



## SAULT FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 111    ENTRY YEAR: 2010

Compartment Acreage: 1899    County: Mackinac

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**Revision Date:** August 11, 2008

**Stand Examiner:** Amy Douglass

**Legal Description:** T43N-R06W Sections 4, 5 & 6; Moran Township

**RMU (if applicable):**

**Management Goals:** This compartment is located approximately 4 miles southwest of Trout Lake off the north end of J.T. Camp Road. The compartment is within the proposed Mackinac Mix Management Area. Plans for this Management Area are currently being written. The west half is a poor cedar swamp with several small islands of higher ground which are inaccessible. The headwaters of the South Branch Carp River are in the southern portion of section 5. The east half is aspen/mixed upland deciduous, northern hardwoods and cedar, and has been receiving regular treatment. Aspen is regenerating nicely and continued cutting is recommended due to its age and to enhance age class diversity. The hardwoods have been receiving regular treatment to promote health and growth. Some trial cedar patch cuts were accomplished in the summer of 2005. These will be checked for cedar regeneration. Rock is at or near surface with large boulders and rock ledges present.

**Soil and Topography:** The large low swamp occupying depressions and/or nearly level areas is primarily Markey and Carbondale mucks, with Spot-Finch, and Markey-Spot-Finch complexes. Upland undulating islands within the swamps are Paquin sand and Paquin-Finch sands. The upland hardwoods are on undulating bedrock-controlled ground moraines and consist primarily of Amadon-Longrie sandy loam with Longrie-Battydoe, stony, complex and Longrie sandy loam. Other soils include Menominee loamy sand and Amadon-Rock outcrop complex. Small and large boulders, rock crevices and rock ledges are fairly common within the hardwoods and aspen/mixed upland areas.

**Ownership Patterns, Development, and Land Use in and Around the Compartment:** State land surrounds the compartment. There are a couple scattered private 40's nearby with camps on them.

**Unique, Natural Features (include only non-site specific and non-sensitive information):** Large boulders and rock ledges found in the east ½ of compartment. Walking fern has been found in the area. There is a potential for rare, threatened, or endangered plant and animal species within the compartment.

**Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information):** There is evidence of old logging camps and ice roads throughout the area.

**Special Management Designations or Considerations:** While the proposed treatment areas have a low probability of walking fern occurrence, every effort will be made to keep an eye out for the possibility.

**Watershed and Fisheries Considerations:** This compartment contains the headwaters to the South Branch Carp River, a cold water stream. A minimum buffer width of 200 feet should be kept next to this waterbody.

**Wildlife Habitat Considerations:** This compartment is slightly south of the mapped deer yard boundaries and contains large expanses of cedar. The areas examined on the East portion of the compartment appeared to be under browse pressure with limited cedar regeneration. Regeneration beyond the browse line was not evident in several cuts from 1985 and 1988. The seedlings present were predominantly in areas of thick slash on nurse logs. Vegetative layering of leaning cedar trees was the only evidence of regeneration beyond the browse line. Water levels within the block cuts (completed in 2005) were higher than the surrounding uncut areas (on 7/28/08). No cedar seedlings were within the area at this point. Management of cedar stands within the compartment will focus on encouraging natural regeneration (see Wildlife Objective 5).

Several ephemeral wetlands and streams and permanent wetlands are within this compartment including the South Branch of the Carp River.

### **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 15<sup>th</sup>, 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 15<sup>th</sup>, 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 trees 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 ft<sup>2</sup> 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 peat and muck and lacustrine (lake) sand and gravel sometimes thin to discontinuous over bedrock. There is insufficient data to determine the glacial drift thickness. The Silurian Engadine and Manistique Groups 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:** The majority of the east ½ is accessible by J.T. Camp Road and several two-tracks. The west ½ is inaccessible except for the southwest corner, which has been managed with stands off Caffey Road.

**Survey Needs:** None needed.

**Recreational Facilities and Opportunities:** The Brevort-Trout Lake Motorcycle Trail winds through east ½ of compartment. Other recreational opportunities include deer, bear and small game hunting, and mushroom and berry picking.

**Fire Protection:** While this is in a low fire danger area, there is evidence of the fires from the old logging days. Trout Lake Township Fire Hall is approximately 5 miles away.

