4.1 MA 1 – 8 Mile Corner Management Area

Summary of Use and Management

Vegetative management in the 8 Mile Corner management area (MA) (Figure 4.1.1) will emphasize the selective management of the northern hardwood resource and balancing the age classes of aspen. Management will strive to produce sustained yields of various timber products, enhance wildlife habitat, and provide for forest based recreational uses. In addition, emphasis will be placed on protecting unique areas, threatened and endangered species. Expected issues within this 10-year planning period are increased recreational pressure, illegal off-road vehicle activity and introduced pests and diseases, especially emerald ash borer and beech bark disease.

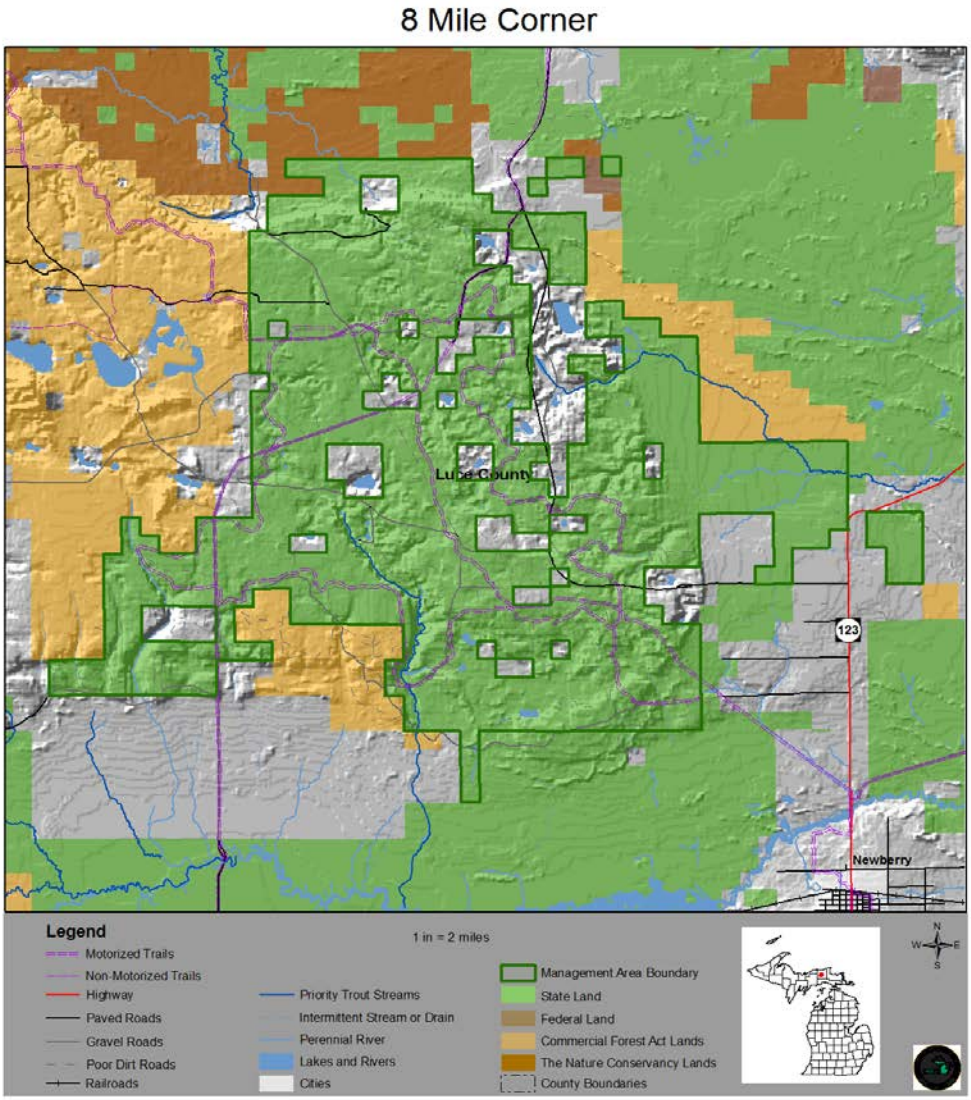

Figure 4.1.1. Location of 8 Mile Corner management area (dark green boundary) in relation to surrounding state forest lands, other ownerships and the village of Newberry in Luce County.

Introduction

The 8 Mile Corner management area is located in the central portion of the eastern Upper Peninsula in Luce County. It has 26,575 acres of state-owned land. The primary attributes are timber production and habitat for featured wildlife species including ruffed grouse and white-tailed deer. Additional attributes which were important in identifying this management area include:

- The management area falls primarily within the Luce subsection 8.2 of the eastern Upper Peninsula ecoregion (Albert, 1995).
- A dominant landform consisting of sandy outwash and till-plain between the Two-Hearted and Tahquamenon river systems.
- Cover types of aspen and northern hardwood are now predominant, verses historic cover types of white pine and northern hardwood.
- Recreational opportunities including high use snowmobiling and ORV-riding due to the proximity to Newberry.

Spincich Lake opening, a large grassy opening complex of over 300 acres, is within this management area. This area was created through disturbances from past logging and farm practices. Portions of this opening now contain red pine, aspen and low-quality northern hardwood. Formerly, white pine and northern hardwood mixes made up most of the acreage.

This management area is close to Newberry, and is interspersed with private parcels. The 8 Mile Corner management area falls within the Newberry Forest Management Unit. The predominant cover types, acreages and projected harvest acres for the management area are shown in Table 4.1.1.

