



SAULT FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 101 ENTRY YEAR: 2010

Compartment Acreage: 2185 County: Mackinac

Revision Date: 8/11/08

Stand Examiner: Cory Luoto

Legal Description: T42N-R6W Sections 13, 22, 23, 24, & 25; Moran Township

RMU (if applicable):

Management Goals: Compartment 101 surrounds Little Brevort Lake and has within it, two State Forest Campgrounds, and 542 acres as a designated Natural Area. This compartment is within the proposed Lake Michigan Shoreline Management Area. Plans for this Management Area are currently being written. The predominate timber type is northern hardwood, but there is large stands of cedar, aspen, birch, hemlock, white pine, spruce, balsam fir, and several large grassy openings. The hardwood has been extensively managed in the past and will continue to be so in the future. The Natural Area surrounding the lake and campgrounds isn't managed for timber; rather it is left as a pristine recreational area that doesn't allow any motorized traffic. In 2007 the Naubinway staff felled a majority of the beech trees in the South Campground because of the severity of Beech Bark Disease. The felled trees are being used as a ready source of fire wood by the campers. Continued hazard tree abatement will continue on an as needed basis.

Soil and Topography: The soils making up the compartment are primarily Wallace sands and Markey and Carbondale mucks. The Wallace sands are typically found in the hardwood stands and the dune areas near Lake Michigan. The mucks are associated with the cedar and other lowland species.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The compartment is contiguous with state land to the north and is bordered by federal land to the east. The western and southern boundaries of the compartment are bordered by private land holdings. Also the SWSW forty of section 13 is in private ownership.

Unique, Natural Features (include only non-site specific and non-sensitive information): Within the Natural Area there are two hemlock trees that are over four hundred years old. There is a potential for some rare, threatened, and special concern plant and animal species to inhabit the compartment. Stands to be managed will be checked for species of concern. Management will be modified if species are found within those stands per management guidelines for that species.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): Section 25 contains an archeological site.

Special Management Designations or Considerations: Best management practices will be observed when harvesting near the Little Brevort River. Visual management will also be a consideration when harvesting the stands on the Worth Road. The southern area of the compartment lies within a Critical Dune Area and there is no harvesting prescribed in this area. Little Brevort Lake Natural Area encompasses 542 acres surrounding Little Brevort Lake.

Watershed and Fisheries Considerations: This compartment contains Little Brevoort Lake and the Little Brevoort River. Little Brevoort Lake supports a coolwater fish community consisting of northern pike, walleye, black crappie, bluegill, rock bass, yellow perch, pumpkinseed sunfish, bowfin, brown bullhead, and carp. The Little Brevoort River is classified as second-quality trout water. Previous surveys have captured brook trout, brown trout, central mudminnow, creek chub, northern pike, sculpins, and American brook lamprey. Implementation of BMP's will aid in preventing sediment input from road crossings and upland areas are critically important to protect spawning areas for trout and other stream-resident fishes. Buffering the river is also critical to ensure future inputs of woody material to the stream channel and provide shading to protect water temperature from warming to a degree that will inhibit trout survival.

Wildlife Habitat Considerations: Several ephemeral wetlands and streams and permanent wetlands are within this compartment including Little Brevoort River and Lake. Retention of mature red pine during final harvest along these wetland areas will provide benefits for numerous wildlife species.

General Wildlife Objectives and Considerations:

1. Ephemeral wetlands/intermittent streams

Despite their small size, ephemeral wetlands and intermittent streams are critically important to reptile and amphibians and contribute to the overall forest biodiversity (MI Wildlife Action Plan – wetlands: ephemeral wetlands).

Terrestrial habitats within 100 ft of ephemeral wetlands and intermittent streams will be left uncut following to protect water quality BMP guidelines. Mature, undisturbed forests surrounding wetlands are important because harvest practices can degrade habitat suitability for dependent wildlife species, particularly reptiles and amphibians. Soil temperatures increase and humidity decreases with loss of canopy closure, rutting in low areas can disrupt species movement, harvested areas have lower dead and down woody debris, and exposed soils combined with large rain events after harvest can introduce sedimentation impacting water quality and quickly fill in small isolated wetlands.

Adjacent to the water quality buffer, management of the adjacent terrestrial habitat up to 500 ft will incorporate the life requirements of reptile and amphibian species. Harvest within this core habitat zone will avoid peak breeding periods of Apr. 15 – July 15th, when logistically feasible. Retention patches, particularly with clear cut stands, will be placed adjacent to wetland buffers or between wetlands within a stand to increase protection and connectivity.