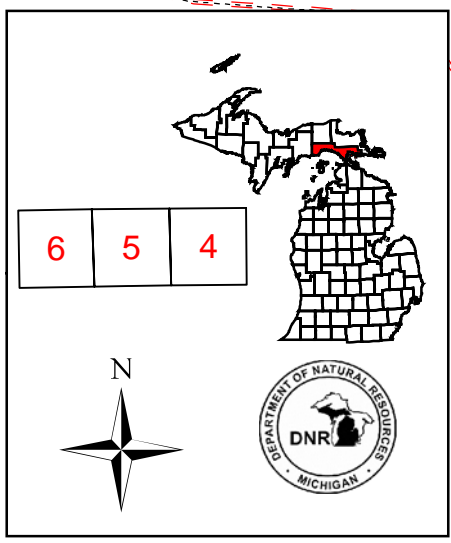
**Additional Compartment Information:**

- **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 111  
 T43N, R06W, Sec. 4-6  
 County: Mackinac  
 Unit: Sault Ste. Marie  
 YOY: 2010  
 Acres: 1,899 GIS Calculated  
 Stand Examiner: Amy Douglass  
 Map Revised: 8/08/2008  
 Map Phase: Pre-review

**Stand #**  
 23  
**Stocking Density**  
 (4120) - A7  
 Level 3 OI  
 Level 4 Code  
**Cover Type Code**



**Legend**

- ◇ RLS Corners
- Miris Corners
- County Paved Road
- - - County Gravel Road
- Paved Road
- - - Public Gravel Road
- - - Gravel Road
