4.30 Ralph Ground Moraine Management Area

Summary of Use and Management

Vegetative management in the Ralph Ground Moraine management area (MA) (Figure 4.30.1) 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 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 address the habitat requirements identified for the following featured species: American woodcock, black bear, northern goshawk, ruffed grouse and white-tailed deer. Management activities may be constrained by site conditions and the skewed age-class distributions. Balancing age classes will be an issue for this 10-year planning period.

Introduction

The Ralph Ground Moraine management area is on ground moraines in northern Dickinson and southern Marquette Counties. The state forest covers 189,965 acres and is mostly contiguous. State forest lands are the major ownership in this vicinity. The management area is dominated by the aspen, northern hardwood and cedar cover types. Other attributes that played a role in the definition of this management area include:

- Dominated by three natural communities: mesic northern forest, poor conifer swamp and dry-mesic northern forest;
- Mid-range in site quality;
- Provides multiple benefits including forest products and dispersed recreational activities; and
- Provides a variety of fish and wildlife habitats.
- This management area contains one of the western Upper Peninsula Grouse Enhanced Management Systems areas. This area plan will emphasize balanced age classes of aspen for timber production which will have habitat benefits for a number of the featured species including ruffed grouse and deer. The boundaries of Grouse Enhanced Management Systems areas will be delineated and an operational plan will be developed during this planning period by the local biologist in collaboration with the Forest Resources Division unit manager and integrated into the plan through the revision process.

The management priority in this area is to continue to provide these multiple benefits while minimizing user conflicts.

The predominant cover types, composition and projected harvest areas for the Ralph Ground Moraine management area are shown in Table 4.30.1.

Table 4.30.1. Summary of cover types, composition, limited factor area, manageable area and projected harvest area for the 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
Aspen	38%	71,514	3,705	67,809	14,964	0	71,514	11,301	0
Northern Hardwood	16%	30,020	609	29411	0	12,687	30,020	0	14,425
Cedar	13%	24,519	2,209	22310	0	0	24,519	1,394	0
Lowland Conifers	11%	21,324	11,303	10021	1,114	0	21,324	1,114	0
Upland Open/Semi-Open Lands	4%	6,851	0	6851	0	0	6,851	0	0
Lowland Open/Semi-Open Lands	6%	12,152	0	12152	0	0	12,152	0	0
Misc Other (Water, Local, Urban)	1%	1,729	0	1729	0	0	1,729	0	0
Others	12%	21,856	4,476	17380	2,252	2,400	21,856	2,052	3,041
Total		189,965	22,302	167,663	18,330	15,087	189,965	15,861	17,466

