

4.10 Covington/Ned Lake Management Area

Summary of Use and Management

Vegetative management in the Covington/Ned Lake management area (MA) (Figure 4.10.1) 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 improving the age-class distribution of lowland spruce/fir, lowland conifer, and aspen; maintaining the conifer component in northern hardwood stands; maintaining the presence of minor cover types on the landscape; and maintaining non-forest vegetation types. Wildlife management objectives include providing spatial arrangement of lowlands and uplands and the provision of summer and winter thermal cover near aquatic feeding sites or moose. Management activities may be constrained by site conditions and the skewed age-class distributions. Balancing age classes and regeneration of lowland species will be issues for this 10-year planning period.

Introduction

The Covington/Ned Lake management area is mostly on a Ground Moraines in Southern Baraga County. The state forest covers 29,310 acres in somewhat scattered parcels. The major ownerships in this vicinity are forest industry and non-industrial private. The management area is dominated by northern hardwood, lowland spruce/fir and lowland conifer cover types. Other attributes that played a role in the definition of this management area include:

- Dominated by two natural communities: mesic northern forest and poor conifer swamp;
- Mid-range in site quality;
- Provides multiple benefits including forest products and dispersed recreational activities;
- Provides a variety of fish and wildlife habitats; and
- Center of the western Upper Peninsula moose range.

The management priority in this area is to continue to provide these multiple benefits while minimizing user conflicts. Management for moose has been identified as a priority in this area.

The predominant cover types, composition and projected harvest areas for the Covington/Ned Lake management area are shown in Table 4.10.1.

Table 4.10.1. Summary of cover types, composition, limited factor area, manageable area and projected harvest area for the Covington-Ned Lake 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
Northern Hardwood	24%	6,904	808	6,096	0	2,653	6,904	0	2,974
Lowland Spruce/Fir	13%	3,734	1,830	1,904	621	0	3,734	212	0
Lowland Conifers	10%	3,005	1,913	1,092	223	0	3,005	122	0
Aspen	10%	2,852	96	2,756	229	0	2,852	459	0
Upland Open/Semi-Open Lands	3%	742	0	742	0	0	742	0	0
Lowland Open/Semi-Open	16%	4,674	0	4,674	0	0	4,674	0	0
Misc Other (Water, Local, Urban)	2%	725	0	725	0	0	725	0	0
Others	23%	6,674	1,427	5,247	690	431	6,674	608	461
Total		29,310	6,074	23,236	1,763	3,084	29,310	1,401	3,435

