest isn't anticipated; and
- The 10-year projected final harvest of upland mixed forest is zero acres.
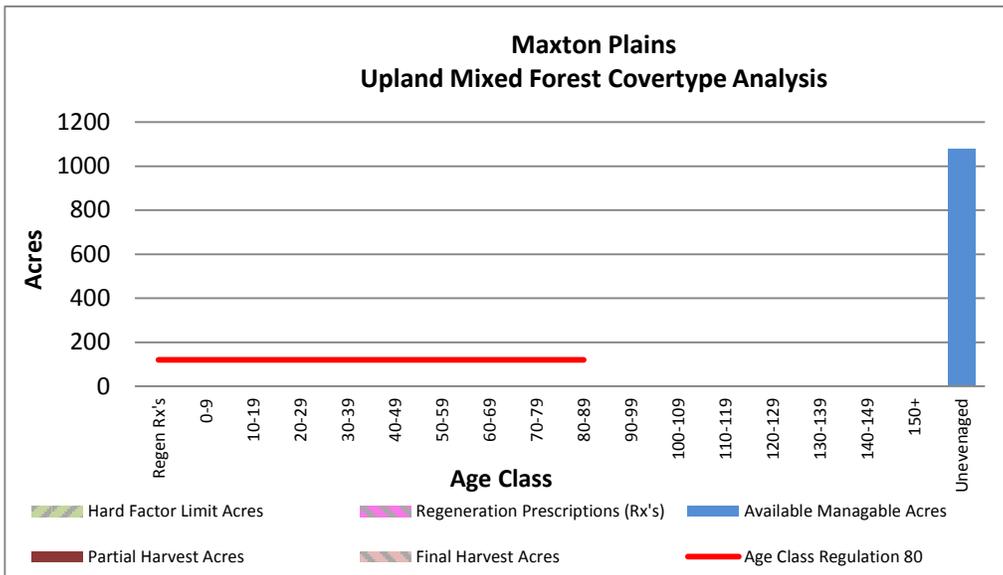
Figure 4.21.2. Age-class distribution of upland mixed forest in the Maxton Plains management area (2012 Department of Natural Resources inventory data).

Long-Term Management Objectives

- Monitor use and condition of the upland mixed forest stands during the 10-year forest inventory schedule.

Section 4.21.1.2 Forest Cover Type Management - Aspen

Current Condition

Aspen occurs on 962 acres (22%) of the management area (Table 4.21.1). Aspen is distributed throughout the management area on dry-poor nutrient to mesic-medium nutrient sites with Kotar habitat types of PArVAa, ATFD (see appendix E). Most of the aspen stands in this management area are very open "Serengeti Aspen." The majority of the aspen stands have been classified as uneven-aged, multi-structured stands of old aspen in association with multiple ages of conifers (Graph 4.21.2). Due to the alvar natural community and other special features, balancing of age classes has not been a focus here. A regulated harvest would allow approximately 24 acres to be final harvested per decade.

Currently there are no acres of aspen prescribed for harvest. The majority of the aspen stands (819 acres) have site conditions limiting their harvest at this time. These hard factor limited acres have been removed from the total number of manageable acres available for harvest calculations. Inaccessible stands of aspen will eventually succeed to late successional species.