Table 4.1.1. Current cover types, acreages, projected harvest acres and projected 10-year cover type acreage for the 8 Mile Corner management area, eastern Upper Peninsula ecoregion (2012 Department of Natural Resources inventory data).

Cover Type	Cover %	Current Acreage	Hard Factor Limited Acres	Manageable Acres	10 Year Projected Harvest (Acres)		Projected Acreage in 10 Years	Desired Future Harvest (Acres)	
					Final Harvest	Partial Harvest		Final Harvest	Partial Harvest
Aspen	24%	6,267	217	6,050	367	0	6,267	1,008	0
Northern Hardwood	23%	6,131	418	5,713	0	1,728	6,131	0	2,260
Upland Open/Semi-Open Lands	10%	2,712	0	2,712	0	0	2,712	0	0
White Pine	8%	2,107	0	2,107	192	719	2,107	192	719
Red Pine	8%	2,005	104	1,901	211	1,142	2,005	211	1,152
Lowland Conifers	7%	1,732	317	1,415	539	0	1,732	157	0
Upland Spruce/Fir	4%	1,024	132	892	366	0	1,024	127	0
Cedar	4%	978	0	978	0	0	978	61	0
Lowland Open/Semi-Open Lands	4%	934	0	934	0	0	934	0	0
Lowland Spruce/Fir	3%	703	375	328	107	0	703	36	0
Misc Other (Water, Local, Urban)	1%	295	0	295	0	0	295	0	0
Others	6%	1,687	462	1,225	176	65	1,687	150	85
Total	100%	26,575	2,025	24,550	1,958	3,654	26,575	1,942	4,216

Others include: Lowland deciduous, jack pine, lowland aspen/balsam poplar, paper birch, hemlock, upland mixed forest, lowland mixed forest, natural mixed pines, mixed upland deciduous, upland conifers and tamarack.

4.1.1 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 and some of the minor cover types 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, the natural processes of succession will provide ecological benefits. While most stands have a variety of tree species and other vegetation, they are classified by the species with the dominant canopy coverage.

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 and regenerating these cover types will provide for a continuous flow of forest products and will help to ensure (or provide) wildlife habitat.

Section 4.1.1.1 Forest Cover Type Management - Aspen

Current Condition

Aspen occurs on 6,267 acres (24%) of the management area (Table 4.1.1). Aspen is distributed throughout the management area on lake plains, outwash plains, disintegration moraines and ground moraines. This encompasses a range of sites on loamy soils, from dry poor nutrient to mesic medium nutrient, with Kotar habitat types of PArV, PArVAa, ATFD and AFPo (defined in Appendix E). Aspen stands in this management area are often mixed with hardwood, white pine, balsam fir and other conifers. Aspen has been consistently harvested in the past, with the greatest harvest activity occurring within the last 30 years (Figure 4.1.2).

There are currently 516 acres that have a final or regeneration harvest pending. There are 47 acres of northern hardwoods currently prescribed for harvest that are expected to convert to aspen through harvest. These acres are shown in Figure 4.1.2 in the regeneration prescriptions column.

There are 217 acres of aspen that have site conditions limiting their harvest. These hard factor limited acres have been removed from the total number of manageable acres available for harvest calculations. Aspen stands that are inaccessible for commercial harvest will eventually succeed to mid- or late-successional species, including balsam fir, red maple and white pine.

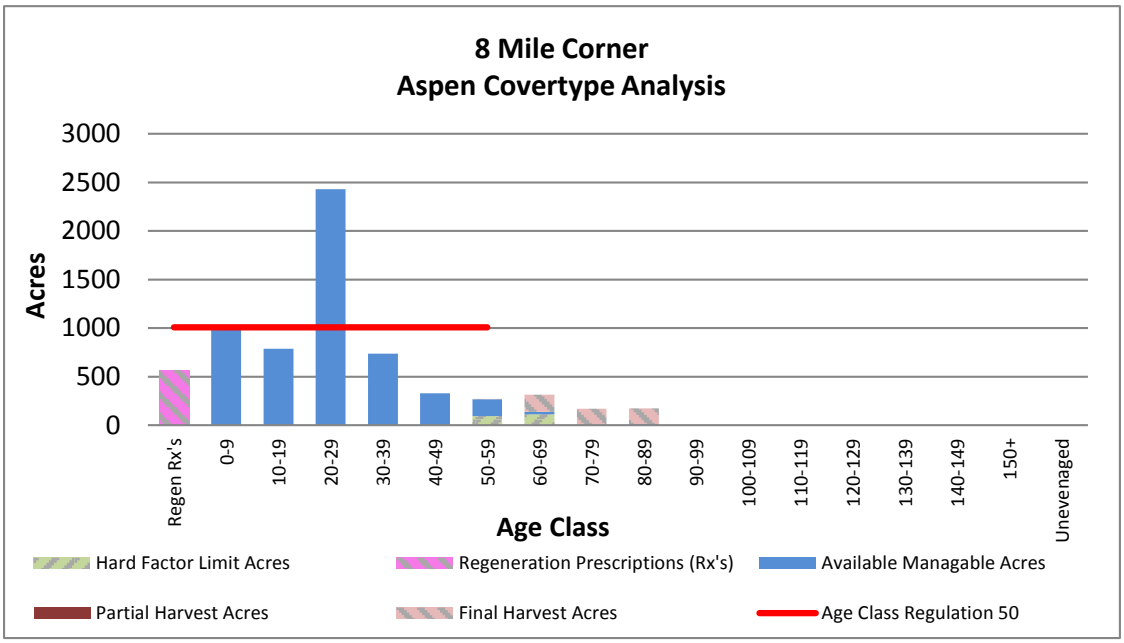

Figure 4.1.2. Age-class distribution of aspen on the 8 Mile Corner management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- The aspen cover type will be maintained on operable sites through even-aged management with acres balanced between 0-59 years of age to provide for regulated harvest, wildlife habitat as represented by the featured wildlife species ruffed grouse and recreational opportunities.