- - - Poor Dirt Road
- - - Trails
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers All
- 🏍 Motorcycle Trails
- 🚙 Snowmobile Trails
- Stands

**Forest Stands**

LVL3COVER

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 423 - Other Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

**Non-Forest Stands**

LVL3COVER

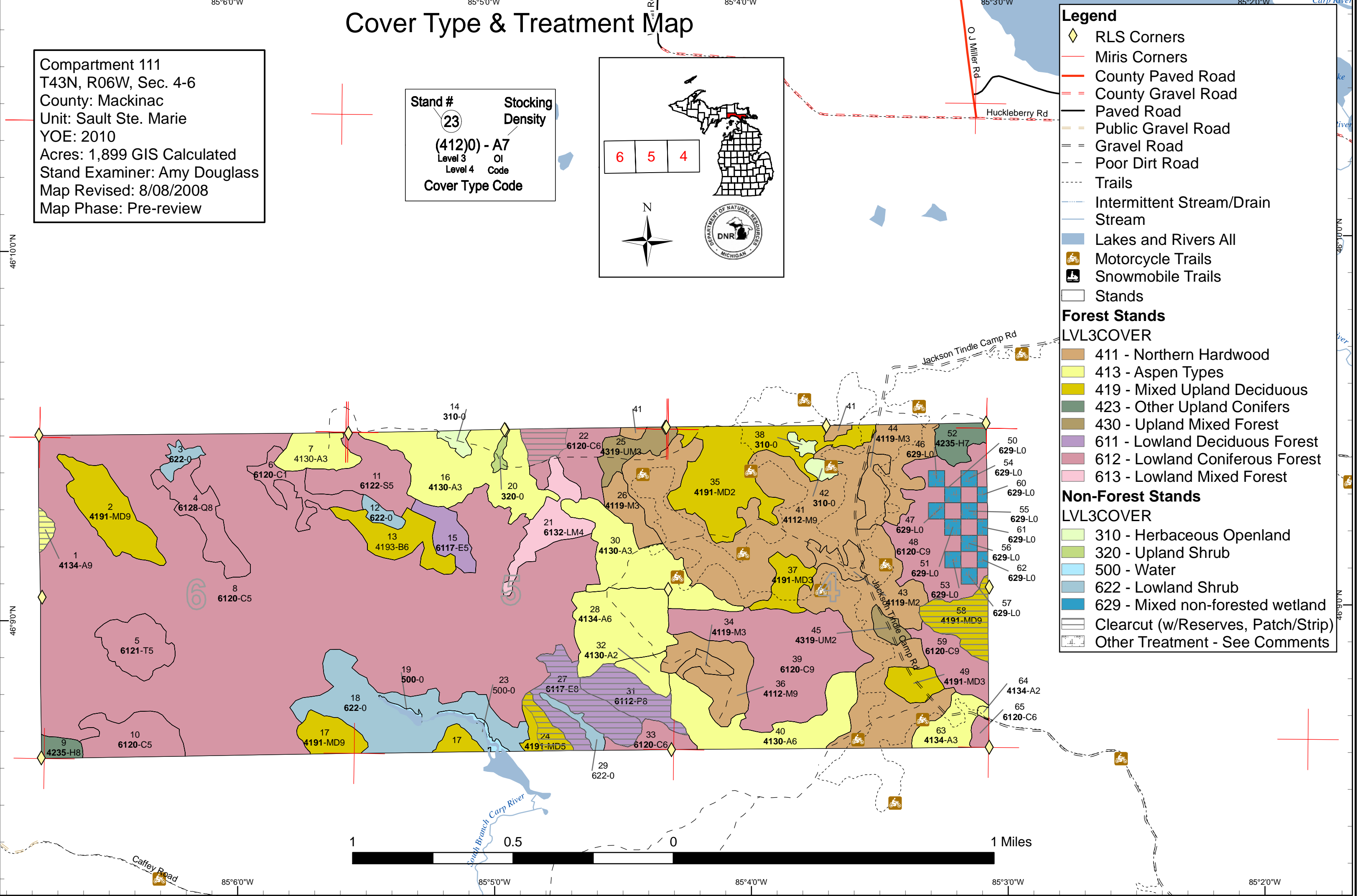
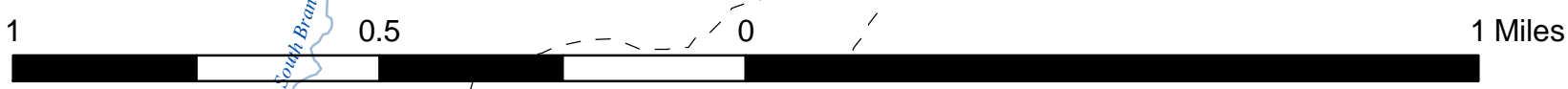
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 500 - Water
- 622 - Lowland Shrub
- 629 - Mixed non-forested wetland
- Clearcut (w/Reserves, Patch/Strip)
- Other Treatment - See Comments