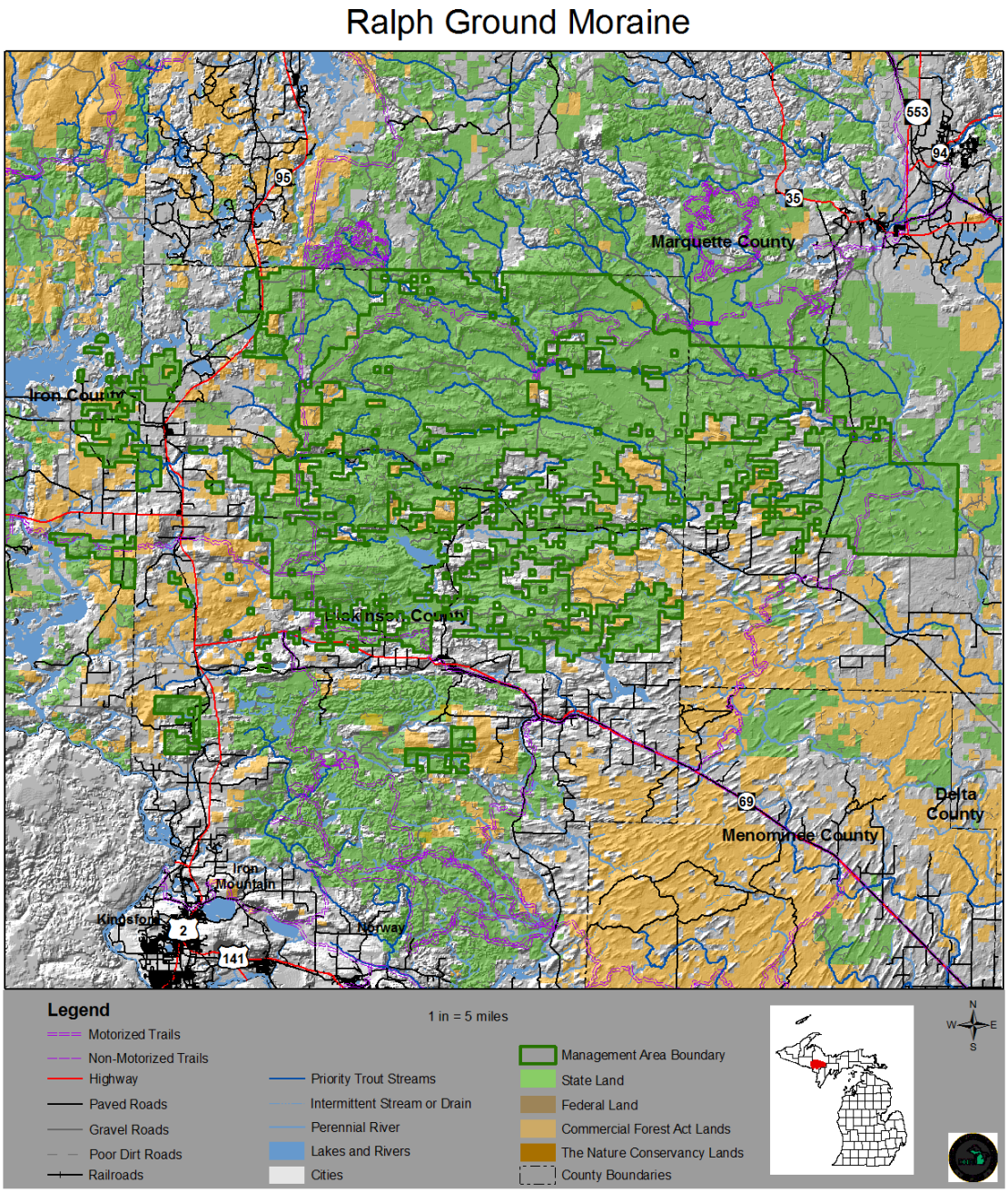

Figure 4.30.1. A map of the Ralph Ground Moraine management area (dark green boundary) in relation to surrounding state forest and other lands in Dickinson and Marquette Counties, Michigan.

4.30.1 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 Ralph Ground Moraine 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.

Aspen Cover Type

Current Condition

The aspen cover type covers 71,514 acres (38%) of state forest land in this management area (Table 4.30.1) and is poorly distributed across age classes (Figure 4.30.2). Aspen will be managed on a 50-year rotation to a balanced age-class structure indicated by the red line in Figure 4.30.2. Most of the age classes over the rotation age of 50 years (50-59 years on the graph) are in the hard factor limited category or are part of a regeneration harvest. With an absence of aspen in the 50-59 year-old and 60-69 year-old age classes, early entry into those age classes above the age-class regulation line is possible, but unlikely during this 10-year planning period because aspen in these age classes in this management area are not of merchantable size.

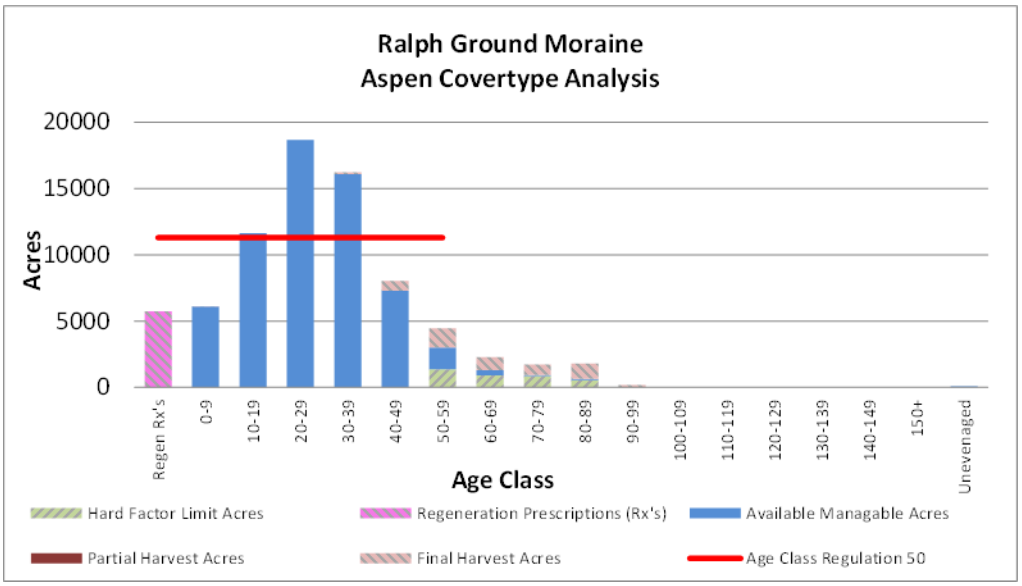

Figure 4.30.2. Graph of the age-class distribution for the aspen cover type on the Ralph Ground Moraine management area (2012 Department of Natural Resources inventory data).