10-Year Management Objectives

- The projected 10-year harvest is approximately 367 acres. This is lower than the regulated amount due to the current age class structure. To accomplish the projected harvest level, plan to harvest some of the stands in the 40-49 year age class that will reach rotation age this planning period.

Long-Term Management Objectives

- Balance the age-class distribution of accessible aspen stands by harvesting and regenerating the regulated harvest amount of approximately 1,008 acres per decade (red line in Figure 4.1.2).

Section 4.1.1.2 Forest Cover Type Management – Northern Hardwood

Current Condition

Northern hardwood cover types occur on 6,131 acres (23%) of the management area (Table 4.1.1). Northern hardwoods are distributed throughout the management area on outwash plains and ground moraines on dry, dry-mesic and mesic poor-to-medium nutrient sites (Kotar habitat classes: PArVAa, ATFD and AFPo) (Appendix E). The majority of the stands have been managed using single tree selection, generally every 20 years, maintaining structural and species diversity to work towards an uneven-aged state, thereby having trees of varying ages and sizes. Figure 4.1.3 shows the distribution of northern hardwood stands by basal area range.

The northern hardwoods on poor soils are generally of lower quality, and some of these stands are being managed using even-aged systems, shown as immature in Figure 4.1.3. Poor site hardwood may be considered for conversion to another cover type, such as aspen or pine.

Beech bark disease is found within this management area, and many stands have had salvage harvests. Northern hardwood stands that had a component of beech now have decreased stocking levels due to beech bark disease mortality and salvage harvesting. Delay further selection harvesting in these stands, due to the resultant lower than normal residual basal area.

Figure 4.1.3 shows stands currently under prescription and those with factors limiting harvest. Currently there are 538 acres with a partial harvest method of cut assigned. In addition there are 47 acres of hardwood with a final harvest method of cut prescribed which are expected to convert to aspen. These acres have already been moved from the northern hardwood total to the aspen total. There are 418 acres of northern hardwood that have site conditions limiting their harvest this planning period. These hard factor limited acres have been removed from the total number of manageable acres available for harvest calculations.

Desired Future Condition

- Northern hardwoods will be maintained on suitable sites and will produce a sustainable yield of forest products, generally by using individual tree selection harvesting. This will provide uneven-aged composition and structurally diverse stands. These stand conditions will be of benefit to a variety of wildlife represented by the featured species and will provide recreational opportunities.

10-Year Management Objectives

- The 10-year projected harvest of northern hardwood is 1,728 acres of partial or selection harvest;
- Continue salvage harvests of beech affected by beech bark disease using Beech Bark Disease Management Guidelines;
- Evaluate beech dominated forests to determine the impact of beech bark disease on regeneration;
- Track beech regeneration in these stands; and
- To favor regeneration of hardwood other than beech, consider herbicide applications of beech regeneration, and planting of hard mast producing trees, including disease resistant beech and oak.

Long-Term Management Objectives

- Select harvest northern hardwood stands on a 20-year cycle.

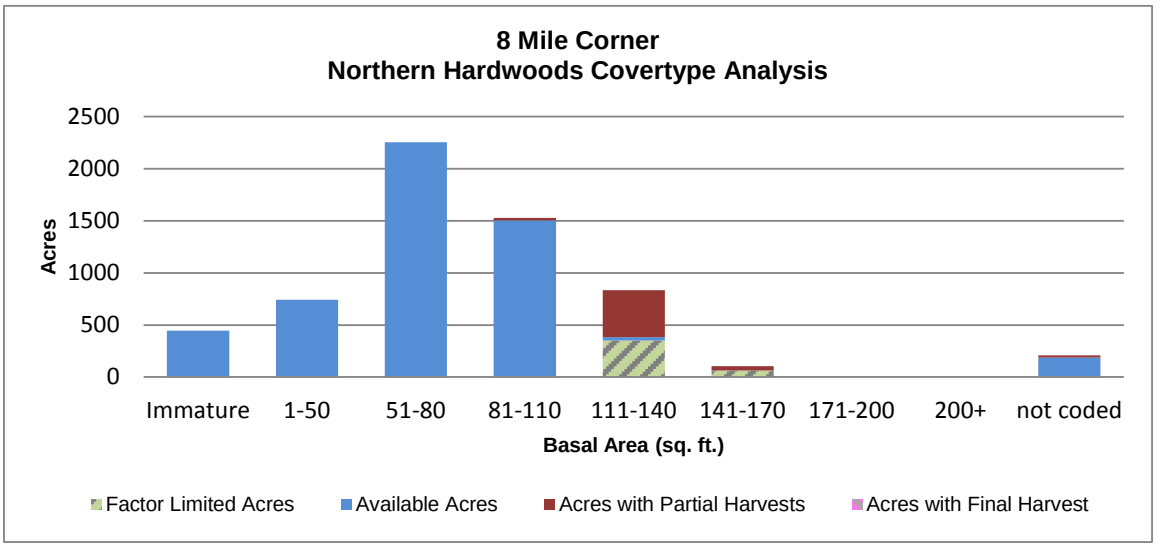

Figure 4.1.3. Basal area distribution of northern hardwood in the 8 Mile Corner management area (2012 Department of Natural Resources inventory data).