2. River/Marsh

Maintaining mature, closed canopy forest types adjacent to rivers, lakes, ponds will benefit numerous wildlife species. Wood ducks, hooded mergansers, bald eagle, osprey, numerous passerines, red-shouldered hawk, black bear, fisher, marten, and other aquatic fur bearers are some species which utilize mature forests adjacent to water bodies.

Emphasis of mature forest community elements adjacent to water quality buffers will maximize wildlife value. Retention patches, particularly with clear cuts, will be placed adjacent to or between wetlands within a stand increase protection and connectivity. Harvest within 500 ft will avoid peak breeding reptile and amphibian breeding periods of Apr. 15 – July 15th, when logistically feasible.

3. Oak

Retention of oak is now particularly important given the significant loss of beech across the landscape. Management which encourages and protects mast producing species such as oak will benefit numerous wildlife species such as white-tailed deer, grouse, bear, rodents, and wild turkey.

4. Cedar/conifer/fir/spruce within deer yards

One of the primary objectives within deer yards is to maintain a dense canopy cover which serves as an intercept to snow accumulation during winter. To maintain this cover, retention of these species is important. Because of the low probability of cedar regeneration within concentrated areas of deer use, harvest should be avoided. If harvest of cedar has been conducted within the yard, evaluating harvest techniques and regeneration will be critical to the success of future management.

5. Cedar management outside of deer yard boundaries with regeneration challenges

Where cedar is not regenerating outside of deer yards, clear criteria should be developed to judge adequate regeneration and appropriated actions to correct understocked areas (SFI Performance Measure 2.1). It must be determined where and how much this lower stocking rate is acceptable. Because of the high economic and ecological value of cedar, the priority should be to evaluate regeneration of past harvest areas and to limit or clearly define sustainable harvest levels until status within these areas is determined. Monitoring results will take time (30 - 50 yrs) but will not jeopardize cedar communities as they are long-lived.

In stands where cedar is harvested, actions will be taken to protect desirable or planned advanced natural regeneration during harvest (SFI Performance Measure 2.1):

- 1) Leave cedar seed trees every 30 ft.
- 2) Avoid cutting leaning cedar ($\sim \leq 45^\circ$) - trees provide better opportunities for vegetative regeneration.
- 3) Avoid harvesting large trees ($> 12''$ dbh) - good seed dispersal.
- 4) Create slash piles and downed whole trees adjacent to retained cedar.
- 5) Avoid harvesting in low areas with hummock microtopography as equipment can flatten and result in site conversion to species that are more adapted to wet areas.
- 6) Clearcutting of cedar on shallow organic soils, poorly decomposed acid peats, or wet mineral soils frequently result in inadequate regeneration. Harvest should be restricted to the most productive organic soils.

Citation:

Chimner, R.A., and J.B. Hart 1996. Hydrology and microtopography effects on northern white-cedar regeneration in Michigan's Upper Peninsula. *Can. J. For. Res.* 26:389-393.

Lanasa, M. 1989. Northern white-cedar management and whitetail deer habitat. In: *Proceedings of the National Silvicultural Workshop: Silviculture for all resources; 1987 May 11-14; Sacramento, CA.* Washington, DC: U.S. Department of Agriculture, Forest Service, Timber Management: 19-24.

Verme, L.J., and W.F. Johnson. 1986. Regeneration of Northern white cedar deeryards in upper Michigan. *J. Wild. Manag.* 50:307-313.

6. Northern hardwood

Retention of large diameter living trees and snags will provide cavity, den, and foraging habitat and future dead and down woody debris for numerous wildlife species.

7. Hemlock

Hemlock communities provide habitat for rare raptor species such as red-shouldered hawk and Northern goshawk and is also important to black-throated blue, cerulean, black-throated green warblers, and scarlet tanagers, black bear, moose and marten.

Closed canopy structure results in lower snow levels and lower energy expenditures for deer. When harvesting other tree species within a stand where hemlock is retained, equipment should refrain from removing trees from hemlock inclusions to avoid damaging the canopy.

8. Poor conifer swamp

This natural community is dominated by black spruce, Labrador tea, and sphagnum mosses and is important to many rare plants and animals such as the yellow pitcher plant, black crowberry, spruce grouse, wood turtle, and merlin. When managing for biodiversity within poor conifer swamps, large unharvested tracts may be left to allow natural processes to operate unhindered to generate a range of successional stages. Examples of this community with late successional characteristics are relatively rare and should be considered for retention with the presence of large trees, treefall gaps, snags and downed wood.