Desired Future Condition

- Balanced acres in each age class over a 50-year rotation (indicated by the red line in Figure 4.30.2);
- Provide an even supply of forest products;
- Provide for a balanced mix of habitat conditions for a variety of wildlife; and
- Provide for a variety of hunting-type opportunities.

Long-Term Management Objectives

- Harvest and regenerate approximately 11,301 acres each decade.

10-Year Management Objectives

- Because of the lack of older age classes it will be challenging to meet 10-year harvest goals. Identify some younger aspen on better sites that could be available for early harvest up to 14,964 acres. Much of this acreage will come from the 40-49 year-old and older age classes.
- Opportunities to harvest in the spikes (above the red line) presently in the 20-29 and 30-39 year-old age classes will be explored as these classes grow older and reach merchantable size;
- Aspen within the identified Grouse Enhanced Management Systems area may be managed differently than the rest of the aspen within the management area, with a shorter rotation age, small patch cuts and carefully considered stand adjacency;

- Biomass harvesting may facilitate the opportunities needed to harvest in these age classes early; and
- Maintain mature large-tooth aspen if present as retention.

Northern Hardwood Cover Type

Current Condition

Northern hardwood stands make up 30,020 acres (16%) of state forest land in this management area (Table 4.30.1). They occur on medium-quality sugar maple sites. Most stands have been managed on a selection harvest basis and are in good condition. Recruitment of seedlings and saplings into larger size classes is generally not successful due to browse pressure. Northern hardwood is typically managed using an uneven-aged harvest system based on basal area rather than age.

Desired Future Condition

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

Long-Term Management Objectives

- Using an uneven-aged system, selectively harvest high-quality northern hardwood stands on a 20-year cycle resulting in an estimated 14,425 acres harvested each decade; and
- Work to improve hardwood regeneration.

10-Year Management Objectives

- Selectively harvest 12,687 acres during this 10-year planning period (this number is lower than the estimated long-term amount due to the current low basal areas);
- Maintain and promote white pine, hemlock, oak and upland cedar where they occur in stands that are cut, favoring oak for retention;
- Experiment with mechanical and chemical treatments of the sedge understories to establish northern hardwood tree regeneration and improve understory diversity; and
- Monitor hardwood regeneration.

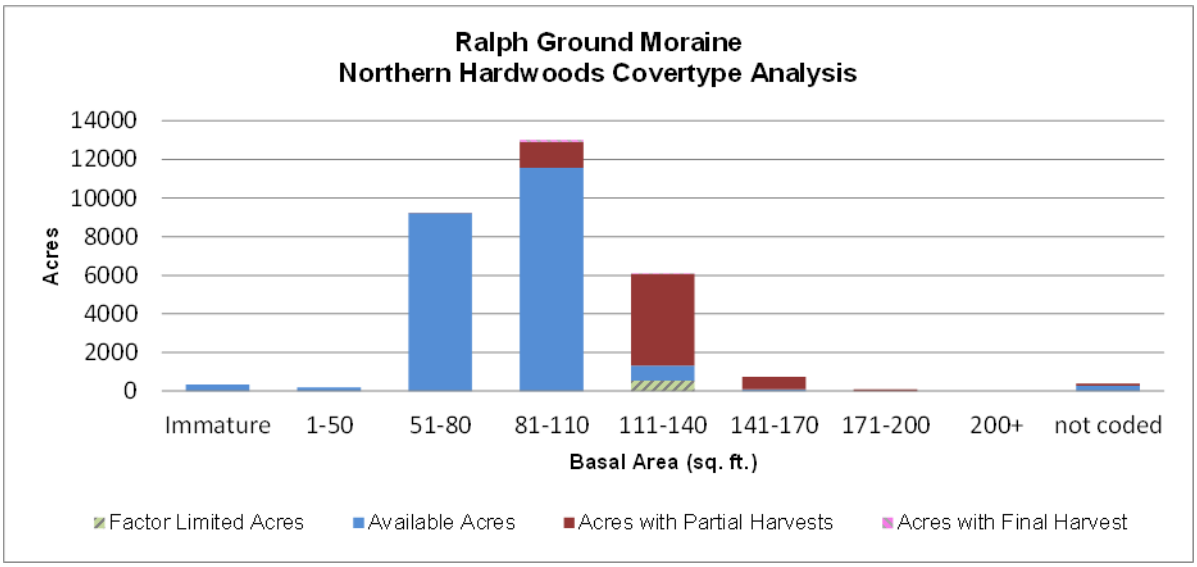

Figure 4.30.3. Graph of the basal area distribution for the northern hardwood cover type on the Ralph Ground Moraine management area (2012 Department of Natural Resources inventory data).