Covington-Ned Lake

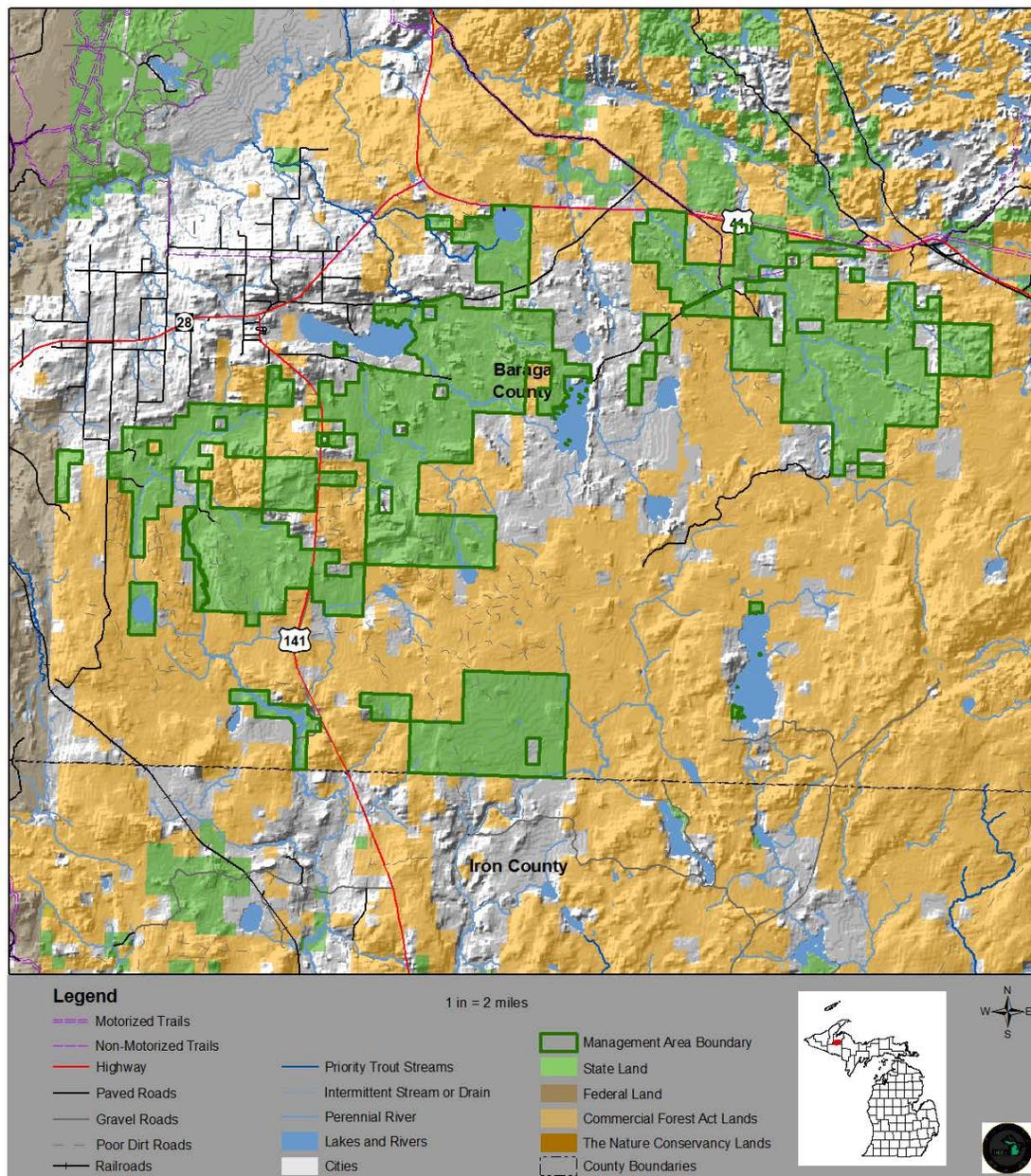


Figure 4.10.1. A map of the Covington/Ned Lake management area (dark green boundary) in relation to surrounding state forest and other lands in Baraga County, Michigan.

4.10.1 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 Covington/Ned Lake 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.

Northern Hardwood Cover Type

Current Condition

Northern hardwood stands make up 6,904 acres (24%) of state forest land in this management area (Table 4.10.1). They occur on fair-quality sugar maple sites mixed with wetland sites. Most stands have been managed using the selection harvest system. 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 4.10.2 shows the current basal area distribution for the management area. There are 808 acres of northern hardwood that 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.

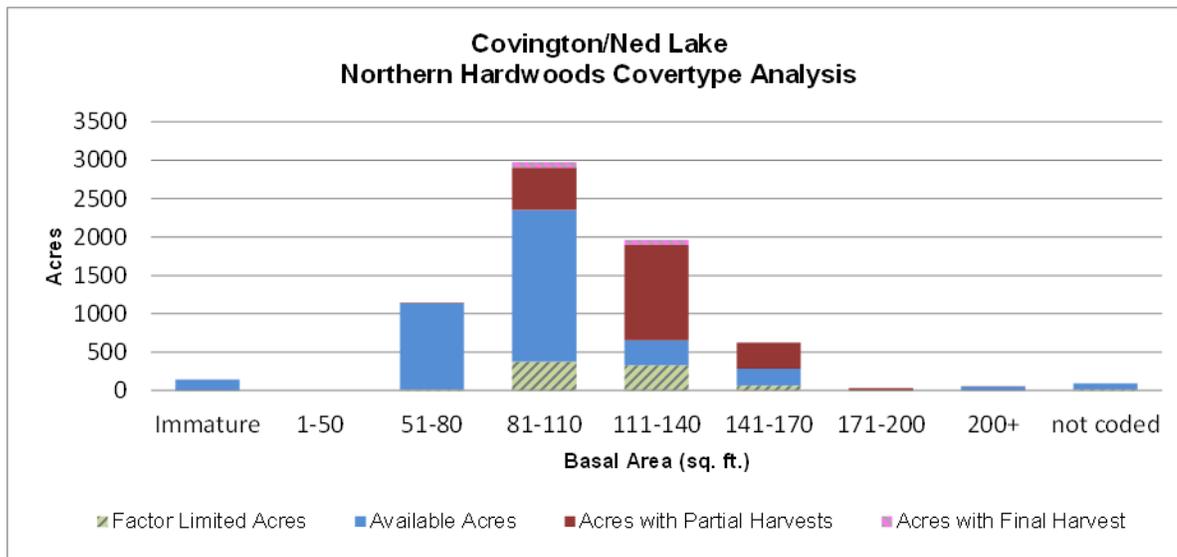


Figure 4.10.2. Graph of the basal area distribution for the northern hardwood cover type on the Covington/Ned Lake management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