Dead and dying wood will be retained to become snags, stumps, and fallen logs. Long rotation periods (over 100 years) will favor numerous species, such as epiphytic lichen and trunk foraging birds that depend on old, large trees.

Where management does occur, patches of residual trees, all snags, and dead and downed wood will be retained. High retention (> 20 %) will be important because spruce is not very windfirm, thus isolated retention patches blow over easily. Retention of both spruce and fir is important to maintain the multi-storied structure within the stand.

Citation:

Kost, M.A., D.A. Albert, J.G. Cohen, B.S. Slaughter, R.K. Schillo, C.R. Weber, and K.A. Chapman. 2007. Natural Communities of Michigan: Classification and Description. Michigan Natural Features Inventory, Report No. 2007-21, Lansing, MI.

MDNR FMFM Within-Stand Retention Guidelines. 2006. Cover type specific considerations – spruce-fir. Pgs. 25-26.

9. Aspen

Maintaining a component of interspersed large (saw log) living aspen or aspen patches within managed stands will provide for future snag age class and a food resource for ruffed grouse. This aspen multi-age class juxtaposition also provides benefits for deer and hare.

Oak and cherry retained within aspen stands serve as important mast producers.

Retention of longer-lived species such as maple, oak, cedar, and white pine enhance vertical structure and assure a steady supply of snags and downed woody debris.

Retention of conifer < 4" dbh within stands provides cover for ruffed grouse.

10. Red pine

Retention of some red pine at final harvest in plantation stands provide wildlife values in terms of super-canopy nesting trees, a good long-term cavity resource, and live/wood legacy tree retention. The benefit of these patches to wildlife will be maximized by placing retention of red pine adjacent to 100 ft, unharvested, water quality buffers.

The retention zone beyond the buffer can be managed to maximize ecological complexity and natural plant diversity with variable density thinning and longer rotations. Retention within this zone of 60 – 80 ft² per acre of residual red pine at the initial harvest will result in development of two-age cohort stands and potentially multi-cohort stands when this level of harvest is repeated in the future. Economic rotation ages of 50 – 90 years are shorter than those to develop complex stand structures (120 – 200 years). Thus the primary

determinant of harvest within the retention zone will be the acceptable level of structural complexity and within-stand heterogeneity.

Because large continuous stands of red pine of the same age are susceptible to severe pest outbreaks, having zones of red pine of varying age classes broken up with alternate non-pine species will prove beneficial.

Management within red pine plantations will enhance and perpetuate oak components which are an important hard mast source for numerous wildlife species.

Citation:

Gilmore, D. W., and B. J. Palik. 2006. A revised manager's handbook for red pine in the North Central Region. Gen. Tech. Rep. NC-264. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 55 p.

MDNR FMFM Within-Stand Retention Guidelines. 2006. Cover type specific considerations – red pine. Pgs. 22-23.

Michigan State Forest Red Pine Management Guidelines. 1991.

Nicholls, T. H., and D. D. Skillings. 1997. Pocket guide to red pine diseases and their management. U.S. Department of Agriculture, Forest Service, North Central Research Station.

11. Limestone Boulders

These unique geologic features serve as micro-habitat for several rare plant species including Hart's tongue fern, green spleenwort, and walking fern. Harvesting too close to these boulders can interrupt the canopy cover and micro-climate for these plants. In areas where plants have been found, retention guidelines will be followed (pg. 15). In areas within the plant species distribution (see MNFI summaries) harvest will not occur at a minimum of 10 ft of large boulders (approximately $\geq 4 \times 4$ ft) to protect micro-climate and possible future colonization sites.

12. Retention considerations

- Retention patches placed within a stand for water quality, inoperability, or protection of sensitive habitat can contribute toward but not fully satisfy retention requirements (pg. 10).
- Important to vary retention patterns across the landscape to encourage structural diversity (pg. 11).
 - When retaining scattered trees, important to capture the size diversity by assuring that large diameter trees / trees with desirable wildlife characteristics are included.
 - For stands greater than 10 acres, patches are recommended. This also assures that a representation of the current species community is retained.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of lacustrine (lake) sand and gravel. The glacial drift thickness varies between 50 and 100 feet. The Silurian Point Aux Chenes Shale and Engadine Group subcrop below the glacial drift. The Engadine is quarried for stone/limestone in the area. Gravel pits are not located in the area and potential appears to be limited. There is no current economic oil and gas production in the UP.

Vehicle Access: Vehicle access is good along the Worth Road, which is an all season road. The two roads leading into the campgrounds are good gravel roads. Section 13 is accessible by the East Boundary Road and a good two track that goes north from the east side of the private forty. There isn't any motorized vehicle traffic permitted in the Natural Area except for the two campground roads.