Cedar Cover Type

Current Condition

The cedar cover type covers 24,519 acres (13%) of the management area (Table 4.30.1). Stands occur on poorly drained sites and support mostly cedar mixed with black spruce, tamarack and balsam fir. Cedar historically does not regenerate reliably especially in high deer population areas such as the Ralph Ground Moraine management area and this is well illustrated in Figure 4.30.5. The absence of any age classes below 70-79 years old indicates little harvesting has occurred in this type; largely due to regeneration challenges. Most of the stands are over 80 years old.

Although there will be no harvesting of cedar within deer wintering complexes, there is a need to address future cedar cover. Limited cedar harvests will occur outside the wintering complexes recognizing that cedar takes many years to regenerate and escape deer browsing. Reliable and timely regeneration of cedar is a concern from both wildlife and forest management perspectives.

Desired Future Condition

- Improved age-class distribution with closed canopy stands interspersed with patches of all age classes;
- Sustainable regeneration and recruitment of cedar seedlings and saplings; and
- Maintain the cedar cover type at the current acreage level.

Long-Term Management Objectives

- Maintain the cedar cover type current representation on the landscape;
- Regenerate stands to a species mix similar to the pre-harvest conditions; and
- Explore techniques for regenerating the cedar cover type under high browsing pressures, ideally leading to balanced age-classes and harvesting 1,394 acres per decade.

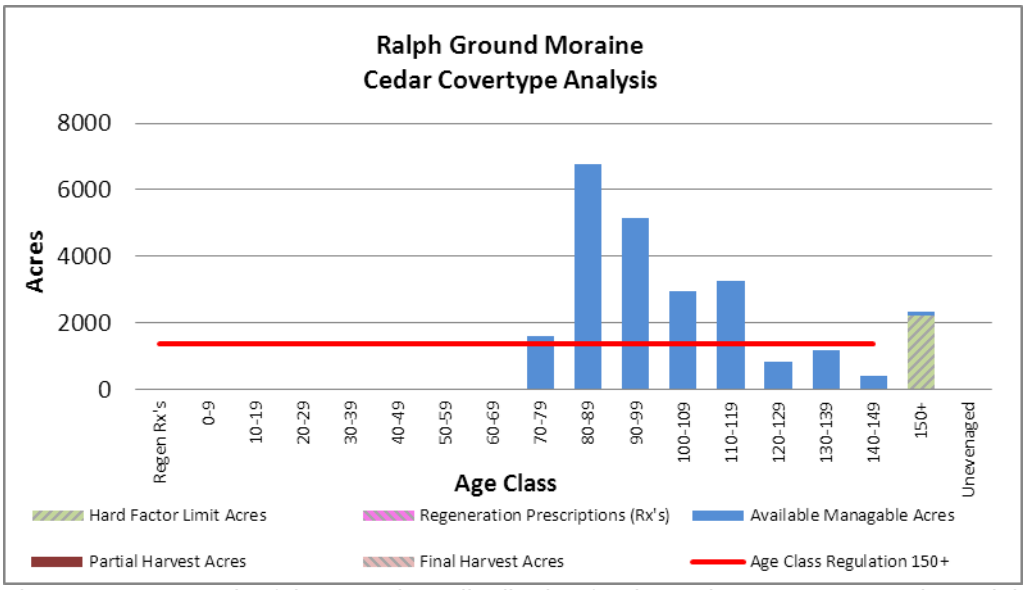

Figure 4.30.4. Graph of the age-class distribution for the cedar cover type on the Ralph Ground Moraine management area (2012 Department of Natural Resources inventory data).

10-Year Management Objective

- While no active management activities are planned in this type over this 10-year planning period, limited harvesting may occur to test methods of cedar regeneration.

Lowland Conifers Cover Type

Current Condition

The lowland conifer cover type covers 21,324 acres (11%) of the management area. These stands occur on poorly drained sites supporting mixed stands of cedar, black spruce, tamarack, balsam fir, white birch and balsam poplar. Mixed lowland conifers have poor age-class distribution, with most of the stands ranging between 80 and 119 years old (Figure 4.30.5). Most of these stands have a hard factor limit associated with them which makes them unavailable for harvesting this entry period. Some harvesting has been done in this type over the past 10 years.

Desired Future Condition

- Improved age-class distribution including closed canopy stands interspersed with patches of all age classes;
- Sustainable regeneration and recruitment of seedlings and saplings;
- Mixed lowland conifer stands provide important winter habitat for deer and it is necessary to maintain the closed canopy (>70%) structure in many stands for that purpose; and
- Harvesting will be planned to regenerate stands before widespread mortality occurs.