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

Long-Term Management Objectives

- Using an uneven-aged system, selectively harvest northern hardwood stands on a 20-year cycle; and
- Maintain and encourage minor species to increase in-stand diversity.

10-Year Management Objectives

- Approximately 2,653 acres will be select cut in the next decade;
- Maintain and regenerate white pine, oak, hemlock and upland cedar where they occur in stands that are harvested, favor oak where found; and
- Work to regenerate hemlock components in stands lacking that species.

Lowland Spruce-Fir Cover Type

Current Condition

Currently there are 3,734 acres (13%) of the lowland spruce-fir cover type in the management area (Table 4.10.1). Lowland spruce-fir is often found in association with lowland conifer, cedar and tamarack types. While there are several age classes of lowland spruce-fir in this management area, they are not well-balanced, and there has been little recent harvesting (Figure 4.10.3). Much of the lowland spruce-fir in this area is over 80 years in age. Some of the stands have been coded as uneven-aged, having trees of all sizes and ages. There are 1,830 acres of lowland spruce-fir with factors limiting their harvest. These hard factor limited acres have been removed from the total number of manageable acres available for harvest calculations.

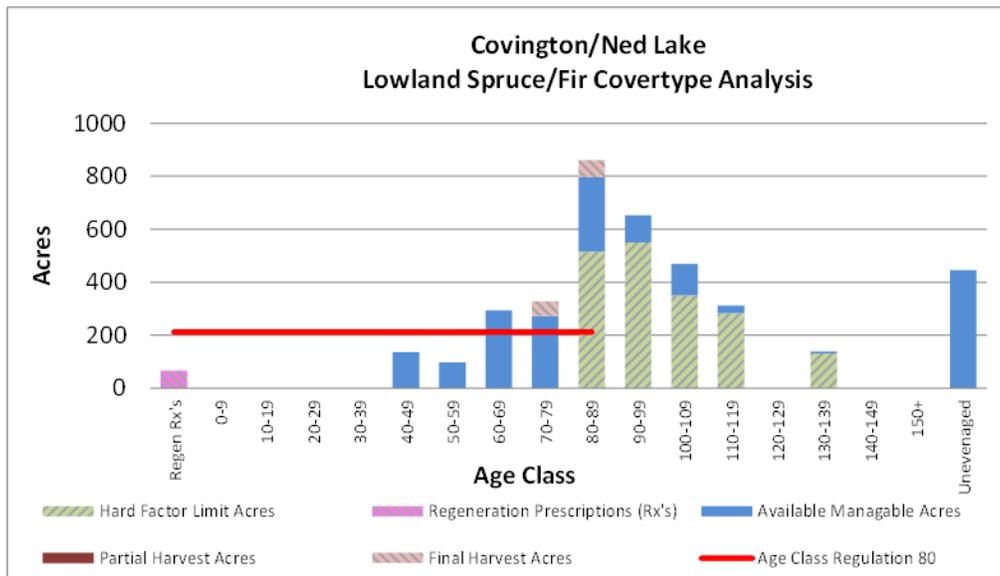


Figure 4.10.3. Graph of the age-class structure for the lowland spruce-fir cover type on the Covington/Ned Lake management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

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

Long-Term Management Objective

- Regenerate lowland spruce-fir cover types on an 80-year rotation allowing 212 acres to be harvested per decade.

10-Year Management Objectives

- Harvest 212 acres in this planning period;
- Use appropriate silvicultural techniques to assure adequate regeneration;
- Monitor harvested sites; and
- More aggressive harvesting in this type may be needed in this 10-year planning period to reduce mortality losses in the older stands.