Survey Needs: No survey needs at this time.

Recreational Facilities and Opportunities: There are two campgrounds located on the north and south shores of Little Brevort Lake. The north unit has twenty sites and small boat launch and the south unit has twelve sites and a small boat launch. Fishing is the predominate activity within the compartment. With Little Brevort Lake being entirely within the Designated Natural Area, using a boat motor is prohibited. The Switchback Ridge foot trail starts at the north campground follows the lakeshore to the south campground and then makes a loop to Brevort Lake on federal land. The entire trail is approximately 2.5 miles long. The north campground has a flowing well that is heavily utilized by the locals as a source of drinking water.

Fire Protection: This isn't a high fire danger area. If a fire was to occur in the Natural Area Minimal Impact Suppression Tactics (MIST) would be used.

Additional Compartment Information:

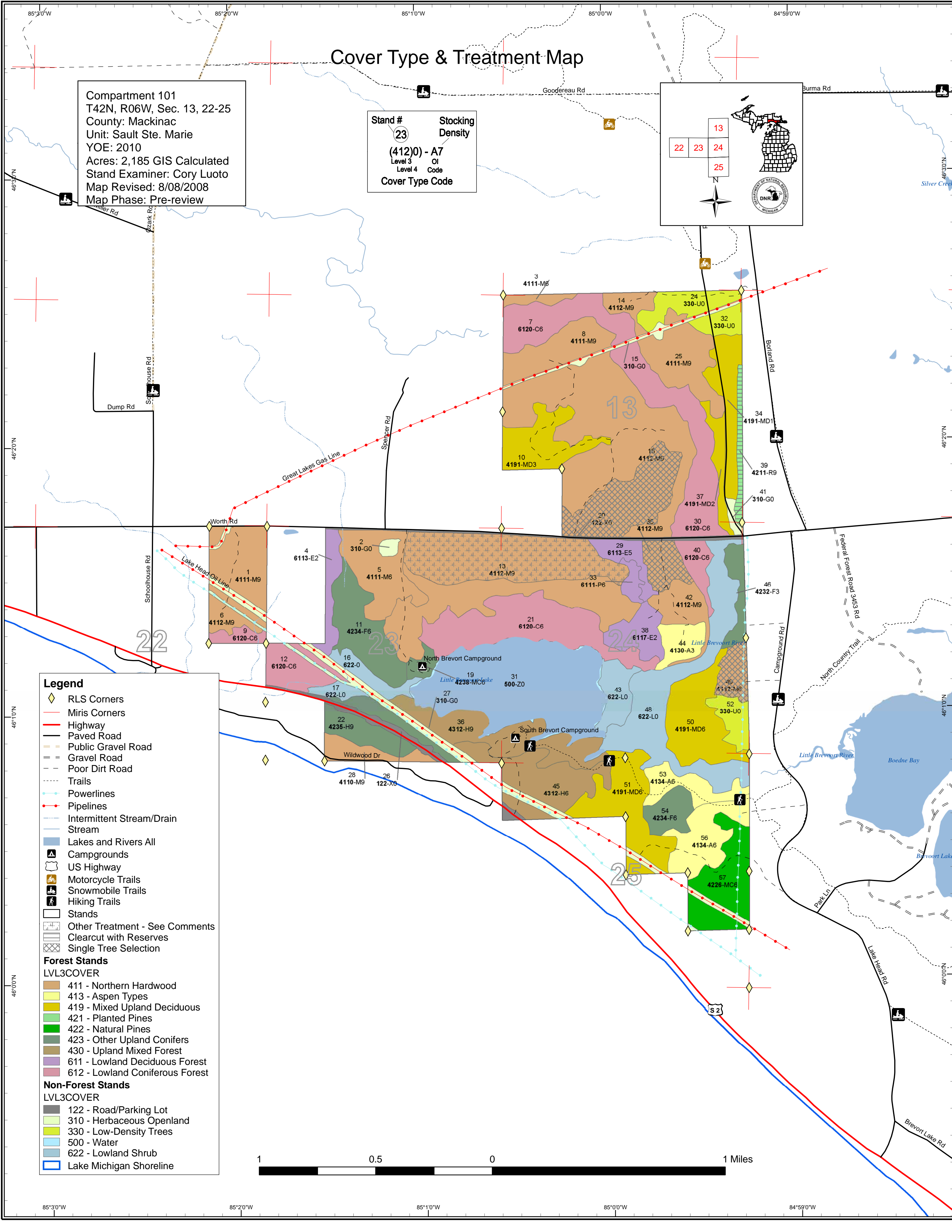
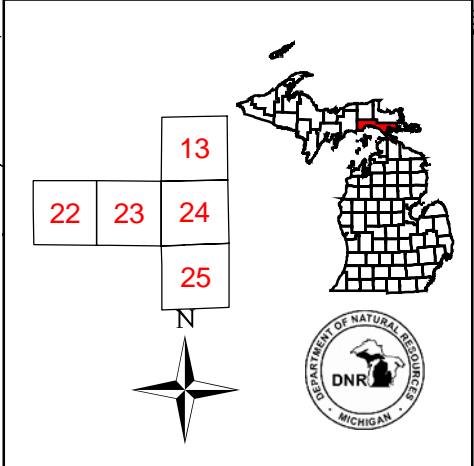
- **Cover Type details, Proposed Treatments, and Stand listings are listed in the attached reports:**
 - ◆ **Proposed Treatments – No Limiting Factors**
 - ◆ **Proposed Treatments – With Limiting Factors**
 - ◆ **Stand Listing – Forested**
 - ◆ **Stand Listing – Non Forested**
 - ◆ **Special Conservation Area (SCA) Details**