Desired Future Condition

- Aspen may be maintained on operable sites through even-aged management providing for a regulated harvest, wildlife habitat and recreational opportunities.
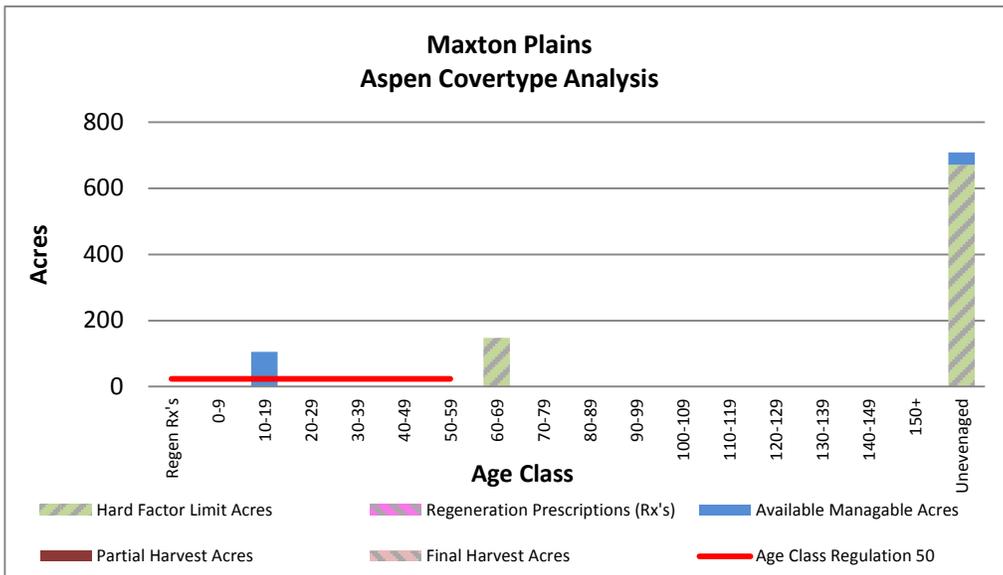
Figure 4.21.3. Age-class distribution of aspen in the Maxton Plains management area (2012 Department of Natural Resources inventory data).

10-Year Management Objectives

- Due to the alvar natural community and other special features, widespread harvest isn't anticipated; and
- The projected 10-year harvest of aspen is zero acres.

Long-Term Management Objectives

- Monitor use and condition of aspen stands during the ten-year forest inventory schedule.

Section 4.21.1.3 Forest Cover Type Management – Upland Open/Semi-Open Lands

Current Condition

Upland open/semi-open lands are found on 752 acres (17%) of this management area (Table 4.21.1). This category is a combination of the following non-forested land cover types: herbaceous openland (752 acres), bare/sparsely vegetated (zero acres), upland shrub (zero acres) and low-density trees (zero acres). These cover types are valued ecologically as sources of open land habitat for numerous species of wildlife. Many of these stands in this management area are alvar communities with an emphasis on a number of herbaceous species.

Desired Future Condition

- Maintain these cover types to provide wildlife and rare species habitat and low impact recreational opportunities; and
- Due to the fragile and unique nature of the alvar community disturbance to the soil layer should be avoided except for carefully controlled events with a specific ecological purpose.

Long-Term Management Objectives

- Improve the alvar communities by continuing to remove encroaching vegetation and invasive species.

Section 4.21.1.4 Forest Cover Type Management – Upland Conifers

Current Condition

Upland conifers occur on 396 acres (9%) of the management area (Table 4.21.1). The upland conifer cover type contains a mixture of trees, at least 60% of which are some type of coniferous trees, with no one type of conifer tree being dominant. As with most of the cover types in this unique management area, the majority of these conifer stands are classified as uneven-aged with multi-storied structure (Figure 4.21.4). Due to the alvar natural community and other

special features, balancing of age classes has not been a focus here. A regulated harvest would provide approximately 44 acres for final harvest every decade.

Currently there are no upland conifer acres prescribed for harvest. At this time there are no acres with site conditions limiting harvest. Upland conifer stands that are unavailable for harvest will be subject to natural processes, eventually succeeding to late successional species.
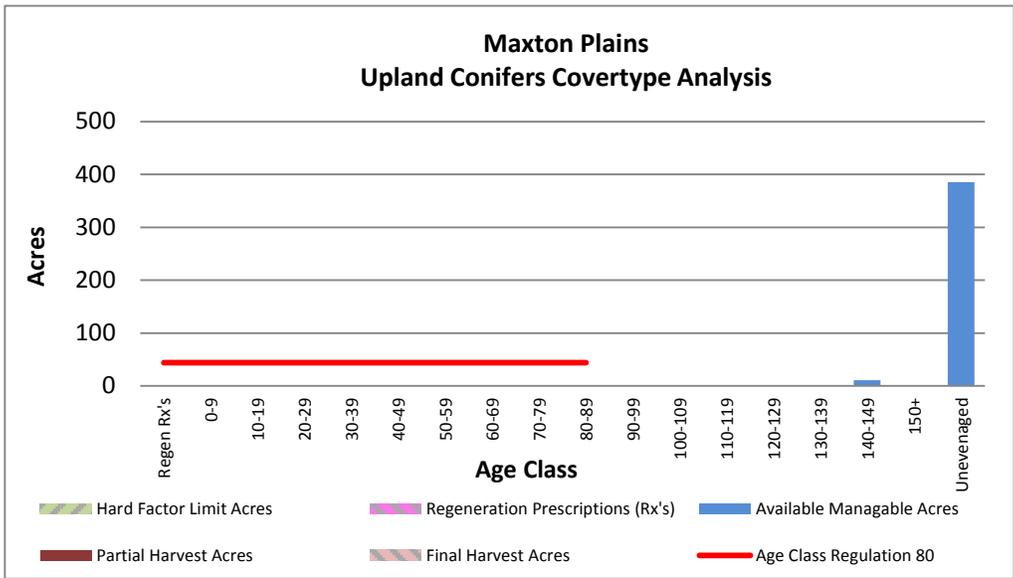