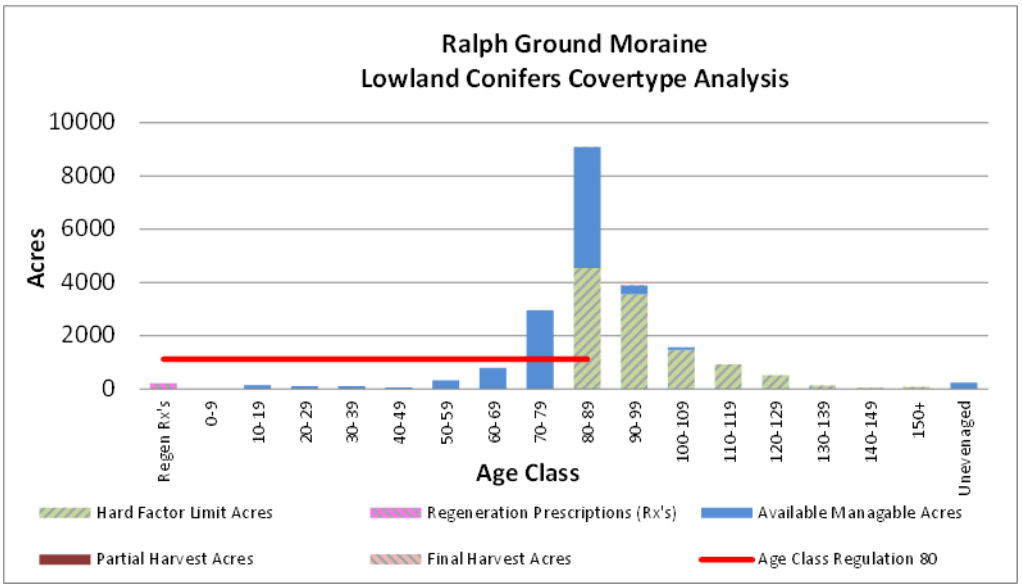

Figure 4.30.5. Graph of the age-class distribution for the lowland conifer cover type on the Ralph Ground Moraine management area (2012 Department of Natural Resources inventory data).

Long-Term Management Objectives

- Manage stands on an 80-year rotation leading to harvesting 1,114 acres per decade in those stands without hard factor limits;
- Regenerate stands to a species mix similar to the pre-harvest conditions favoring cedar, hemlock black spruce and balsam fir are preferred.

10-Year Management Objectives

- Begin to improve the distribution of age classes by harvesting those stands beyond rotation age leading to harvesting 1,114 acres over the next decade; and
- Focus on the use of “low impact” harvesting systems and successful, reliable regeneration techniques.
- Use appropriate silvicultural techniques to assure adequate regeneration of desirable species; and
- Monitor harvested sites.

Other Forested Cover Types

Current Condition

Other forested types make up 21,856 acres and are made up of lowland spruce/fir (5,735 acres), upland spruce/fir (3,053 acres), red pine (2,869 acres), lowland poplar (1,615 acres), white pine (1,588 acres), lowland deciduous (1,162 acres), tamarack (892 acres), upland mixed forest (863 acres), jack pine (834 acres), mixed upland deciduous (633 acres), paper birch (631 acres), lowland mixed forest (533 acres), natural mixed pines (464 acres), oak (387 acres), hemlock (304 acres) and upland conifers (293 acres). Together these types make up about 12% of the management area.

Desired Future Condition

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

Long-Term Management Objectives

- Manage minor cover types to maintain representation using appropriate silvicultural methods;
- Featured species habitat requirements will be taken in to consideration; and
- Maintain hemlock as it occurs.

10-Year Management Objectives

- Harvest those stands without harvest limitations adjacent to other planned harvest activities and where stand and habitat conditions indicate that harvesting is appropriate; and
- Expected harvests in these types will be less than 4,652 acres during this 10-year planning period.

Other Non-Forested Cover Types

Current Condition

The following non-forested cover types are found on this management area: upland open/semi- open lands (6,851 acres – 4%), lowland open/semi-open lands (12,152 acres – 6%) and miscellaneous other (water, local, urban) (1,729 acres – 1%).

Desired Future Condition

- These areas will be maintained in the current condition.

Long-Term Management Objective

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

10-Year Management Objective

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

4.30.2 – Featured Wildlife Species Management

The Ralph Ground Moraine management area is a very large management area that is dominated by state ownership. Almost every cover type and associated species can be found within the management area including several deer wintering complexes. The lowland conifer stands in deer wintering complexes should be managed to benefit wintering deer. This management area provides some of the finest grouse and woodcock hunting in the Midwest and this wildlife management priority will continue. This single management area represents 29% of the western Upper Peninsula's aspen resource and it is desirable to maintain this resource in a wide range of age classes. The primary focus of wildlife habitat management in the Ralph Ground Moraine management area will be to address the habitat requirements identified for the following featured species: American woodcock, black bear, northern goshawk, ruffed grouse and white-tail deer. Some of the most significant wildlife management issues in the management area are: early successional forest conditions (associated with alder, riparian zones or forested wetlands); mast (hard and soft); habitat fragmentation; mature forest

(upland deciduous, especially aspen and mixed forest with little understory); coarse woody debris; and deer wintering complexes. During this 10-year planning period, additional analyses to better define the spatial extent of priority areas for featured species will be performed.