- **The following information is displayed, where pertinent, on the attached compartment maps:**
 - ◆ **Base feature information, stand numbers, cover types**
 - ◆ **Proposed treatments**
 - ◆ **Proposed road access system**
 - ◆ **SCA – Special Conservation Areas**

Cover Type & Treatment Map

Compartment 101
 T42N, R06W, Sec. 13, 22-25
 County: Mackinac
 Unit: Sault Ste. Marie
 YOY: 2010
 Acres: 2,185 GIS Calculated
 Stand Examiner: Cory Luoto
 Map Revised: 8/08/2008
 Map Phase: Pre-review

Stand # 23
 Stacking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code



Legend

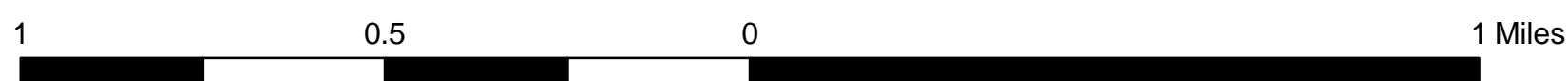
- ◆ RLS Corners
- Miris Corners
- Highway
- Paved Road
- Public Gravel Road
- Gravel Road
- Poor Dirt Road
- Trails
- Powerlines
- Pipelines
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers All
- Campgrounds
- US Highway
- Motorcycle Trails
- Snowmobile Trails
- Hiking Trails
- Stands
- Other Treatment - See Comments
- Clearcut with Reserves
- Single Tree Selection