46°10'0"N

46°9'0"N

85°6'0"W      85°5'0"W      85°4'0"W      85°3'0"W

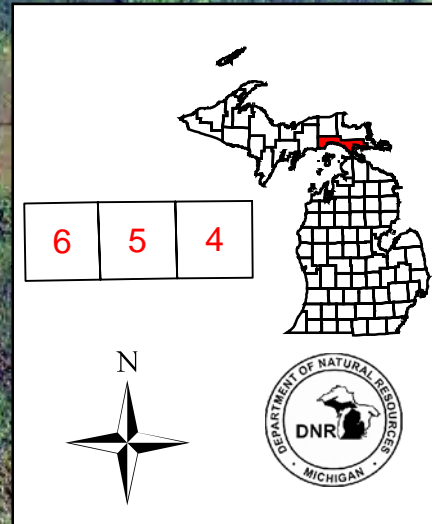
85°6'0"W      85°5'0"W      85°4'0"W      85°3'0"W



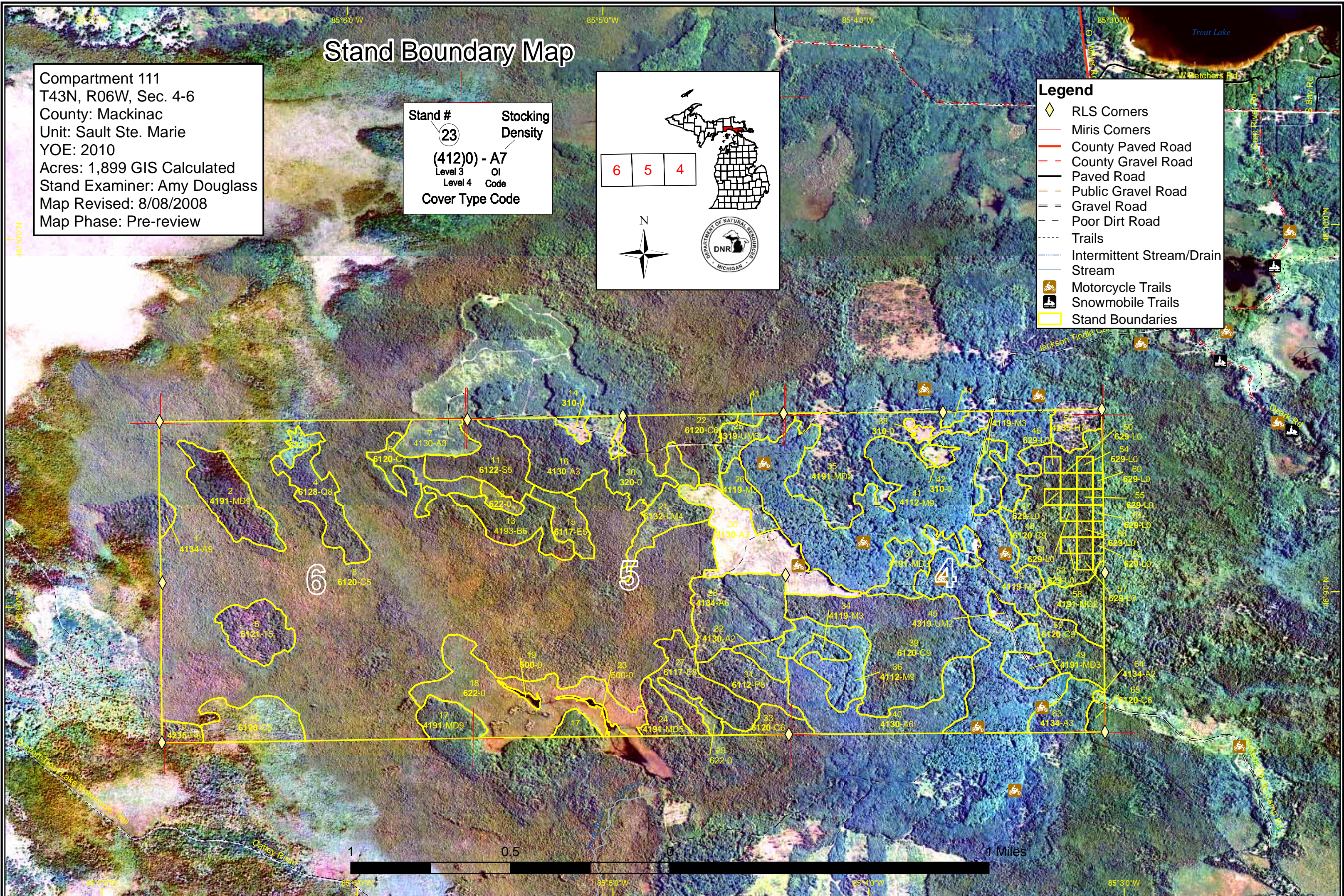
# Stand Boundary Map

Compartment 111  
 T43N, R06W, Sec. 4-6  
 County: Mackinac  
 Unit: Sault Ste. Marie  
 YOY: 2010  
 Acres: 1,899 GIS Calculated  
 Stand Examiner: Amy Douglass  
 Map Revised: 8/08/2008  
 Map Phase: Pre-review

**Stand #**  
 23  
**Stocking Density**  
 (4120) - A7  
 Level 3 OI  
 Level 4 Code  
**Cover Type Code**



- Legend**
- ◇ RLS Corners
  - Miris Corners
  - County Paved Road
  - County Gravel Road
  - Paved Road
  - Public Gravel Road
  - Gravel Road
  - Poor Dirt Road
  - Trails
  - Intermittent Stream/Drain
  - Stream
  - 🏍 Motorcycle Trails
  - 🏎 Snowmobile Trails
  - Stand Boundaries