This management area will include one or more Grouse Enhanced Management System areas. The boundaries will be delineated during this planning period by the local biologist in collaboration with the Forest Resources Division unit manager. Aspen stands that fall within the boundary may be managed to enhance habitat and hunting opportunities for ruffed grouse, woodcock, and deer. Habitat treatments may include managing aspen on a shortened rotation with multiple age classes and smaller stand sizes.

American Woodcock

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

Wildlife habitat specifications:

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

Black Bear

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

Wildlife habitat specifications:

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

Northern Goshawk

The goal for northern goshawk is to maintain suitable habitat. Management at the stand scale should focus on protection of nest trees, the provision of coarse woody debris and 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. For northern goshawk nests, 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.

Ruffed Grouse

The western Upper Peninsula goal for ruffed grouse is to maintain or improve habitat. Management during this planning period will focus on early successional forest in priority landscapes, balancing age-class distribution and provision of soft browse.

Wildlife habitat specifications:

- Maintain aspen acres in the management area and balance the age-class distribution of aspen cover types.
- Stand size for grouse: Ideal aspen stands will be irregularly shaped 10-40 acres to maximize juxtaposition or edge avoiding extensive single age final harvests. Larger harvest units should have irregular boundaries, provide one 1-3 acre unharvested clumped inclusion for every 40 acres harvested.
- Manage the aspen cover type for smaller patch size, a shorter rotation and a more deliberate habitat configuration within the designated Grouse Enhanced Management Systems areas where appropriate.
- Hold or increase the conifer component in aspen stands. Leave conifers 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 and oak component in stands with oak and emphasize areas with a hazel understory.

White-tailed Deer

The western Upper Peninsula goals for white-tailed deer are to: 1) Maintain existing deer wintering complexes and 2) Expand the extent of areas suitable as winter deer habitat, especially in the medium and high snowfall zones. Management should focus on maintaining habitat quality in priority wintering complexes. DNR department procedure 32.22-07 states “Coniferous swamps are important as winter deeryards and shall be managed primarily for deer. The objective shall be to maintain them for this purpose and through commercial cuttings and silvicultural practices, improve these areas to provide winter cover and food for deer.” There is a complex relationship between deer abundance; available summer and winter habitat, timber management and regeneration tree species, particularly white cedar and hemlock. It is recognized that meeting both timber management and deer goals presents challenges for the department and our stakeholders. Information on deer wintering complexes is currently being updated and new management guidelines are being developed. When completed, these will provide additional direction for managing these critical areas for white-tailed deer.

Wildlife habitat specifications for deer wintering complexes:

- Strive to maintain > 50% of the land area within deer wintering complexes in mixed or pure stands of cedar, hemlock, white and black spruce, white and natural red pine, balsam fir, mixed swamp conifer and mixed upland conifer-hardwood.
- In northern white cedar and hemlock cover types that are commonly occupied by deer during severe winters, especially in medium and high snowfall zones, maintain canopy closure of >65%.
- In deer wintering complexes in low snowfall areas, and within ¼-mile of severe-winter cover in the higher snowfall zones, write prescriptions that strive to maintain canopy closure of 40-65%, favoring cedar, hemlock, white spruce, black spruce, balsam fir and white pine.
- Provide winter forage in deer wintering complexes through stands of regenerating hardwood or brush, including preferred species of red maple, sugar maple, aspen, yellow birch, ashes, oaks, dogwood, crabapple, elderberry, high-bush cranberry, sumac and hazel.
- Enhance accessibility to winter browse within deer wintering complexes by maintaining mature mesic conifer components within upland hardwood stands or by maintaining or enhancing sheltered travel corridors between areas of conifer cover and browse.
- Provide spring break out areas by maintaining open hardwood stands on southern exposures and herbaceous openings adjacent to deer wintering complexes.
- When possible, timber harvests within deer wintering complexes should be carried out only during winter months and tops should be left. Chipping of non-bole wood and whole-tree harvesting in the deer wintering complexes should be avoided, but will be discussed on a case-by-case basis through the compartment review process.

- Harvests of cedar and hemlock may only be conducted when:
    - There is reasonable confidence of successful recruitment/regeneration of the cover types; or
    - There is a forest health issue (e.g., hemlock wooly adelgid); or
    - Part of an approved research project; or
    - Removal of selected trees will facilitate a reduction of harvest trails, landings, etc. to minimize soil sedimentation and possible soil compaction issues.
- Provide fall foods in the form of 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 encourage fall deer use in areas open to public hunting. Where habitat types are appropriate, increase diversity of hard mast by planting oak.

4.30.3 – 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 ten listed species and no natural communities of note occurring in the management area as listed in Table 4.30.2. 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 Norway Truck Trail is a natural beauty road and a special conservation area that is within the Ralph Ground Moraine management area as shown in Figure 4.30.6.