Forest Stands
 LVL3COVER

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

Non-Forest Stands
 LVL3COVER

- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- Lake Michigan Shoreline

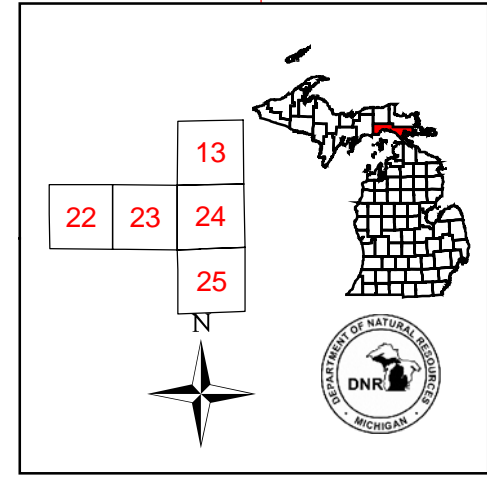


85°30'W 85°20'W 85°10'W 85°00'W 84°50'W 46°30'N 46°20'N 46°10'N 46°00'N

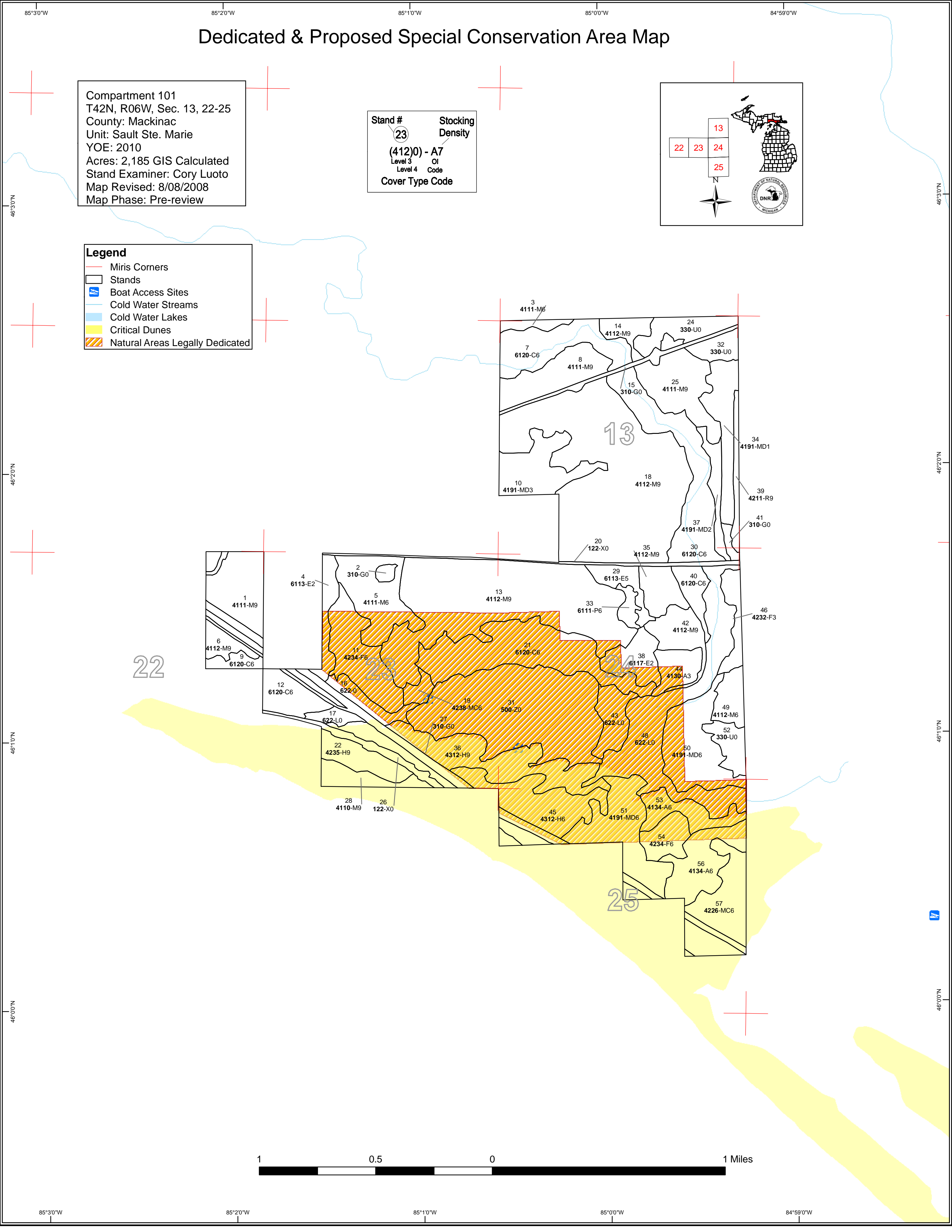
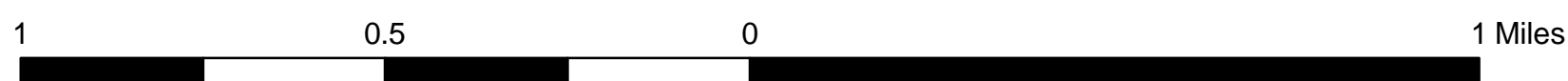
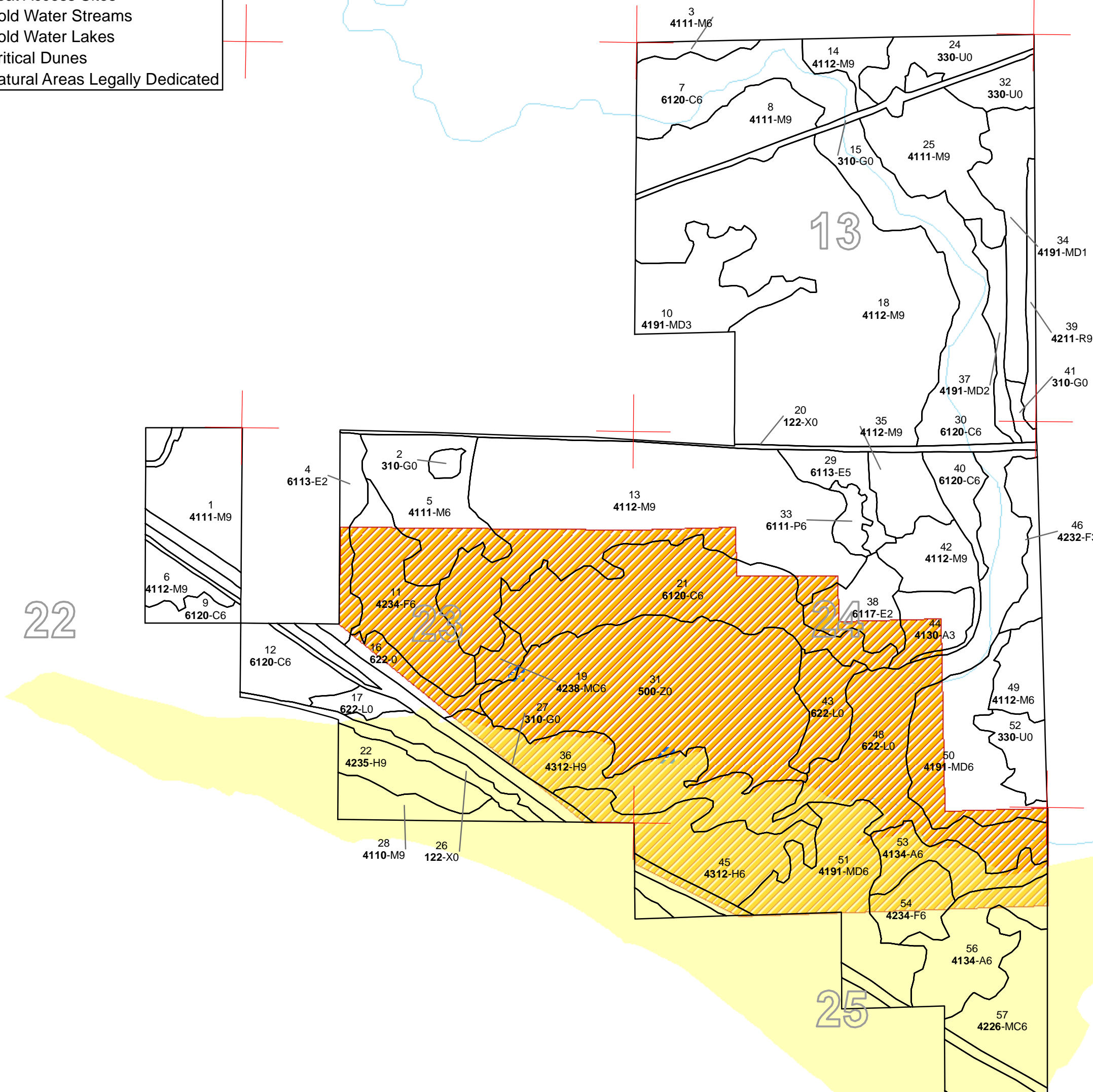
Dedicated & Proposed Special Conservation Area Map