Figure 4.21.4. Age-class distribution of upland conifers in the Maxton Plains management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Upland conifers may be maintained on operable sites through even-aged management providing for a regulated harvest, wildlife habitat and recreational opportunities.

10-Year Management Objectives

- Due to the alvar natural community and other special features, widespread harvest isn't anticipated; and
- The projected 10-year final harvest of upland conifers is zero acres.

Long-Term Management Objectives

- Monitor use and condition of upland conifer stands during the 10-year forest inventory schedule.

Section 4.21.5 Forest Cover Type Management – Lowland Open/Semi-Open Lands

Current Condition

Lowland open/semi-open lands occur on 375 acres (9%) (Table 4.21.1). This category is a combination of lowland shrub (171 acres), treed bog (zero acres), bog (zero acres) and marsh (204 acres). These cover types function ecologically as sources of habitat for numerous species of wildlife. These stands are found in association with creeks, rivers and lowland forested stands. Some of these stands fall within the special conservation areas, ecological reference areas and high conservation value areas.

Desired Future Condition

- Lowland open/semi-open lands will be retained in their current state to ensure an adequate level of wildlife habitat and recreational opportunity while protecting the special conservation area, high conservation value area and ecological reference area values found in these cover types.

- Continue to maintain this habitat type for wildlife and other ecological concerns, primarily through passive management, allowing natural processes to occur.

Section 4.21.1.6 Forest Cover Type Management - Cedar

Current Condition

Cedar stands occur on 261 acres (6%) of the management area (Table 4.21.1). The alkaline conditions caused, in part, by the limestone bedrock create favorable conditions for cedar. Maintaining a closed canopy structure provides important cover for deer and reduces the snow depth within the stands. The majority of the cedar stands have been classified as uneven-aged (Figure 4.21.5). Some of the cedar stands in this management area have large over mature aspen overtopping the cedar. While balancing of age classes isn't a focus at this time, a regulated harvest would provide approximately 16 acres of cedar for final harvest every decade.