Sault Ste. Marie Mgt. Unit

**Covertypes, Acres, and Age summary**  
(Level 3 Cover Type)

Compartment 111 Year of Entry 2010

Report Date: 08/07/2008



	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	106.7	16.0	99.7	0	0	0	0	0	2.8	0	0	0	0	225.2	
Herbaceous Openland	9.1	0	0	0	0	0	0	0	0	0	0	0	0	0	9.1	
Lowland Coniferous Forest	0	0	0	0	0	0	22.6	44.6	31.4	732.7	0	0	134.5	0	965.7	
Lowland Deciduous Forest	0	0	0	0	0	0	12.4	49.7	0	0	0	0	0	0	62.1	
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	21.8	
Lowland Shrub	76.6	0	0	0	0	0	0	0	0	0	0	0	0	0	76.6	
Mixed non-forested wetland	17.9	0	0	0	0	0	0	0	0	0	0	0	0	0	17.9	
Mixed Upland Deciduous	0	0	22.2	62.0	0	0	70.3	0	28.4	0	0	0	0	0	182.8	
Northern Hardwood	0	0	28.8	4.9	0	0	0	26.5	239.3	0	0	0	0	0	299.5	
Other Upland Conifers	0	0	0	0	0	0	0	0	0	0	0	10.1	5.1	0	15.2	
Upland Mixed Forest	0	0	17.5	0	0	0	0	0	0	0	0	0	0	0	17.5	
Upland Shrub	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.0	
Water	3.8	0	0	0	0	0	0	0	0	0	0	0	0	0	3.8	
<b>Total</b>	<b>109.4</b>	<b>106.7</b>	<b>84.6</b>	<b>166.5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>105.3</b>	<b>120.7</b>	<b>301.9</b>	<b>732.7</b>	<b>0</b>	<b>10.1</b>	<b>139.6</b>	<b>21.8</b>	<b>1899.3</b>

**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
1 45111001-Cut	2.9	4134 - Aspen, Spruce/Fir	High Density Log	85	Harvest	Clearcut with Reserves	Aspen, Spruce/Fir
<p><u>Rev</u> Currently under contract Charred Stumps #108-07-01 with stands in the compartment to the west. <u>Cmnt:</u></p> <p><u>Rev</u> Cut all trees but white pine and hemlock. Also leave one cedar tree every 50 feet. <u>Spec:</u></p> <p><u>Next</u> Regeneration survey will be needed within 4 years following harvest. Acceptable regeneration includes aspen, birch, balsam, spruce, cedar, cherry and <u>Steps:</u> maple in various amounts.</p>							
22 45111022_ws m-Cut	7.9	6120 - Lowland Cedar	High Density Pole	97	Harvest	Clearcut with Reserves	Mixed Coniferous Lowland Forest
<p><u>Rev</u> Currently under contract World Series Mix #119-04-01 with the stands in adjacent compartment to the north. <u>Cmnt:</u></p> <p><u>Rev</u> Leave all white pine and hemlock where present and all conifer &lt; 4 inches at dbh. <u>Spec:</u></p> <p><u>Next</u> Regeneration survey will be needed within 4 years following harvest. Acceptable regeneration includes cedar, tamarack, balsam, spruce, aspen, birch <u>Steps:</u> and maple in various amounts.</p>							
24 45111024-Cut	6.8	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	84	Harvest	Clearcut with Reserves	Aspen, Mixed Conifer
<p><u>Rev</u> Some upland with some lower transitional ground. Areas of black spruce. Cut with adjacent stand to the south in Compartment 112 (2001 YOE) <u>Cmnt:</u> previously prescribed but limiting factored.</p> <p><u>Rev</u> --Erynn Call : 10/28/2008 comments: <u>Spec:</u></p> <p>Retention will be the buffer along western edge (South Branch Carp River headwaters). Fish recommends 200' buffer from headwaters. The buffer shown is over 500' from stream edge and over 150' from timber edge. Vernal ponds found within the stand will be buffered appropriately. Cedar (3% of canopy) is to be left (per W/L at prereview). All conifer &lt; 4 inches at dbh will be left. Cut what you can with adjacent stands. Line placement may not</p> <p><u>Next</u> Regeneration survey will be needed within 4 years following harvest. Acceptable regeneration includes aspen, birch, balsam, spruce, cedar, cherry and <u>Steps:</u> maple in various amounts.</p>							
27 45111027-Cut	30.2	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Log	76	Harvest	Clearcut with Reserves	Lowland Deciduous, Mixed Coniferous
<p><u>Rev</u> Wet, low density trees. Variable mix of ground and species. Pockets of black spruce scattered throughout. <u>Cmnt:</u></p> <p><u>Rev</u> Budding trees will be left along edges, especially against the younger aspen age classes. Vernal ponds found within the stand will be buffered <u>Spec:</u> appropriately (approximately 100' from edge (per wildlife biologist)). Cedar (5% of canopy) is to be left (per W/L at prereview). All conifer &lt; 4 inches at dbh will be left. Cut what you can with adjacent stands. Line placement may not be exact, leaving areas uncut for retention.</p> <p><u>Next</u> Regeneration survey will be needed within 4 years following harvest. Acceptable regeneration includes aspen, birch, balsam, spruce, cedar, cherry and <u>Steps:</u> maple in various amounts.</p>							
31 45111031-Cut	19.5	6112 - Lowland Aspen	Medium Density Log	75	Harvest	Clearcut with Reserves	Lowland Aspen
<p><u>Rev</u> High ridge runs east-west from recent clearcut stand west to old grade. Contains upland, lowland and transitional ground. Far east area is shallow to <u>Cmnt:</u> bedrock.</p> <p><u>Rev</u> Budding trees will be left along edges, especially against the younger aspen age classes. Vernal ponds found within the stand will be buffered <u>Spec:</u> appropriately (approximately 100' from edge (per wildlife biologist)). Cedar (2% of canopy) is to be left (per W/L at prereview). All conifer &lt; 4 inches at dbh will be left. Cut what you can with adjacent stands. Line placement may not be exact, leaving areas uncut for retention.</p> <p><u>Next</u> Regeneration survey will be needed within 4 years following harvest. Acceptable regeneration includes aspen, birch, balsam, spruce, cedar, cherry and <u>Steps:</u> maple in various amounts.</p>							