Compartment 101
 T42N, R06W, Sec. 13, 22-25
 County: Mackinac
 Unit: Sault Ste. Marie
 YOY: 2010
 Acres: 2,185 GIS Calculated
 Stand Examiner: Cory Luoto
 Map Revised: 8/08/2008
 Map Phase: Pre-review

Stand # **23** Stocking Density
(412)0 - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code



- Legend**
- + Miris Corners
 - Stands
 - Boat Access Sites
 - Cold Water Streams
 - Cold Water Lakes
 - Critical Dunes
 - Natural Areas Legally Dedicated



Covertime, Acres, and Age summary (Level 3 Cover Type)

Sault Ste. Marie Mgt. Unit

Compartment 101 Year of Entry 2010

Report Date: 08/08/2008



	Age Class														Total	
	Non-Forested	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +		Uneven Age
Aspen Types	0	0	0	18.8	0	24.8	0	0	42.1	0	0	0	0	0	0	85.7
Herbaceous Openland	66.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66.5
Low-Density Trees	54.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54.1
Lowland Coniferous Forest	0	0	0	0	0	0	0	0	0	37.1	138.8	0	93.9	0	0	269.8
Lowland Deciduous Forest	0	0	17.3	24.8	7.4	0	0	15.9	0	0	0	0	0	0	0	65.4
Lowland Shrub	149.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	149.8
Mixed Upland Deciduous	0	0	0	35.8	15.1	59.1	52.0	0	0	0	0	0	0	0	43.1	205.0
Natural Pines	0	0	0	0	0	0	0	39.7	0	0	0	0	0	0	0	39.7
Northern Hardwood	0	0	0	0	0	0	51.1	291.5	144.3	264.0	0	0	0	0	0	751.0
Other Upland Conifers	0	0	0	15.9	0	78.7	0	0	0	0	15.1	0	0	0	0	109.7
Planted Pines	0	0	0	0	0	0	0	0	10.3	0	0	0	0	0	0	10.3
Road/Parking Lot	27.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.6
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	51.7	67.2	0	0	0	0	118.9
Water	161.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	161.1
Total	459.0	0	17.3	95.2	22.5	162.6	103.1	347.1	196.8	352.8	221.2	0	93.9	0	43.1	2114.6