Lowland Conifers Cover Type

Current Condition

Lowland conifers occur on 3,005 acres (10%) of the management area (Table 4.10.1). This cover type is found on poorly drained sites supporting mixed stands of cedar, black spruce, tamarack, balsam fir, white birch and balsam poplar. There are 1,913 acres of lowland conifers that have factor limits due to wet conditions or for riparian corridors. These hard factor limited acres have been removed from the total number of manageable acres available for harvest calculations. Due to the wet site conditions, they are more susceptible to rutting damage from logging equipment and present difficult

operating conditions for harvesting. Mixed lowland conifers are poorly distributed across the age-class distribution. The majority of the stands are over rotation age (Figure 4.10.4). Until recently, little harvesting has been done in this cover type.

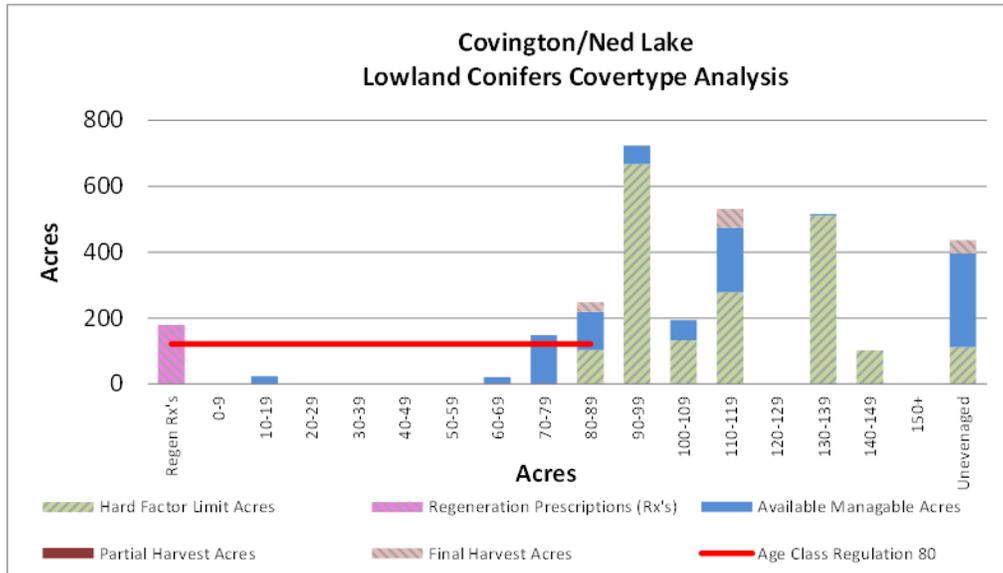


Figure 4.10.4. Graph of the age-class structure of the lowland conifer cover type on the Covington/Ned Lake management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Closed canopy stands interspersed with patches of all age classes;
- Maintain the closed canopy structure to provide important winter deer habitat; and
- Plan to harvest the oldest available stands to regenerate them before widespread mortality occurs.

Long-Term Management Objectives

- Manage stands on an 80-year rotation allowing for 122 acres to be harvested per decade;
- Regenerate stands to species mixes similar to the pre-harvest conditions preferring cedar, hemlock, black spruce and balsam fir;
- Harvesting will be done using small clearcuts or strips with clumped retention; and
- Lowland conifer stands with harvest limitations will be subject to natural processes, resulting in a range of successional stages.

10-Year Management Objectives

- Harvest 223 acres in this planning period focusing on the use of “low impact” harvesting systems and successful, reliable regeneration techniques; and
- Regenerate stands to species mixes similar to the pre-harvest conditions preferring cedar, hemlock, black spruce and balsam fir; and Monitor harvested sites to assure adequate regeneration of desired species.

Aspen Cover Type

Current Condition

The aspen cover type covers 2,852 acres (10%) of state forest land in this management area (Table 4.10.1). Aspen is poorly distributed across age classes with the majority of the stands in the 0-29 year age classes (Figure 4.10.5). There are 96 acres of aspen that have harvest limitations at this time. These hard factor limited acres have been removed from the total number of manageable acres available for harvest calculations.