Section 4.1.1.3 Forest Cover Type Management – Upland Open/Semi-Open Lands

Current Condition

Upland open/semi-open lands occur on 2,712 acres (10%) of the management area (Table 4.1.1). This category is a combination of the following non-forested land cover types: herbaceous open land (1,640 acres), upland shrub (1,000 acres), bare/sparsely vegetated (65 acres) and low density trees (seven acres). These cover types are valued ecologically as sources of open land habitat for numerous species of wildlife. The large opening complexes, including the Spincich Lake area, provide habitat for open-land species such as sharp-tailed grouse and upland sandpiper. Hardwoods are becoming established in some of the small areas formerly typed as open land. Opening maintenance is necessary to maintain these open areas. Some of the smallest openings may be allowed to succeed to aspen, pine or hardwoods.

Consider consolidating openings and pine plantations by shifting planting location after regeneration harvests in pine stands. The resulting larger openings will benefit many wildlife species.

Desired Future Condition

- Maintain large upland open/semi-open lands to provide wildlife habitat and recreational opportunities.

10-Year Management Objectives

- Maintain large openings through prescribed fire and mechanical cutting.

Long-Term Management Objectives

- Maintain the large upland open/semi-open lands to provide habitat; and
- Where feasible and necessary, use control methods on invasive non-native plants.

Section 4.1.1.4 Forest Cover Type Management – White Pine

Current Condition

White pine dominated cover types occur on 2,107 acres (8%) of the management area (Table 4.1.1). White pine stands are found on sandy soils in outwash plains and lake plains, on very-dry to dry, very-poor to poor nutrient sites (Kotar habitat classes: PArV and PArVAa) (Appendix E). These white pine stands are generally of natural origin. White pine is found mixed with other pines, hardwoods and aspen. White pine regeneration grows well here, and stands that have been periodically thinned before a final harvest may have several ages of white pine, due to natural regeneration in the openings created by harvest. This management has resulted in over 60% of the acreage being classified as uneven-aged stands (Figure 4.1.4). Because of the large number of stands in the uneven-aged category from selection harvesting, there are not many stands in the younger age classes. Even age stands over 60 years of age are generally a result of man-made disturbances in the landscape.

Currently, there are 64 acres of white pine prescribed for partial harvest and zero acres prescribed for final harvest (Figure 4.1.4). There are no acres of white pine that have site conditions limiting their harvest at this time.

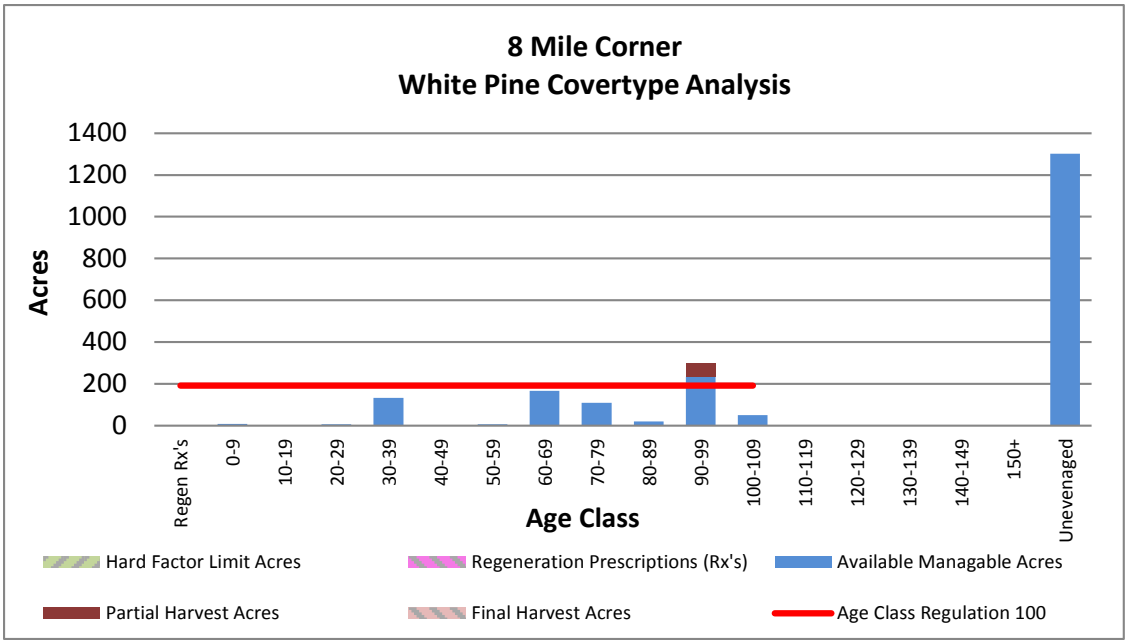

Figure 4.1.4. Age class distribution of white pine in the 8 Mile Corner management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- White pine stands will be maintained on operable sites with acres balanced between 0-109 years of age, with intermediate thinning and selection cuts, followed by shelterwood or seed tree regeneration harvests at rotation age;
- Harvesting will provide for a continuous flow of timber products;
- Provide for a variety of wildlife habitat and recreational opportunities; and
- White pine found in riparian buffers or other sensitive sites may remain until biological maturity.

10-Year Management Objectives

- The 10-year projected harvest of white pine is 192 acres of final harvest, generally using seed tree harvesting; and
- The 10-year projected partial harvest is 719 acres of thinning in stands with high basal area.

Long-Term Management Objectives

- A regulated harvest would allow approximately 192 acres for final harvest per decade; and
- Prior to final harvest at rotation age, periodically thin stands with high basal area.