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
18 45101018-Cut	66.9	4112 - Maple, Beech, Cherry Association	High Density Log	83	Harvest	Single Tree Selection	Maple, Beech, Cherry Association

Rev

Cmnt: Actual sale boundary may vary. Stay out of the steep ravines to the east.

Rev

Thin to 80-90 basal area, using the Complete Marker and other documentation as a guide. Leave Conifer Component. Promote yellow Birch and Hemlock.

Next

Steps: Acceptable regen would be sugar and red maple, cherry, yellow birch, basswood, beech aspen. Conduct regeneration survey within 4yrs after harvest.

35 45101035-Cut	20.4	4112 - Maple, Beech, Cherry Association	High Density Log	78	Harvest	Single Tree Selection	Maple, Beech, Cherry Association
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Rev

Cmnt: Actual sale boundary may vary. The stand to the south was thinned heavier during the previous harvest. The stand line was difficult to determine on the imagery.

Rev

Thin to 80-90 basal area, using the Complete Marker and other documentation as a guide. Leave conifer component. Promote yellow birch and hemlock.

Spec:

Next

Steps: Acceptable regen would be sugar and red maple, cherry, beech, basswood, aspen. Do a regeneration survey within 4yrs after harvest.

39 45101039-Cut	10.3	42110 - Planted Red Pine	High Density Log	72	Harvest	Clearcut with Reserves	Mixed Upland Deciduous with Conifer
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Rev

Allow site to come back naturally

Cmnt:

Rev

Clearcut stand. Leave scattered larger, poorer quality trees for a seed source.

Spec:

Next

Steps: Acceptable regen will be red pine, balsam, spruce, cherry, aspen, birch and maple. A regen survey will need to be done within 4yrs after harvest.

49 45101049-Cut	17.3	4112 - Maple, Beech, Cherry Association	High Density Pole	61	Harvest	Single Tree Selection	Maple, Beech, Cherry Association
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Rev

Cmnt: Stand is accessed through Federal land to the east.

Rev

Thin to 80-90 basal area, using the Complete Marker and other documentation as a guide.

Spec:

Next

Steps: Acceptable regen would be sugar and red maple, beech, cherry, basswood, aspen A regen survey needs to be done within 4yrs after harvest.

13 45101013-Other	107.6	4112 - Maple, Beech, Cherry Association		60	Other	Unspecified	Maple, Beech, Cherry Association
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Rev

Cmnt: This stand was timbersale # 451250501 (Stale Hardwoods) It was closed in June of 2008.

Rev

Conduct a regen survey in four years. Acceptable regeneration will be sugar and red maple, beech, birch, cherry, basswood, hemlock, white pine and aspen

Spec:

Next

Steps:

**Total Treatment
Acreage Proposed: 222.5**

**PROPOSED TREATMENTS
WITH LIMITING FACTORS**



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Treatment Name	Acres	Stage1 Cover Type	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Page 1 of 1
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Limiting Factor and Comment:

Rev Cmnt:

Rev Spec:

Next Steps:

No Treatment Reason

**Total Treatment
Acreage Proposed: 0**



PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

Inventory Method: IFMAP

Stand	SCA Name	Acres	Comments



DEDICATED CONSERVATION AREA DETAILS

* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

ERA = Ecological Reference Area
HCVA = High Conservation Value Area
SCA = Special Conservation Area

Conservation Area	Type	Description
HCVA	Critical Dunes	Critical dune areas are established via the public legislative process, and governed by Part 353, Sand Dune Protection and Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the Michigan Department of Environmental Quality (DEQ). The current distribution of designated critical dunes is established by the DEQ 1989 Atlas of Critical Dune Areas.
HCVA	Legally dedicated Natural Areas, Wilderness or Wild Areas	The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.
SCA	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Concentrated Recreation Area	Facilities that are designed and maintained for routine or heavy recreational use, including State Parks, State Forest campgrounds, motorized and non-motorized trails, trailheads, staging areas and public access sites.