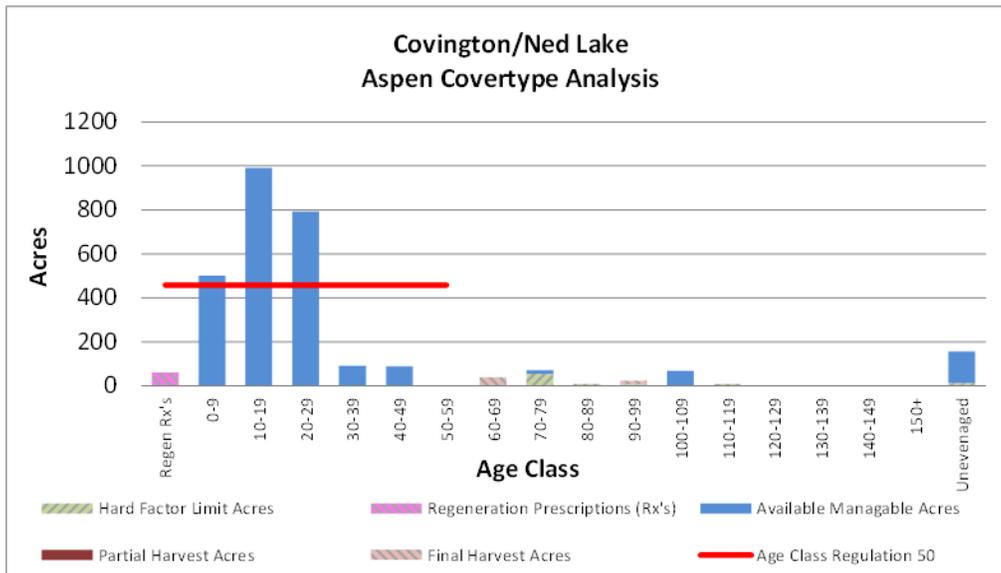


Figure 4.10.5. Graph of the age-class structure for the aspen cover type on the Covington/Ned Lake management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Balanced acres in each age class up to 50 years;
- Provide an even supply of forest products;
- Provide a balanced mix of habitat conditions for a variety of wildlife; and
- Provide a variety of hunting-type opportunities.

Long-Term Management Objectives

- Harvest and regenerate aspen stands using a 50-year rotation length; and
- Regenerate approximately 459 acres each decade.

10-Year Management Objectives

- Regenerate 229 acres this decade;
- Harvest stands of 70 to 90 year old aspen that are in decline;
- Two-aged stands with mature aspen over younger stands should be identified and scheduled for harvest; and
- Over this 10-year planning period, few acres will be available for harvest.

Other Forested Cover Types

Current Condition

Other forested types make up 6,674 acres and are made up of mixed upland deciduous (1,291 acres), upland mixed forest (1,164 acres), cedar (798 acres), upland spruce/fir (635 acres), paper birch (568 acres), tamarack (499 acres), lowland deciduous (483 acres), upland conifers (414 acres), lowland mixed forest (359 acres), white pine (206 acres), lowland poplar (173 acres), red pine (41 acres), natural mixed pines (23 acres) and hemlock (20 acres). Together these types make up about 23% of the management area (Table 4.10.1).

Desired Future Condition

- Maintain similar proportions of minor cover types within the management area.

Long-Term Management Objectives

- Manage minor cover types to maintain representation using appropriate silvicultural methods;
- Harvest as opportunities arise in conjunction with other management activities; and
- Most of the minor cover types in this management area are typically managed with even-age systems, and if opportunities arise, these stands will be harvested and managed at an appropriate rotation.

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
- The projected harvest in these types is 690 acres of final harvest and 431 acres of partial harvest for this planning period.

Other Non-forested Cover Types

Current Condition

Non-forested cover types found on this management area include: upland open/semi-open lands (742 acres – 3%), lowland open/semi-open lands (4,674 acres – 16%) and other (water, local, urban) (725 acres – 2%) (Table 4.10.1).

Desired Future Condition

- These areas will be maintained in the current condition.

Long-Term Management Objective

- Permanent grass openings will be maintained with frequent low-intensity fires and mechanical treatments allowing native grasses and forbs to dominate.

10-Year Management Objective

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

4.10.2 – Featured Wildlife Species Management

The Covington/Ned Lake management area receives significant snowfall each year and does not offer wintering habitat for deer. As a result, many tree species that do not reliably recruit across all management areas in the ecoregion are found in numerous age classes across this management area. This management area is the heart of the western Upper Peninsula moose country due the spatial arrangement of lowlands and uplands and the provision of summer and winter thermal cover near aquatic feeding sites. The primary focus of wildlife habitat management in the management area will be to address the habitat requirements identified for the following featured species: American marten, black bear, gray jay, moose and northern goshawk. Some of the most significant wildlife management issues in the management area are mast (hard and soft); habitat fragmentation; coarse woody debris; large living and dead standing trees (for cavities); mesic conifer; mature forest; within stand diversity; and early successional forest (hardwood browse adjacent to closed canopy lowland conifer swamps). During this 10-year planning period, additional analyses to better define the spatial extent of priority areas (e.g., large suitable patches of contiguous habitat and dispersal corridors for marten) for featured species will be performed.