Approximately 2,570.9 acres of potential old growth have been identified within the Ralph Ground Moraine management area. These stands were identified for a broad range of reasons and were coded in the Operations Inventory database as Stand Condition 8. These stands area 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 4.30.6.

Table 4.30.2. Occurrence information for special concern, rare, threatened and endangered communities and species for the Ralph Ground Moraine 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								
Red-shouldered hawk	*Buteo lineatus*	T/G5/S3-4	Confirmed	PS	Very High	Floodplain forest	Lowland mixed	Mid
						Dry-mesic northern forest	White Pine	Late
						Mesic northern Forest	Northern Hardwood	Late
Common loon	*Gavia immer*	T/G5/S3-4	Confirmed	HV	Very High	Emergent Marsh	Lowland open/semi-open	N/A
						Bog	Lowland open/semi-open	N/A
Bald eagle	*Haliaeetus leucocephalus*	SC/G5/S4	Confirmed	IL	Moderate	Bog	Lowland open/semi-open	N/A
						Hardwood-conifer swamp	Lowland Mixed	Mid
						Northern hardwood swamp	Black Ash	Late
						Poor conifer swamp	Tamarack	Late
						Floodplain forest	Lowland mixed	Mid
						Dry northern forest	Jack Pine, Red Pine	Early
						Dry-mesic northern forest	White Pine	Late
						Mesic northern Forest	Northern Hardwood	Late
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
Black-backed woodpecker	*Picoides arcticus*	SC/G5/S3	Confirmed	IL	Very High	Rich conifer swamp	Tamarack	Late
						Bog	Lowland open/semi-open	N/A
						Dry northern forest	Jack Pine, Red Pine	Early
						Muskeg	Lowland open/semi-open	N/A
						Mesic northern Forest	Northern Hardwood	Late
						Boreal forest	Upland & Lowland Sp/F	Mid
Butterflies								
Freija fritillary	*Boloria freija*	*SC/G5/S3S4*	Confirmed	HV	Low	Bog	Lowland open/semi-open	N/A
						Patterned fen	Lowland open/semi-open	N/A
Red-disked alpine	*Erbia discoidalis*	*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
Mammal								
Tri-colored bat (Eastern pipistrelle)	*Perimyotis subflavus*	SC/G5/S2S3	Confirmed	PS	Very High	Caves	Caves	N/A
Reptile								
Wood turtle	*Glyptemys insculpta*	SC/G4/S2S3	Confirmed	MV	Moderate	Northern wet meadow	Lowland open/semi-open	N/A
						Bog	Lowland open/semi-open	N/A
						Rich conifer swamp	Tamarack	Late
						Hardwood-conifer swamp	Lowland Mixed	Mid
						Northern shrub thicket	Upland open/semi-open	N/A
						Mesic northern forest	Northern Hardwood	Late
Plant								
Western dock	*Rumex occidentalis*	E/G5/S1	Confirmed			Emergent marsh	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