No cedar stands are prescribed for harvest in this planning period. At this time there are 10 acres of cedar with site conditions limiting their harvest. These hard factor limited acres have been removed from the total number of manageable acres available for harvest calculations.
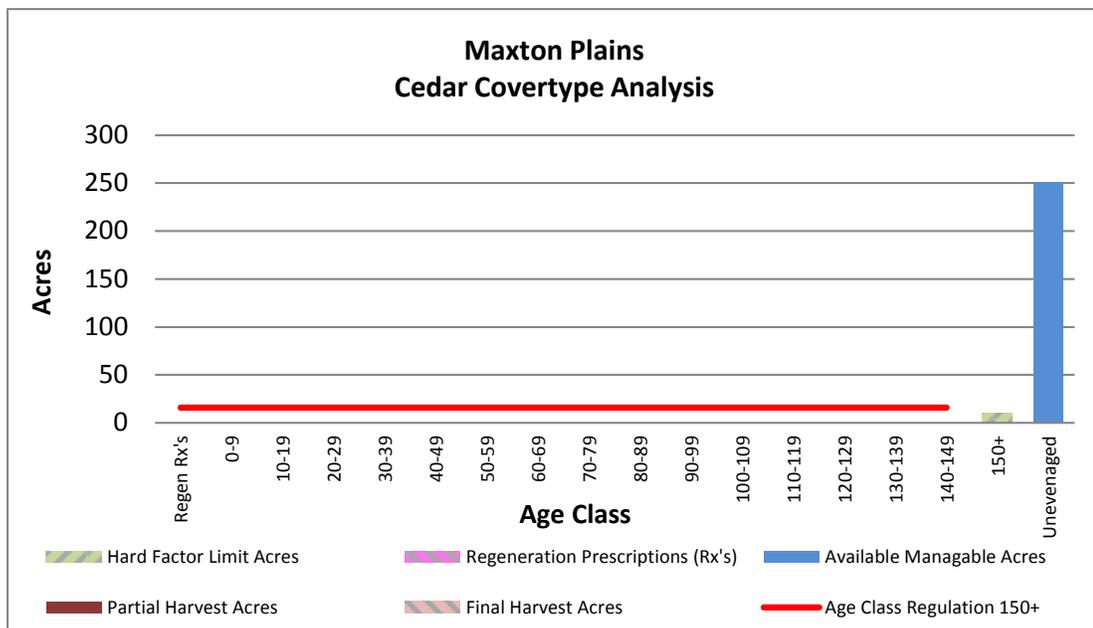
Figure 4.21.5. Age-class distribution of cedar in Maxton Plains management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- In areas where deer browse is a concern, these stands may not be actively harvested at this time.

10-Year Management Objectives

- Cedar stands will be managed to maintain their value as wildlife habitat in this management area; and
- Due to the alvar natural community and other special features, widespread harvest isn't anticipated.
- The 10-year projected harvest of cedar is zero acres.

Long-Term Management Objectives

- Cedar stands will be managed to maintain their value as wildlife habitat in this management area.

Section 4.21.1.7 Forest Cover Type Management – Other Types

Current Condition

Other types total 486 acres (11%) and are spread across the management area. They include: lowland aspen/balsam poplar (141 acres), lowland deciduous (114 acres), lowland mixed forest (109 acres), upland spruce/fir (49 acres), red pine (45 acres), lowland conifers (21 acres) and natural mixed pines (seven acres). In addition there are 52 acres (1%) of "miscellaneous other" stands, which includes water, sand/soil and roads.

Most of these cover types, with the exception of red pine and natural mixed pines, will be managed as even-aged stands using natural regeneration after harvest.

There are 339 acres these other minor cover types have site conditions limiting their harvest at this time. These hard factor limited acres have been removed from the total number of manageable acres available for harvest. Inaccessible stands will be subject to natural processes, and may succeed to late successional species, thus changing the cover type distribution in the management area.

Desired Future Condition

- These cover types may be managed on operable sites, contributing to the compositional diversity of the landscape while providing for continual harvest, wildlife habitat and recreation opportunity.

10-Year Management Objectives

- Due to the alvar natural community and other special features, widespread harvest isn't anticipated;
- The projected 10-year final harvest is zero acres of other types; and
- The projected 10-year partial harvest is zero acres of other types.

Long-Term Management Objectives

- Continue management of these other cover types to provide a sustainable yield of forest products and wildlife habitat.

4.21.2- Featured Wildlife Species

The Maxton Plains management area is dominated by alvar, a globally rare open-land community and many grassland birds, rare plants and other wildlife are found there.

Black Bear

The goal for black bear in the eastern Upper Peninsula is to maintain the population at the 2010 level or improve habitat. Management for the species should focus on improving existing habitat (minimizing fragmentation and maintaining hard and soft mast) to offset potential population declines due to changes in land-use.

Wildlife habitat specifications:

- Maintain or increase tree species that provide mast including beech, oak, black cherry and ironwood.
- Beech trees with bear claw scars on the bark are generally good mast producers and should be retained wherever possible.
- Retain some large diameter white pine and hemlock for bear refuge trees.
- 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 this resource.
- Discourage land transactions, use and management activities that facilitate fragmenting state lands within the management area.

Sharp-tailed Grouse

In the eastern Upper Peninsula, the goal for sharp-tailed grouse is to maintain or improve suitable habitat. Management should focus on enhancing large opening complexes so there is an increase of available habitat.