American Marten

The western Upper Peninsula goal for marten during this planning period is to maintain or increase suitable habitat and strive to identify, maintain and connect known populations to facilitate genetic exchange. Marten require large tracts of unfragmented forest with corridors between such tracts to maintain genetic/population vigor the conversion of forest to non-forest land-uses or removal of forest cover is not desirable in the management area. Management during this planning period should focus on providing mature conifer forest conditions (e.g., coarse woody debris and large living cavity trees) across cover types in marten habitat.

Wildlife habitat specifications:

- Maintain a minimum of 30% canopy cover in key even-aged managed stands of northern hardwood and conifer stands as marten tend to avoid stands with less canopy cover. As marten tend to avoid stands with less canopy cover. Retain patches of retention to minimize potential blow down.
- Discourage land transactions and management activities that facilitate further fragmenting of marten habitat within the management area by identifying and maintaining corridors between large forested tracts (e.g., Huron Mountains, Craig Lake State Park, McCormick Wilderness, portions of The Nature Conservancy's Northern Great Lakes Forest Project and several smaller natural areas) west to Ottawa National Forest and south Chequamegon-Nicolet National Forest (WI) and Whisker Lake Wilderness.
- Provide late successional conifer-dominated stands in this management area.

- Provide for late successional mesic conifer-dominated stands by extending the normal rotation length for white spruce and balsam fir cover types by 20 years in the upland areas of this management area. Hemlock should not be harvested within the deer wintering complex within this planning period.
- Retain down coarse woody debris present before cutting and that resulting from incidental breakage of tops and limbs in the general harvest area, except on skid trails and landings, to the extent feasible. Where coarse woody debris is lacking, increase both standing dead and down dead wood by leaving at least three secure large diameter (>14 inches in diameter at breast height) live trees to serve as future den trees, snags, coarse woody debris and logs on the ground per acre harvested.
- Limit biomass harvesting, whole tree chipping and limit firewood permits and retain the maximum residues in the Woody Biomass Harvesting Guidelines within this management area.
- Increase the within-stand component of mesic conifers in forested stands and manage to increase mesic conifer forest types by group or gap selective harvest. Consider under planting on suitable sites where a seed source is absent.

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).

Gray Jay

The goal for gray jay in the western Upper Peninsula is to maintain or increase suitable habitat. State forest management for gray jay should focus on maintaining boreal forest cover types in a variety of age classes and ensure that older age classes of boreal forest are maintained. Important considerations in timber harvests are retention of scattered individual spruce and fir trees for food caching within sale boundaries and maintaining spruce and fir buffers along bog edges.

Wildlife habitat specifications:

- Maintain appropriate forest types (birch, lowland deciduous, fir, lowland conifer, lowland spruce/fir, tamarack and bogs) in the management area in a variety of age classes. Fifteen percent of the total acres in the relevant cover types (as stated above) within the management area should be maintained in older age classes (those at least 20 years beyond "normal" rotation length for the cover type). In this management area, older age classes (greater than 100 years) for gray jay habitat are being met by the large number of stands with site conditions that limit harvesting.
- Retain patches within timber harvest sale boundaries; patches are preferred over single trees within timber harvest sale boundaries though it is beneficial to have both.
- Offset salvage harvests deemed necessary due to insect, disease or fire within the same cover type and age class (within the compartment, management area or western Upper Peninsula ecoregion) to minimize impacts on gray jay habitat. Total allowable harvest in these situations will be evaluated on a case-by-case basis.

Moose

The western Upper Peninsula goal for moose is to maintain or increase suitable habitat. Management for moose should focus on providing early successional browse adjacent to lowland conifer complexes, maintenance of hemlock within stands and maintaining or promoting willow, a valuable food source, along riparian and wetland edges.

Wildlife habitat specifications:

- Encourage early successional hardwood browse (in the 0-20 year age classes) in close proximity to closed canopy lowland conifer swamps.