**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
58 45111058-Cut	18.8	4191 - Mixed Upland Deciduous with Conifer	High Density Log	62	Harvest	Clearcut with Reserves	Mixed Upland Deciduous with Conifer

Rev Currently under contract J.T.'s Junk #114-05-01 with stands in compartment to the east. Currently working on this sale.  
Cmnt:

Rev Leave all white pine and hemlock.  
Spec:

Next Regeneration survey will be needed within 4 years following harvest. Acceptable regeneration includes aspen, birch, balsam, spruce, cedar, cherry, maple and white pine in various amounts.  
Steps:

46 NF_45111046-Other	1.6	Unspecified		0	Other	Unspecified	Mixed Coniferous Lowland Forest
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Rev 12 - 4ch x 4ch cedar clearcut blocks. Cut in summer of 2005 as part of Betcher's Cut Across.  
Cmnt:

Rev Regeneration survey will be needed within 4 years following harvest (by 6/30/2010). Acceptable regeneration includes cedar, balsam, spruce with aspen, birch, cherry, maple, white pine and hemlock in various amounts.  
Spec:

Next  
Steps:

47 NF_45111047-Other	1.6	Unspecified		0	Other	Unspecified	Mixed Coniferous Lowland Forest
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Rev 12 - 4ch x 4ch cedar clearcut blocks. Cut in summer of 2005 as part of Betcher's Cut Across.  
Cmnt:

Rev Regeneration survey will be needed within 4 years following harvest (by 6/30/2010). Acceptable regeneration includes cedar, balsam, spruce with aspen, birch, cherry, maple, white pine and hemlock in various amounts.  
Spec:

Next  
Steps:

50 NF_45111050-Other	1.6	Unspecified		0	Other	Unspecified	Mixed Coniferous Lowland Forest
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Rev 12 - 4ch x 4ch cedar clearcut blocks. Cut in summer of 2005 as part of Betcher's Cut Across.  
Cmnt:

Rev Regeneration survey will be needed within 4 years following harvest (by 6/30/2010). Acceptable regeneration includes cedar, balsam, spruce with aspen, birch, cherry, maple, white pine and hemlock in various amounts.  
Spec:

Next  
Steps:

51 NF_45111051-Other	1.6	Unspecified		0	Other	Unspecified	Mixed Coniferous Lowland Forest
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Rev 12 - 4ch x 4ch cedar clearcut blocks. Cut in summer of 2005 as part of Betcher's Cut Across.  
Cmnt:

Rev Regeneration survey will be needed within 4 years following harvest (by 6/30/2010). Acceptable regeneration includes cedar, balsam, spruce with aspen, birch, cherry, maple, white pine and hemlock in various amounts.  
Spec:

Next  
Steps:

53 NF_45111053-Other	1.6	Unspecified		0	Other	Unspecified	Mixed Coniferous Lowland Forest
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Rev 12 - 4ch x 4ch cedar clearcut blocks. Cut in summer of 2005 as part of Betcher's Cut Across.  
Cmnt:

Rev Regeneration survey will be needed within 4 years following harvest (by 6/30/2010). Acceptable regeneration includes cedar, balsam, spruce with aspen, birch, cherry, maple, white pine and hemlock in various amounts.  
Spec:

Next  
Steps:

**PROPOSED TREATMENTS  
NO LIMITING FACTORS**



S  
t  
a  
n  
d

Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
<b>54 NF_45111054- Other</b>	1.7	Unspecified		0	Other	Unspecified	Mixed Coniferous Lowland Forest

Rev  
Cmnt: 12 - 4ch x 4ch cedar clearcut blocks. Cut in summer of 2005 as part of Betcher's Cut Across.