Section 4.1.1.5 Forest Cover Type Management – Red Pine

Current Condition

Red pine stands are found on 2,005 acres (8%) of the management area (Table 4.1.1). Red pine grows very well on the sandy soil types found on outwash plains and moraines in the management area and it yields high value products. Sites run from very dry to mesic and very poor to medium-quality in terms of nutrients, with common Kotar habitat classes of PArV and PArVAa (Appendix E). The majority of the stands are of planted origin and in the 40-70 year age classes (Figure 4.1.5). These stands are first thinned as products become available, normally at about age 40, and then thinned again every 10-20 years until rotation age. At rotation age, planted stands will generally be clearcut and replanted to red pine. Prescribed burning and herbicide are sometimes used for site preparation and release of planted seedlings. Shelterwood or seed tree harvests may occur if natural regeneration is expected.

At rotation harvest, red pine stands will be evaluated as to site potential; some stands may be liquidated to consolidate openings, some replanted to red pine and some may be allowed to convert to other types when the site is more suited to that cover type. It is expected that the total acreage of red pine will remain similar over time, even if the location of the stands are moved to take advantage of site potential and to consolidate cover types.

Approximately 330 acres are currently scheduled for partial harvest (Figure 4.1.5). There are no final harvests currently scheduled. There are 104 acres of red pine that have site conditions limiting their harvest this decade. These hard factor limited acres have been removed from the total number of manageable acres available for harvest calculations.

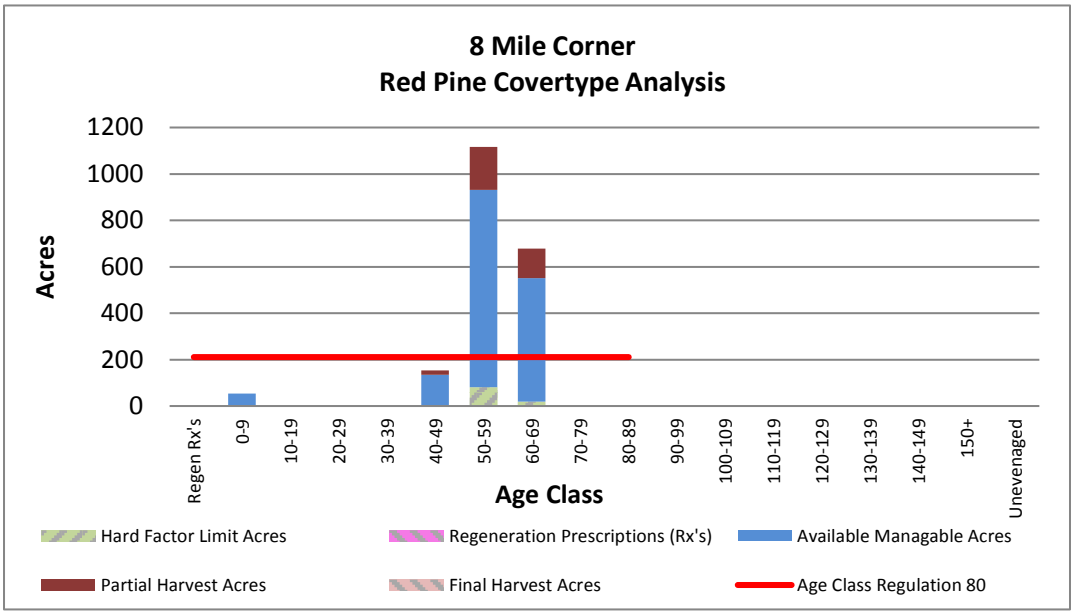

Figure 4.1.5. Age-class distribution of red pine in the 8 Mile Corner management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Red pine stands will be maintained and managed through thinning until stand replacement harvest at economic maturity, with acres balanced between zero and 89 years of age to provide for continual harvest;
- Provide wildlife habitat;
- Provide recreational opportunities; and
- Red pine found in riparian buffers or other sensitive sites may remain until biological maturity.

10-Year Management Objectives

- The 10-year projected final harvest of red pine is 211 acres to work toward balancing the age classes of red pine; and
- The 10-year projected partial harvest or thinning of red pine is 1,142 acres.

Long-Term Management Objectives

- Maintain a balanced age-class structure;
- Provide a regulated harvest and regeneration of about 211 acres of red pine per decade; and
- Prior to final harvest at rotation age, periodically thin stands with high basal area.

Section 4.1.1.6 Forest Cover Type Management – Lowland Conifers

Current Condition

Lowland conifers occur on approximately 1,732 acres (7%) of the management area (Table 4.1.1). The majority of these stands are located in the east part of the management area, with some stands found around the north and south edges. While the majority of the stands are in older age classes, some harvesting and regeneration of lowland conifer stands has occurred in this management area. Natural regeneration consisting of species currently on site transpired after harvesting. Access to some of the lowland conifer stands in the management area is limited due to rivers, streams and lack of roads in adjacent wetland cover types.

Currently there are zero acres with a method of cut prescribed (Figure 4.1.6). There are 317 acres of lowland conifers that have site conditions limiting their harvest. These hard factor limited acres have been removed from the total number of

manageable acres available for harvest calculations. Lowland conifer stands in inaccessible areas will be subject to natural processes, resulting in a range of successional stages.