- Balance aspen age-class distribution to ensure a more sustainable supply of browse.
- Maintain or promote thermal refugia in harvested stands by retaining hemlock and other conifers.
- Increase mesic conifer (e.g., hemlock, white pine, non-plantation red pine and upland spruce-fir) component on state forests by: a) Retaining mesic conifer during harvests; b) Using silvicultural practices that encourage the regeneration of mesic conifer; and c) Where desired/feasible, under planting hemlock, white pine and white spruce in hardwood-dominated stands on suitable sites without a seed source. Increase the percentage of mesic conifers, where suitable, across the landscape by 10% during this planning cycle.
- Willow is an important browse species, as are submergent and emergent aquatic vegetation associated with summer feeding areas. Ensure sustainable supplies of each.

Northern Goshawk

The goal for northern goshawk is to maintain suitable habitat. Management at the stand scale should focus on the protection of nest trees, provision of coarse woody debris, on addressing fragmentation. Landscape scale management should provide mature and old aspen stands in the 60-69 year-old age class.

Wildlife habitat specifications:

- Maintain a minimum of 15% of the state forest aspen resource above age of 60 in this management area (this can be accomplished using factor limited stands, special conservation areas, etc...). All known woodland raptor nests should be reported to local wildlife staff and documented in the Integrated Forest Monitoring Assessment and Prescription comments. If the species is known the common name should be included in those comments. The wildlife habitat specifications contained within Michigan DNR’s *Interim Management Guidance for Red-Shouldered Hawks and Northern Goshawk on State Forest Lands* (August 2012) will be followed until the workgroup has completed the guidance that will permanently replace the interim guidelines.

4.10.3 – 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 five listed species and no natural communities of note occurring in the management area as listed in Table 4.10.2. 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 4.10.2. Occurrence information for special concern, rare, threatened and endangered communities and species for the Covington-Ned Lake 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
Birds								
Common loon	<i>Gavia immer</i>	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	<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	Early
						Dry-mesic northern forest	White Pine	Late
						Mesic northern Forest	Northern Hardwood	Late
Osprey	<i>Pandion haliaetus</i>	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
Butterflies								
Freija fritillary	<i>Boloria freija</i>	SC/G5/S3S4	Confirmed	HV	Low	Bog	Lowland open/semi-open	N/A
						Patterned fen	Lowland open/semi-open	N/A
Red-disked alpine	<i>Erbia discoidalis</i>	SC/G5/S2S3	Confirmed	MV	Low	Bog	Lowland open/semi-open	N/A
						Northern wet meadow	Lowland open/semi-open	N/A
						Pine barrens	Jack Pine	Early
						Muskeg	Lowland open/semi-open	N/A
						Patterned fen	Lowland open/semi-open	N/A
						Poor fen	Lowland 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.

Approximately 271.2 acres of potential old growth have been identified within the Covington-Ned Lake management area (Figure 4.10.6). These stands were identified for a broad range of reasons and were coded in the Operations Inventory database as Stand Condition 8. These stands are also special conservation areas until they are evaluated.

There are no high conservation value areas or ecological reference areas identified in this management area as illustrated in Figure 4.10.6.

Management goals during this planning period:

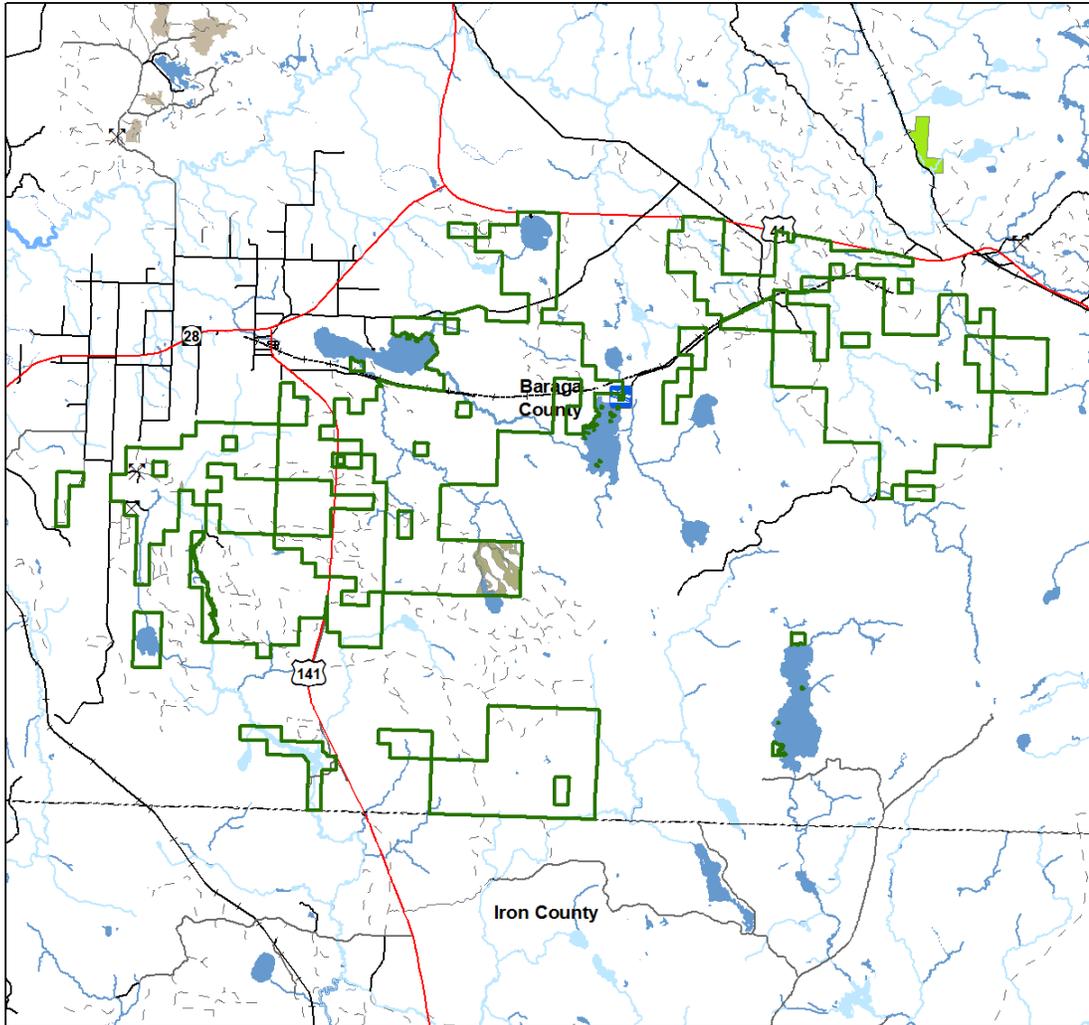
Goal 1: To develop and maintain a list of rare, threatened, endangered and special concern species and natural communities for the management area through a continuous inventory and through opportunistic focused inventory surveys.

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 evaluate the potential old growth areas by the end of this 10-year planning period.

Covington-Ned Lake



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**
- 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

- 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

1 in = 2 miles

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

Figure 4.10.6. A map of the Covington-Ned Lake management area showing the special resource areas.

4.10.4 – 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 and emerald ash borer.

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.

- Bell's honeysuckle
- Common Buckthorn
- Common St. John's-wort
- European swamp thistle
- Morrow's honeysuckle
- Multiflora rose
- Purple Loosestrife
- Reed canary grass
- Spotted knapweed
- Tatarian honeysuckle.

4.10.5 – 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 Prescriptions Geographic Decision Support Environment. Remove or discourage beaver populations on designated high priority trout streams.

High priority trout streams in this management area are shown Figure 4.10.1.

4.10.6 – Fire Management

This area is dominated by mesic northern forest and lowland conifer forest. Fire impacts were rare, resulting in very long fire return intervals.

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

4.10.7 – Public Access and Recreation

This area has poor public and management access. Two state forest campgrounds are located in this area, at King Lake and Beaufort Lake. Each has a boating access site associated with it. The department also maintains a boating access site on the Net River Flooding on state forest lands.

- Work to expand public and management access as opportunities arise.

4.10.8 – Oil, Gas and Mineral Resources

Surface sediments consist of medium and coarse-textured till, an end moraine of coarse-textured till, and peat and muck. There is insufficient data to determine the glacial drift thickness. Sand and gravel pits are located in the management area and there is good potential for additional pits.

The Precambrian Michigamme Formation subcrops below the glacial drift. There is not a current economic use for the Michigamme.

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

Metallic mineral exploration is not known to have occurred in the management area in the past, but there could be metallic mineral potential in the future.