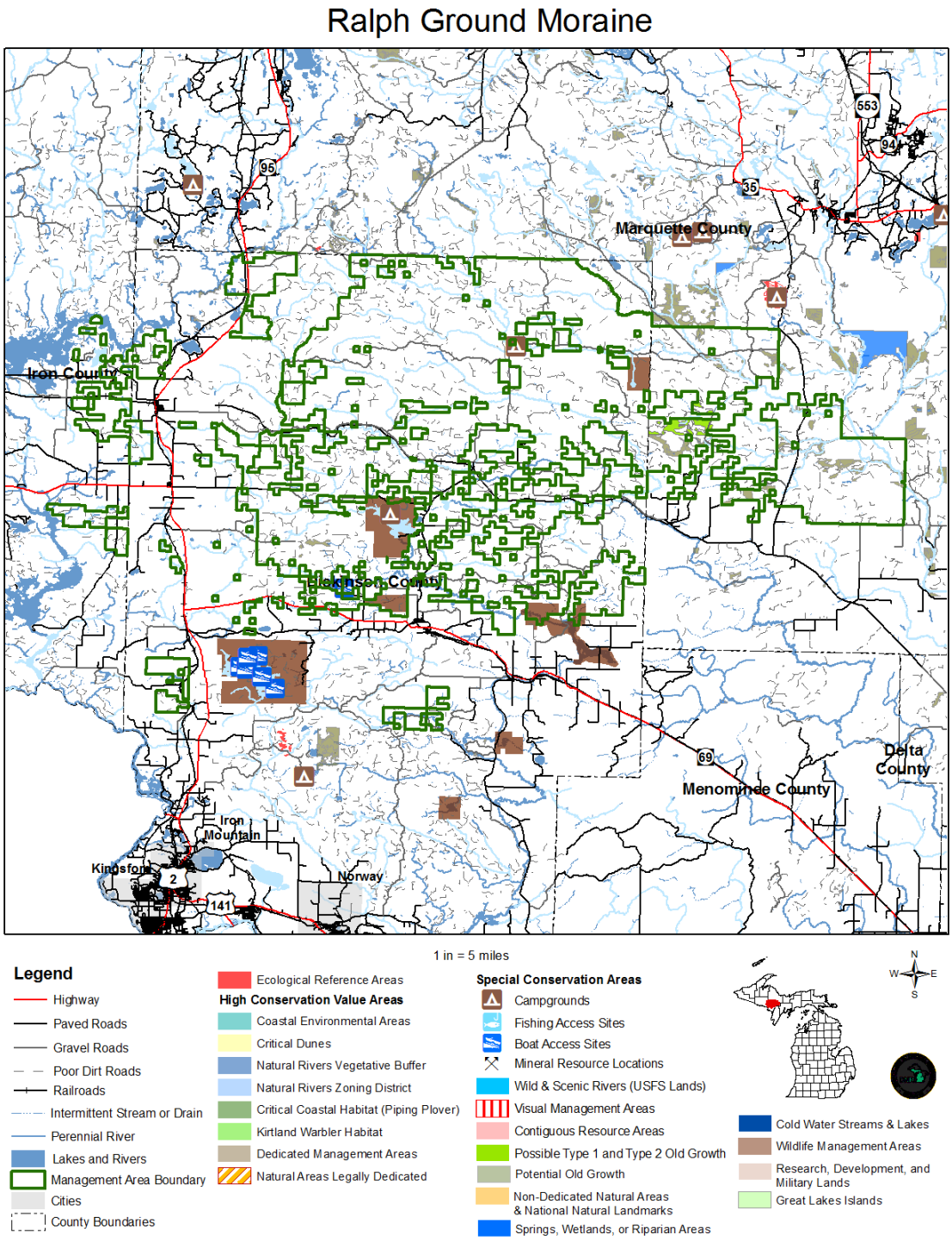

Figure 4.30.6. A map of the Ralph Ground Moraine management area showing the special resource areas.

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.

4.30.4 – 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:

- White trunk rot of aspen
- *Hypoxylon* canker
- Emerald ash borer
- Spruce budworm

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. The only species of concern that been documented in or near this management area is Japanese knotweed.

4.30.5 – Aquatic Resource Management

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

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

Forested stands adjacent to designated high priority trout streams will specifically be managed to discourage beaver use in accordance with both DNR Policy and Procedure 39.21-20 Beaver Management and IC 4011. Designated high priority trout streams are identified in the Integrated Forest Monitoring Assessment and Prescription Geographic Decision Support Environment. Remove or discourage beaver populations on designated high priority trout streams.

High priority trout streams in this management area are shown in Figure 4.30.1.

4.30.6 – Fire Management

Largely mesic and wetland forest communities were probably not significantly affected by fire disturbance overall. Portions of this area adjacent to Chain Lakes and Floodwood management areas probably supported pine communities with somewhat shorter fire regimes.

- All wildfires within the management area are subject to appropriate initial attack response.

4.30.7 – Public Access and Recreation

This area has good public and management access. Gene's Pond and West Branch state forest campgrounds are located in this area as shown in Figure 4.30.6. Gene's Pond has a boating access site associated with it. Additional boating access sites are located on Pickerel Lake, Six Mile Lake and Solberg Lake. Several snowmobile trails cross this area as shown in Figure 4.30.1.

Specific hunting recreation improvements such as parking lots, gates, trail planting and trail establishment, as well as the preparation and dissemination of specific promotional material, may be made as a result of Grouse Enhanced Management Systems areas planning in this management area.

- Work to expand recreation facilities as opportunities arise.

4.30.8 – Oil, Gas and Mineral Resources

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

Surface sediments consist of an end moraine of coarse-textured till, medium and coarse-textured till, peat and muck and glacial outwash sand and gravel and postglacial alluvium in places thin to discontinuous. The glacial drift thickness varies up to 200 feet. Sand and gravel pits are located in the management area and there is potential for additional pits.

The Ordovician Black River Formation and Prairie du Chien Group, Cambrian Trempealeau Formation and Munising Group and Precambrian Michigamme, Hemlock, Menominee and Chocolay Formations, Archean Granite/Gneiss, Volcanics and Sedimentary Rocks and Randville Dolomite subcrop below the glacial drift. The Black River is quarried for dolostone/stone in the Upper Peninsula and the Randville and Granite/Gneiss are sometimes be used as dimension stone.

Old iron mines and other explorations are located along the west edge of the management area. Metallic mineral exploration has occurred in the management area in the past, and several locations within the management area are currently leased, with additional exploration in the management area likely.