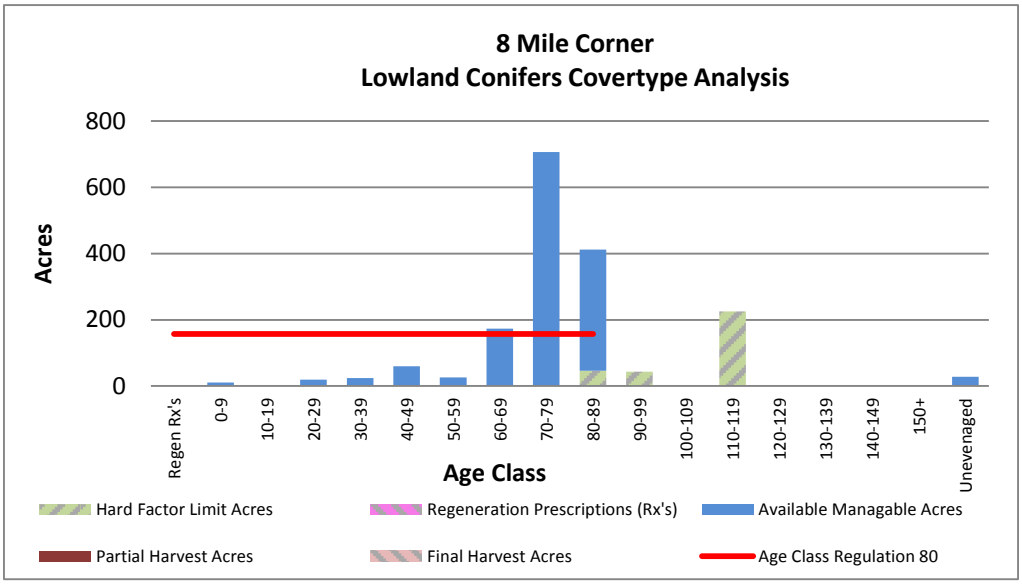

Figure 4.1.6. Age-class distribution of lowland conifers in the 8 Mile Corner management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Lowland conifer stands will be maintained on operable sites through even-aged management, with acres balanced between zero and 89 years of age; and
- Provide for a continuous supply of timber, available wildlife habitat and recreational opportunities.

10-Year Management Objectives

- The 10-year projected final harvest is 539 acres (this increase from the regulated amount is due to the current age-class structure where the majority of the stands are in older age classes, at or near rotation age).

Long-Term Management Objectives

- Balance the age-class structure of accessible lowland conifer stands allowing for a regulated final harvest of approximately 157 acres every decade.

Section 4.1.1.7 Forest Cover Type Management – Other Types

Current Condition

There are many other forest cover types spread across the management area that have less than 5% of the total management area acres (Table 4.1.1). Upland spruce fir (1,024 acres or 4%); cedar (978 acres or 4%); lowland open/semi-open lands (934 acres or 4%); and lowland spruce/fir (703 acres or 3%) are the larger cover types. The lowland open/semi-open lands category is made up of lowland shrub (403 acres); bog (327 acres); treed bog (133 acres); and marsh (71 acres).

The “others” category in Table 4.1.1 (1,687 acres or 6%) is a combination of forest cover types with 2% or less of the management area acres, including lowland deciduous, jack pine, lowland aspen/balsam poplar, paper birch, hemlock, upland mixed forest, lowland mixed forest, natural mixed pines, mixed upland deciduous, upland conifers and tamarack. In addition, there are 295 acres of “miscellaneous other” stands, which includes water and roads.

The majority of these cover types have been managed as even-aged stands, using natural regeneration after harvest. In mixed cover types with high basal area, stands are sometimes thinned, prior to final harvest at rotation age.

Approximately 968 acres of the cover types with less than 5% of the total management area acres have site conditions limiting their harvest this decade. These hard factor limited acres have been removed from the total number of

manageable acres available for harvest calculations. Inaccessible stands may never be harvested, and will be subject to successional processes.

Desired Future Condition

- These cover types will be maintained on suitable sites and will contribute to the compositional diversity of the landscape while providing forest products and wildlife habitat.

10-Year Management Objectives

- The projected 10-year final harvest is 366 acres of upland spruce/fir, 107 acres of lowland spruce/fir and 176 acres of other cover types; and
- The projected 10-year partial harvest is 65 acres of other cover types.

Long-Term Management Objectives

- Continue management of these other cover types to provide a sustainable yield of forest products and wildlife habitat; and
- In cover types with sufficient acreage, work towards balancing the age classes.

4.1.2 Featured Wildlife Species

Within the aspen and northern hardwoods cover types, wildlife habitat values are maintained by the retention of mesic conifers and large diameter soft hardwoods, young aspen forest for browse and structure and mature forest conditions in northern hardwood stands. Complex forest structure is important for many forest-dwelling wildlife species. Of special concern in this area is the loss of beech mast and a priority for this planning period is to increase this food source by planting disease resistant beech and red oak. The other forest cover types, though in smaller percentages, contribute to the overall biodiversity of this management area.

Blackburnian Warbler

The goal for blackburnian warbler is to maintain suitable habitat. State forest management for the species should focus on within stand diversity, habitat fragmentation, and conifer components in this management area.

Wildlife habitat specifications:

- Increase the mesic conifer (e.g., hemlock, white pine, red pine and upland spruce-fir) component on state forests by: a) Retaining a larger percentage of mesic conifer during harvests; b) Using silvicultural practices that encourage the regeneration of mesic conifer; and c) Where desired/feasible, underplant hemlock, white pine and white spruce in hardwood-dominated stands on suitable sites without a seed source.
- Provide more older mesic conifers, particularly hemlock, in the landscape by: a) Allowing some actively managed stands of mesic conifer to grow beyond standard rotation ages; b) Including mature mesic conifers as within-stand structure retained during harvests by following Within-Stand Retention Guidance; and c) Maintaining mature mesic conifer stands within travel corridors, riparian zones or Type 1 or 2 old growth special conservation areas.
- Use silvicultural practices that retain, recruit and expand multi-story hemlock stands and hemlock inclusions within hardwood complexes through group selection, scarification and/or direct planting.