Wildlife habitat specifications:

- Maintain or expand herbaceous open-lands where existing leks occur.
- Manage adjacent forest to maintain young regenerating forest adjacent to permanent openings to maximize use by sharp-tailed grouse.
- Use prescribed fire where appropriate to maintain openings.
- Within open-land complexes maintain connectivity across the landscape.

Upland Sandpiper

The eastern Upper Peninsula goal is to provide suitable breeding habitat for upland sandpiper. Management should focus on the maintenance of permanent large opening complexes.

Wildlife habitat specifications:

- Maintain opening complexes of 250 acres or larger.
- Open blocks within complexes should be within one mile of each other.
- Where possible, strive to consolidate patches into larger opening complexes, by creating temporary openings associated with permanent openings.
- Work with adjacent landowners within the management area to maximize the amount and distribution of openland habitat.

4.21.3 – Rare Species and Special Resource Area Management

All forest operations must be reviewed for potential conflicts with rare species 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 twenty listed species as well as five natural communities of note occurring in the management area as listed in Table 4.21.2. 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 entire Maxton Plains management area is part of the Great Lakes islands special conservation area. The other special conservation area here is the Maxton Plains non-dedicated natural area (2,077 acres minus the acres in the Drummond Island management area portion). These special conservation areas are shown in Figure 4.21.6.

There are two coastal environmental area high conservation value areas shown in Figure 4.21.6.

Ecological reference areas include alvar (1,054 acres), Great Lakes marsh (48 acres), limestone bedrock glade (16 acres) and limestone bedrock lakeshore (63 acres). Ecological reference areas will be managed to enhance their natural vegetative and wildlife communities as directed by an ecological reference area-specific management plan.

Management goals during this planning period are:

- 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.

Table 4.21.2. Occurrence information for special concern, rare, threatened and endangered communities and species for the Maxton Plains 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								
Alvar		S1/G2?	Confirmed				Upland open/semi-open	N/A
Great Lakes marsh		S3/G2	Confirmed				Lowland open/semi-open	N/A
Limestone bedrock glade		S2/G2G4	Confirmed				Upland open/semi-open	N/A
Limestone bedrock lakeshore		S2/G3	Confirmed				Upland open/semi-open	N/A
Northern wet meadow		S4/G4	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
						Southern 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
Osprey	*Pandion haliaetus*	SC/G5/S2-3	Confirmed	PS	Low	Coastal fen	Lowland open/semi-open	N/A
						Northern hardwood swamp	Black Ash	Late
						Floodplain forest	Lowland Mixed	Mid
						Hardwood-conifer swamp	Lowland Mixed	Mid
Insect								
Leafhopper	*Flexamia delongi*	SC/GNR/S1S2	Confirmed	PS	Very High	Lakeplain wet prairie	Lowland open/semi-open	N/A
						Lakeplain wet-mesic prairie	Lowland open/semi-open	N/A
						Alvar	Upland open/semi-open	N/A
						Coastal fen	Lowland open/semi-open	N/A
						Dry sand prairie	Upland open/semi-open	N/A
						Limestone bedrock glade	Upland open/semi-open	N/A
						Limestone bedrock lakeshore	Upland open/semi-open	N/A
						Mesic prairie	Upland open/semi-open	N/A
						Pine barrens	Jack Pine	Early
Dragonfly								
Ebony boghaunter	*Williamsonia fletcheri*	SC/G4/S1S2	Confirmed	MV	Low	Inland lake	Lowland open/semi-open	N/A
						Bog	Lowland open/semi-open	N/A
						Northern fen	Lowland open/semi-open	N/A
						Patterned fen	Lowland open/semi-open	N/A
						Poor fen	Lowland open/semi-open	N/A
						Prairie fen	Lowland open/semi-open	N/A
						Muskeg	Lowland open/semi-open	N/A
						Hardwood-conifer swamp	Lowland Mixed	Mid
						Inundated shrub swamp	Lowland open/semi-open	N/A
						Coastal fen	Lowland open/semi-open	N/A
Snails								
Land snail	*Valloria gracilicosta albula*	E/G4Q/S1	Confirmed	HV	Moderate	Limestone cliff	Upland open/semi-open	N/A
						Mesic northern forest	Northern Hardwood	Late
Tapered vertigo	*Vertigo elatior*	SC/G5/S3	Confirmed	HV	Moderate	Northern fen	Lowland open/semi-open	N/A
						Limestone cobble shore	Upland open/semi-open	N/A
						Limestone bedrock glade	Upland open/semi-open	N/A
						Limestone bedrock lakeshore	Upland open/semi-open	N/A
						Rich conifer swamp	Tamarack	Late
						Prairie fen	Lowland open/semi-open	N/A
						Coastal fen	Lowland open/semi-open	N/A
Deep-throat vertigo	*Vertigo nylanderi*	E/G3G4/S3	Confirmed	EV	Moderate	Northern fen	Lowland open/semi-open	N/A
						Limestone bedrock glade	Upland open/semi-open	N/A
						Limestone bedrock lakeshore	Upland open/semi-open	N/A
Plants								
Cooper's milk vetch	*Astragalus neglectus*	SC/G4/S3	Confirmed			Alvar	Upland open/semi-open	N/A
						Boreal forest	Upland & Lowland Sp/F	Mid
						Hillside prairie	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 cobble shore	Upland open/semi-open	N/A
						Mesic sand prairie	Upland open/semi-open	N/A
						Oak-pine barrens	Oak	Mid
Calypso or fairy-slipper	*Calypso bulbosa*	T/G5/S2	Confirmed			Rich conifer swamp	Tamarack	Late
						Boreal forest	Upland & Lowland Sp/F	Mid
						Limestone bedrock glade	Upland open/semi-open	N/A
						Volcanic bedrock lakeshore	Upland open/semi-open	N/A
						Wooded dune & swale complex	Upland open/semi-open	N/A
						Dry northern forest	Jack Pine, Red Pine	Late
						Dry-mesic northern forest	White Pine	Late
						Great Lakes barrens	Upland open/semi-open	N/A
						Volcanic bedrock glade	Upland open/semi-open	N/A
Richardson's sedge	*Carex richardsonii*	SC/G4/S3S4	Confirmed			Alvar	Upland open/semi-open	N/A
						Northern fen	Lowland open/semi-open	N/A
						Boreal forest	Upland & Lowland Sp/F	Mid
						Dry-mesic prairie	Upland open/semi-open	N/A
						Dry-mesic northern forest	White Pine	Late
						Hillside prairie	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 cobble shore	Upland open/semi-open	N/A
						Volcanic cliff	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.