Rev Regeneration survey will be needed within 4 years following harvest (by 6/30/2010). Acceptable regeneration includes cedar, balsam, spruce with aspen,  
Spec: birch, cherry, maple, white pine and hemlock in various amounts.

Next  
Steps:

<b>55 NF_45111055- Other</b>	1.6	Unspecified		0	Other	Unspecified	Mixed Coniferous Lowland Forest
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Rev  
Cmnt: 12 - 4ch x 4ch cedar clearcut blocks. Cut in summer of 2005 as part of Betcher's Cut Across.

Rev Regeneration survey will be needed within 4 years following harvest (by 6/30/2010). Acceptable regeneration includes cedar, balsam, spruce with aspen,  
Spec: birch, cherry, maple, white pine and hemlock in various amounts.

Next  
Steps:

<b>56 NF_45111056- Other</b>	1.7	Unspecified		0	Other	Unspecified	Mixed Coniferous Lowland Forest
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Rev  
Cmnt: 12 - 4ch x 4ch cedar clearcut blocks. Cut in summer of 2005 as part of Betcher's Cut Across.

Rev Regeneration survey will be needed within 4 years following harvest (by 6/30/2010). Acceptable regeneration includes cedar, balsam, spruce with aspen,  
Spec: birch, cherry, maple, white pine and hemlock in various amounts.

Next  
Steps:

<b>57 NF_45111057- Other</b>	1.6	Unspecified		0	Other	Unspecified	Mixed Coniferous Lowland Forest
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Rev  
Cmnt: 12 - 4ch x 4ch cedar clearcut blocks. Cut in summer of 2005 as part of Betcher's Cut Across.

Rev Regeneration survey will be needed within 4 years following harvest (by 6/30/2010). Acceptable regeneration includes cedar, balsam, spruce with aspen,  
Spec: birch, cherry, maple, white pine and hemlock in various amounts.

Next  
Steps:

<b>60 NF_45111060- Other</b>	1.0	Unspecified		0	Other	Unspecified	Mixed Coniferous Lowland Forest
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Rev  
Cmnt: 12 - 4ch x 4ch cedar clearcut blocks. Cut in summer of 2005 as part of Betcher's Cut Across.

Rev Regeneration survey will be needed within 4 years following harvest (by 6/30/2010). Acceptable regeneration includes cedar, balsam, spruce with aspen,  
Spec: birch, cherry, maple, white pine and hemlock in various amounts.

Next  
Steps:

<b>61 NF_45111061- Other</b>	1.1	Unspecified		0	Other	Unspecified	Mixed Coniferous Lowland Forest
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Rev  
Cmnt: 12 - 4ch x 4ch cedar clearcut blocks. Cut in summer of 2005 as part of Betcher's Cut Across.

Rev Regeneration survey will be needed within 4 years following harvest (by 6/30/2010). Acceptable regeneration includes cedar, balsam, spruce with aspen,  
Spec: birch, cherry, maple, white pine and hemlock in various amounts.

Next  
Steps:

S  
t  
a  
n  
d

Sault Ste. Marie Mgt. Unit  
Inventory Method: IFMAP

**PROPOSED TREATMENTS  
NO LIMITING FACTORS**

Compartment: 111      Entry Yr: 2010  
Date 10/30/2008



Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
62 NF_45111062- Other	1.1	Unspecified		0	Other	Unspecified	Mixed Coniferous Lowland Forest

Rev 12 - 4ch x 4ch cedar clearcut blocks. Cut in summer of 2005 as part of Betcher's Cut Across.  
Cmnt:

Rev Regeneration survey will be needed within 4 years following harvest (by 6/30/2010). Acceptable regeneration includes cedar, balsam, spruce with aspen,  
Spec: birch, cherry, maple, white pine and hemlock in various amounts.

Next  
Steps:

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**Total Treatment  
Acreage Proposed: 104.0**

**PROPOSED TREATMENTS  
WITH LIMITING FACTORS**



S  
t  
a  
n  
d

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

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**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
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.
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.