Pileated Woodpecker

The goal for pileated woodpecker is to maintain suitable habitat. Management should focus on maintaining large diameter deciduous trees in timber sales in priority areas.

Wildlife habitat specifications:

- Identify and retain large (>15 inches in diameter at breast height snags and cavity trees, coarse woody debris, and reserve trees, as possible to ensure a sustainable supply of future cavity and foraging trees and associated coarse wood debris in all cover types. Poorly formed trees and those damaged by natural disturbance or earlier harvests, particularly deciduous trees, are good candidates for future snags and cavity trees. Large diameter aspen and other soft hardwoods are preferred.

- Even-aged managed stands: Leave scattered retention patches around some 18 inches in diameter at breast height or greater secure trees as a nucleus, using the upper end of the Within Stand Retention Guidance.
- Uneven-aged managed stands: Retain a minimum of three secure cavity or snags per acre with one exceeding 18 inches in diameter at breast height. If snags or cavity trees are lacking, leave trees with defects of the maximum available size that will likely develop cavities.
- Salvage harvests deemed necessary to remove due to insect, disease, or fire will be offset within the same cover type and age class (within the compartment, management area or eastern Upper Peninsula ecoregion), to minimize impacts on pileated woodpecker habitat. Total allowable harvest in these situations will be evaluated on a case-by-case basis.

Ruffed Grouse

The goal for ruffed grouse in the eastern Upper Peninsula is to maintain or improve habitat. Management should focus on maintaining and balancing the age-class distribution for aspen in priority landscapes during this planning cycle.

Wildlife habitat specifications:

- Maintain the aspen cover type and increase the aspen component in mixed stands within the management area.
- Balance the age-class distribution of aspen and birch cover type to maintain young forests across the management area.
- Ideal aspen stands will be of 40-160 acres under a 50-60 year rotation.
- Larger harvest units should have irregular boundaries and include one or two 1-3 acre unharvested inclusions for every 40 acres exceeding 40 acres in size.
- Evaluate the conifer component in aspen stands, holding or increasing where desirable. Leave conifer under four-inch diameter at breast height in mixed stands and aspen types as immediate residual escape cover and to promote corridors.
- Maintain cherry production for soft mast.

White-tailed Deer

Deer are a keystone species and can impact (both beneficially and detrimentally) vegetative communities. The decline of hard mast in the way of beech nuts in the eastern Upper Peninsula is a concern. The goal for deer management in this management area is to provide suitable summer range.

Wildlife habitat specifications:

- Provide hard and soft mast, and provide dense escape cover or bedding areas in the form of early successional forests, brush and warm-season grasses that will concentrate deer use in the fall on areas open to public hunting.
    - Where habitat types are appropriate and funding allows, increase diversity of hard mast by planting oak and disease resistant beech; and
    - Maintain grass openings.

4.1.3 Rare Species and Special Resource Area Management

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

Past surveys have noted and confirmed two listed species occurring in the management area (Table 4.1.2). Any established management guidelines will be followed.

Table 4.1.2. Occurrence information for special concern, rare, threatened and endangered communities and species for the Eight Mile Corner 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	*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
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

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

Special conservation areas in this management area are approximately 117 acres of potential old growth (Figure 4.1.7) and the Tahquamenon River high priority trout stream tributaries (Figure 4.1.1).

There are currently no identified high conservation value areas in the management area.

A small portion (25 acres) of a patterned fen ecological reference area is located in the far northeastern corner of the management area (Figure 4.1.7). The majority of this ecological reference area is located in the adjoining Tahquamenon Patterned Fens management area. This ecological reference area will be managed to protect and enhance the natural vegetative and wildlife communities as directed by an ecological reference area -specific management plan.