Table 4.21.2. Occurrence information for special concern, rare, threatened and endangered communities and species for the Maxton Plains management area (Continued).

Common Name	Scientific Name	Status	Status in Management Area	Climate Change Vulnerability Index (CCVI)	Confidence	Natural Community Association	Probable Cover Types	Successional Stage
Plants (Cont'd)								
Bulrush sedge	*Carex scirpoidea*	T/G5/S2	Confirmed			Alvar	Upland open/semi-open	N/A
						Northern fen	Lowland open/semi-open	N/A
						Coastal fen	Lowland open/semi-open	N/A
						Limestone bedrock lakeshore	Upland open/semi-open	N/A
						Limestone bedrock glade	Upland open/semi-open	N/A
						Boreal forest	Upland & Lowland Sp/F	Mid
						Limestone cobble shore	Upland open/semi-open	N/A
						Volcanic bedrock lakeshore	Upland open/semi-open	N/A
Shortstalk chickweed	*Cerastium brachypodum*	T/G5/S2	Confirmed			Alvar	Upland open/semi-open	N/A
						Limestone bedrock glade	Upland open/semi-open	N/A
						Volcanic bedrock glade	Upland open/semi-open	N/A
						Sandstone bedrock lakeshore	Upland open/semi-open	N/A
Hill's thistle	*Cirsium hillii*	SC/G3/S3	Confirmed			Alvar	Upland open/semi-open	N/A
						Oak-pine barrens	Oak	Mid
						Pine barrens	Jack Pine	Early
						Boreal forest	Upland open/semi-open	N/A
						Dry northern forest	Upland open/semi-open	N/A
						Dry sand prairie	Upland open/semi-open	N/A
						Dry-mesic northern forest	Upland open/semi-open	N/A
						Dry-mesic prairie	Upland open/semi-open	N/A
						Limestone bedrock glade	Upland open/semi-open	N/A
						Mesic prairie	Upland open/semi-open	N/A
						Mesic sand prairie	Upland open/semi-open	N/A
						Open dunes	Upland open/semi-open	N/A
Flattened spike rush	*Eleocharis compressa*	T/G4/S2	Confirmed			Coastal plain marsh	Lowland open/semi-open	N/A
						Lakeplain wet prairie	Lowland open/semi-open	N/A
Prairie smoke	*Geum triflorum*	T/G5/S2S3	Confirmed			Dry sand prairie	Upland open/semi-open	N/A
						Alvar	Upland open/semi-open	N/A
						Oak-pine barrens	Oak	Mid
Alaska orchid	*Piperia unalascensis*	SC/G5/S2S3	Confirmed			Boreal forest	Upland & Lowland Sp/F	Mid
						Limestone bedrock glade	Upland open/semi-open	N/A
						Limestone bedrock lakeshore	Upland open/semi-open	N/A
Small skullcap	*Scutellaria parvula*	T/G4/S2	Confirmed			Limestone cobble shore	Upland open/semi-open	N/A
						Alvar	Upland open/semi-open	N/A
						Hillside prairie	Upland open/semi-open	N/A
						Limestone bedrock glade	Upland open/semi-open	N/A
Prairie dropseed	*Sporobolus heterolepis*	SC/G5/S3	Confirmed			Alvar	Upland open/semi-open	N/A
						Prairie fen	Lowland open/semi-open	N/A
						Mesic sand prairie	Upland open/semi-open	N/A
						Wet-mesic sand prairie	Lowland open/semi-open	N/A
False pennyroyal	*Trichostema brachiatum*	T/G5/S1	Confirmed			Dry sand prairie	Upland open/semi-open	N/A
						Alvar	Upland open/semi-open	N/A
Downy oat-grass	*Trisetum spicatum*	SC/G5/S2S3	Confirmed			Alvar	Upland open/semi-open	N/A
						Volcanic bedrock lakeshore	Upland open/semi-open	N/A
						Volcanic cobble shore	Upland open/semi-open	N/A
						Volcanic lakeshore cliff	Upland open/semi-open	N/A
						Sandstone lakeshore cliff	Upland open/semi-open	N/A
						Granite bedrock lakeshore	Upland open/semi-open	N/A
						Granite 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.
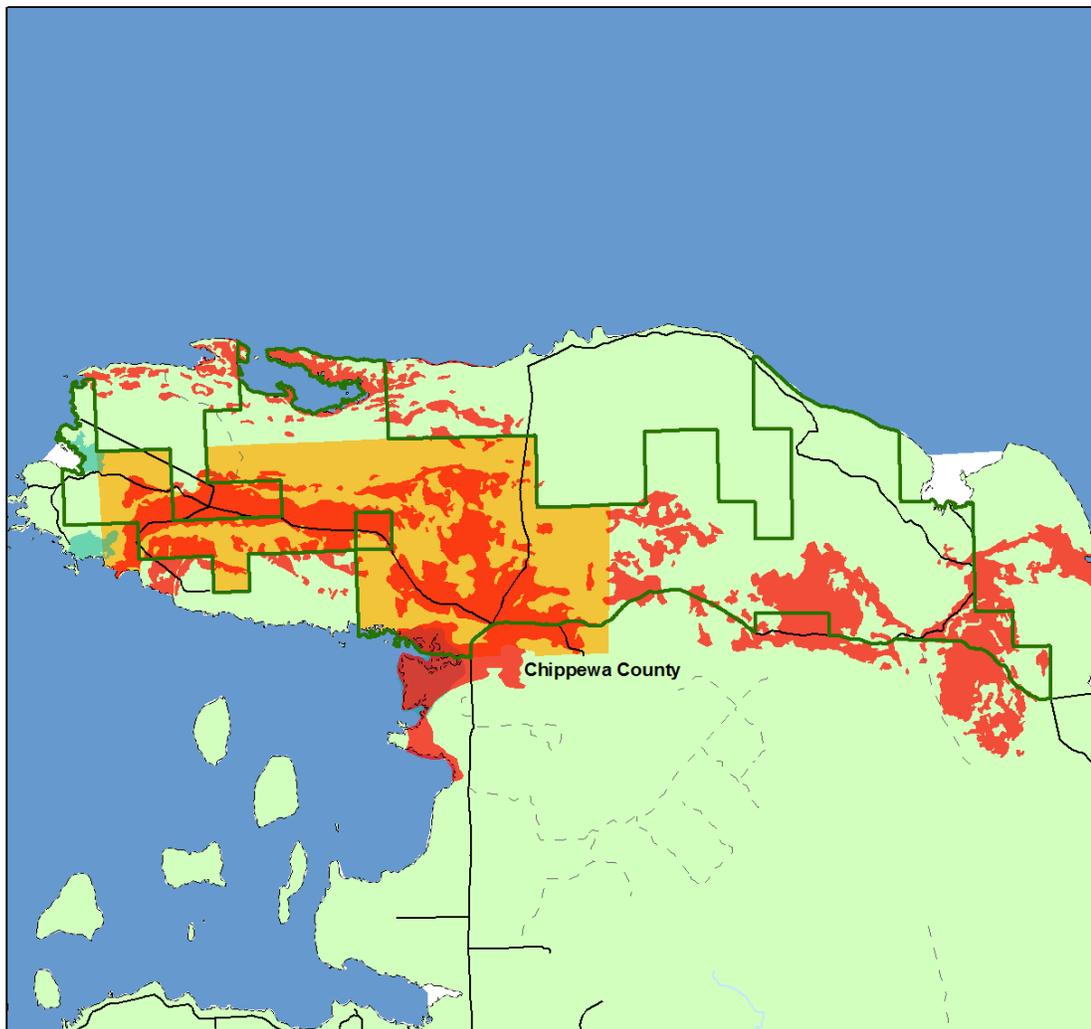
Maxton Plains