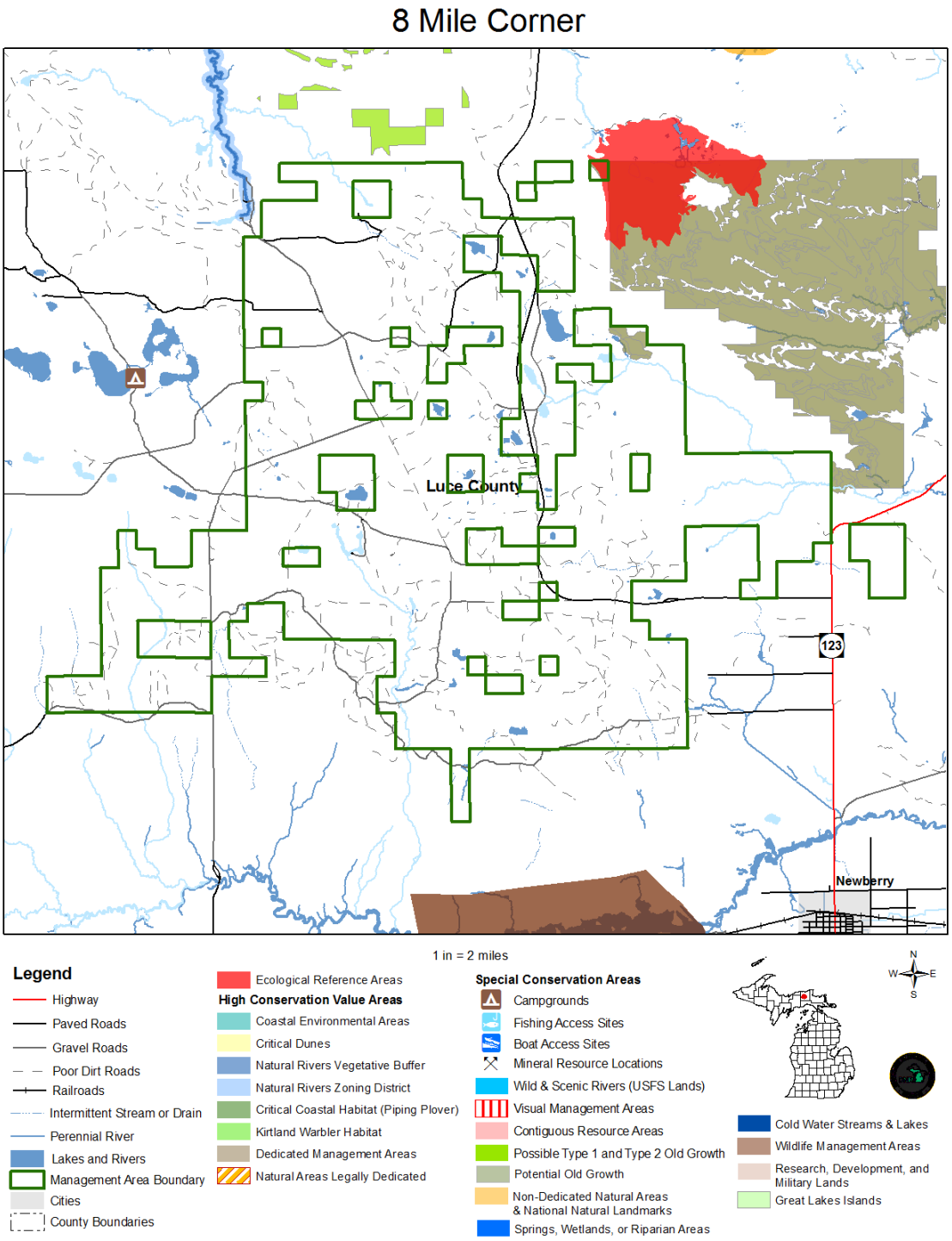

Figure 4.1.7. A map of the 8 Mile Corner management area showing the special resource areas.

Management goals during this planning period:

1. 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.
2. Evaluate all potential Type 1, potential Type 2 old growth and potential old growth areas to determine their status as a special resource area.
3. Develop and maintain management and monitoring plans for ecological reference areas on state forest land.

3.1.4. Forest Health Management

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

- Northern hardwoods: Beech bark disease and emerald ash borer;
- Aspen: White trunk rot and *Hypoxylon* canker;
- White pine: White pine blister rust ;
- Lowland conifers: Spruce budworm, eastern larch beetle and larch casebearer; and
- Red pine: Pine engraver.

For further information on forest health refer to Section 3.

Invasive Species

Invasive exotic species, specifically plants, may pose a threat to forest resources, impacting timber production, wildlife habitat and recreational access. No invasive plant species have yet been documented within the management area, but leafy spurge has been documented within a 5-mile buffer of the management area (Table 4.1.3), and monitoring efforts should specifically look for new populations of this species. Evaluate eradication treatments of any new populations of invasive plant species found in the management area. Invasive species that merit eradication efforts are those species that threaten sensitive sites due to their location or growth characteristics and have population levels that may be successfully controlled.

Leafy spurge is a threat to open/grasslands, and is on the list containing the highest threat invasive species to the state's forest systems where local control and eradication is possible.

Table 4.1.3. Invasive plant species within or near the 8 Mile Corner management area (Data from the Michigan Invasive Plant Identification Network database).

8 Mile Corner - FRD Management Areas	Cases within FRD Areas	Cases within 5 Mile Buffer	Total number of cases	Total number of different Invasive Species
	0	1	1	1

Invasive Species within FRD Areas	Occurrences	Invasive Species within 5 Mile Buffer	Occurrences
-	-	Leafy Spurge *Euphorbia esula*	1

4.1.5 Fire Management

Much of the area is comprised of mesic and lowland soils, which were rarely influenced by fire disturbance. Drier Kalkaska soils, on the west side, are more likely to support pines. This portion of the management area was probably subject to periodic fire that occurred, generally every 80-150 years. The following fire management concepts should be applied in the management area:

- Use of prescribed fire on the drier soils may be considered to maintain pine communities and encourage natural regeneration;
- When conditions allow swamp stands to dry out enough to burn, using fire as a management tool may be considered to accomplish objectives; and
- There is a Community Wildfire Protection Plan being developed for Luce County that will provide guidance for fire prevention and wildland/urban interface activities.

4.1.6 Public Access and Recreation

County Road 407, a paved road that runs through this management area, provides recreational access and access to timber markets.

Recreational special conservation areas within the management area include snowmobile trails and the Silver Creek Off-Road Vehicle trail (Figure 4.1.1).

Opportunities for wildlife recreation include hunting for ruffed grouse, deer and bear.

4.1.7 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. A portion of the Tahquamenon River system is designated as high priority trout stream in this management area and details are shown in the Integrated Forest Monitoring Assessment and Prescription Geographic Decision Support Environment and in Figure 4.1.1.

4.1.8 Minerals

Surface sediments consist of an end moraine of coarse-textured till, glacial outwash sand and gravel and postglacial alluvium, peat and muck and coarse-textured till. There is insufficient data to determine the glacial drift thickness. Sand and gravel pits are not located in this management area, but there is good potential for additional sites.

The Ordovician Utica and Collingwood Shales and Trenton and Black River Formations subcrop below the glacial drift. The Trenton and Black River are quarried for stone and dolostone in the Upper Peninsula.

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

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