Figure 4.21.6. A map of the Maxton Plains management area showing the special resource areas.

4.21.4 – 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:

- Upland mixed: beech bark disease;
- Lowland deciduous: emerald ash borer;
- Aspen: white trunk rot, *Hypoxylo*n canker; and
- Lowland conifers: spruce budworm, eastern larch beetle and larch casebearer.

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.

In 2010 the department procured grant funding from the Great Lakes Restoration Initiative to contract a field survey for rare and invasive plants on the Maxton Plains Alvar ecological reference area. Twenty one invasive species, among them leafy spurge (*Euphorbia esula*), birds-foot trefoil (*Lotus corniculata*), common St. John's wort (*Hypericum perforatum*), a variety of clovers (*Trifolium spp.*) and cool season grasses were found as well as twelve rare plants. Under this grant, control efforts for the invasive plants occurred in 2011. Continued monitoring and control of the site is a priority as funding allows.

4.21.5 – Fire Management

The shallow soils in this management area likely produced frequent fires, so that this management area is dominated by fire-adapted communities. Significant areas of alvar are present in this management area.

- Prescribed fire is frequently used in this management area to maintain the open character of these natural communities.
- Many of the natural communities in this management area are very sensitive, due to the shallow soils. Alternative suppression tactics which avoid the use of heavy equipment may be necessary in some portions of this management area.
- High recreation use in this management area provides opportunities for targeted fire prevention messages.

4.21.6 – Public Access and Recreation

There are only a few county access roads and very few two-track roads within the management area. Access is limited to established roads in order to protect the alvar community.

Due to the natural species and community management, recreational facilities have intentionally been limited in this area.

Recreational opportunities include: hunting, fishing, bird watching, plant study, coastal paddling and motor boating.

4.21.7 – 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 identified in this management area.

4.21.8 - Minerals

Surface sediments consist of primarily thin to discontinuous sediments over bedrock. There is less than 50 feet of glacial drift in this area of the island. Sand and gravel pits are located on the island, including one state lease, but this area appears to have limited potential for additional pits.

The Ordovician Queenston Shale subcrops below the glacial drift. The Queenston does not have a current economic use.

Exploration and development for oil and gas has been limited to a few wells drilled in the Upper Peninsula (14 in Chippewa County and several on the island). 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.