



Sault Forest Management Unit Compartment Review Presentation

Compartment #166

Compartment Acreage: 1,906

Entry Year: 2012

County: Mackinac

Revision Date: 8/24/2010

Stand Examiner: Derek Cross

Legal Description: T 44 N R 08 W SECTIONS 7, 18 & 19

Identified Planning Goals ('Management Area' or 'RMU', if applicable): Mackinac Mix

Management Goals: This compartment is located between Gilchrist and Arsenic City, east of the Cranberry Lake bog. Most of the compartment is lowland conifer or bog types with steep ridges running east-west through the middle of the compartment. Several upland ridges were cut in the 1970's. White birch regeneration is prevalent on these ridges. Several stands along the north side of section 7 need treatment to promote growth and health. The birch ridges along the southern edge of section 19 are inaccessible.

Soil and Topography: This area ranges from low level bogs and swamp conifer to steep rolling ridges of birch and white pine. The bog type is composed of Dawson and Loxley peats. The swamp conifer is composed of Markey and Carbondale mucks. Level to undulating areas of hemlock and birch are representative of Spot-Finch complex, with higher rolling terrain composed of Paquin-Finch sands; Longrie-Battydoe, stony, complex; and Battydoe, stony-Wallace complex. The cut-over ridges in the swamp are composed of Croswell-Spot complex. And the steep rolling ridges along the Hemlock Ridge Road are Finch-Dawson-Pullup complex, and Pullup fine sand.

Ownership Patterns, Development, and Land Use in and Around the Compartment: This compartment is comprised of all state land, and is totally surrounded by state land.

Unique, Natural Features: Large bog complex.

Archeological, Historical, and Cultural Features: None

Special Management Designations or Considerations: Several small drainages lay within the hemlock stand to be treated. Winter access only may be needed here to prevent rutting. Acreage may be reduced to protect the drainages.

Watershed and Fisheries Considerations: Fisheries Values, None.

Wildlife Habitat Considerations: Compartment 166 is located just south of the Mackinac/Luce county line west of the Borgstrom Road. It is dominated by swamp, with black spruce bog dominating the north and cedar swamp dominating the south. These two types are divided by the Dollar Lake Truck Trail, which runs along an upland ridge that nearly divides the compartment in half. Some mixed conifer as well as hemlock cover exists on the north end north of the spruce bog. Regeneration within the hemlock stand is occurring. Wildlife objectives include regenerating some small conifer stands to provide young conifer cover, maintaining remaining lowland conifer cover, and promoting hemlock regeneration. Hemlock, cedar, and white pine will be retained in managed stands. Wildlife species benefitting from this management include

the wolf, great horned owl, black-backed woodpecker, wood frog, red-breasted nuthatch, white-tailed deer, and bobcat.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of lacustrine (lake) sand & gravel and peat & muck. There is insufficient data to determine the glacial drift thickness, but bedrock may be near the surface. The Silurian Manistique and Burnt Bluff Groups subcrop below the glacial drift. The Burnt Bluff is quarried for stone/limestone one mile to the north (Hendricks quarry). The nearest gravel pit is located four miles to the southeast. There appears to be limited gravel potential in the compartment. There is no economic oil and gas production in the UP, currently.

Vehicle Access: Access is via Cranberry Lake Road and Old Hendricks Road on the north end of the compartment. Cranberry Lake Road is a sand/gravel DNR road in good condition and leads out to Borgstrom Road within a half-mile. Old Hendricks Road is a poor County road through the northeast corner of the compartment, consisting of mud holes. This portion of the road will need to be fixed up prior to hauling. Hemlock Ridge Road is a sand DNR road that winds along the base of a steep ridge. This road has received some minor maintenance for the snowmobile trail. It could use a new culvert near the east side of the section.

Survey Needs: None needed

Recreational Facilities and Opportunities: The Hemlock Ridge Road is used as a snowmobile trail # 2 in the winter. The Newberry – Rexton motorcycle trail winds along the Hemlock Ridge Road, and up and down the ridges. Excellent wildlife viewing area. Hunting and trapping opportunities exist as well.

Fire Protection: This is a low fire area.

Additional Compartment Information: The deer yard borders the eastern edge of this compartment in sections 18 & 19.

- **The following reports from the Inventory are attached:**
 - ◆ **Total Acres by Cover Type and Age Class**
 - ◆ **Proposed Treatment Summary**
 - ◆ **Proposed Treatments – No Limiting Factors**
 - ◆ **Proposed Treatments – With Limiting Factors**
 - ◆ **Stand Details (Forested and Nonforested)**
 - ◆ **Dedicated and Proposed Special Conservation Areas**

- **The following information is displayed, where pertinent, on the attached compartment maps:**
 - ◆ **Base feature information, stand boundaries, cover types, and numbers**
 - ◆ **Proposed treatments**
 - ◆ **Details on the road access system**

Cover Type & Treatment Map

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

Compartment 166
 T44N, R08W, Sec. 7, 18, 19
 County: Mackinac
 Unit: Sault Ste. Marie
 YOE: 2012
 Acres: 1,906 GIS Calculated
 Stand Examiner: Derek Cross
 Map Revised: 08/13/2010
 Map Phase: Pre-Review

Legend

- Miris Corners
- Remonumented Section Corners
- RLS Corners
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Trails
- Motorcycle Trails
- Snowmobile Trails
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Selection (Group, Single Tree)

Forest Stands

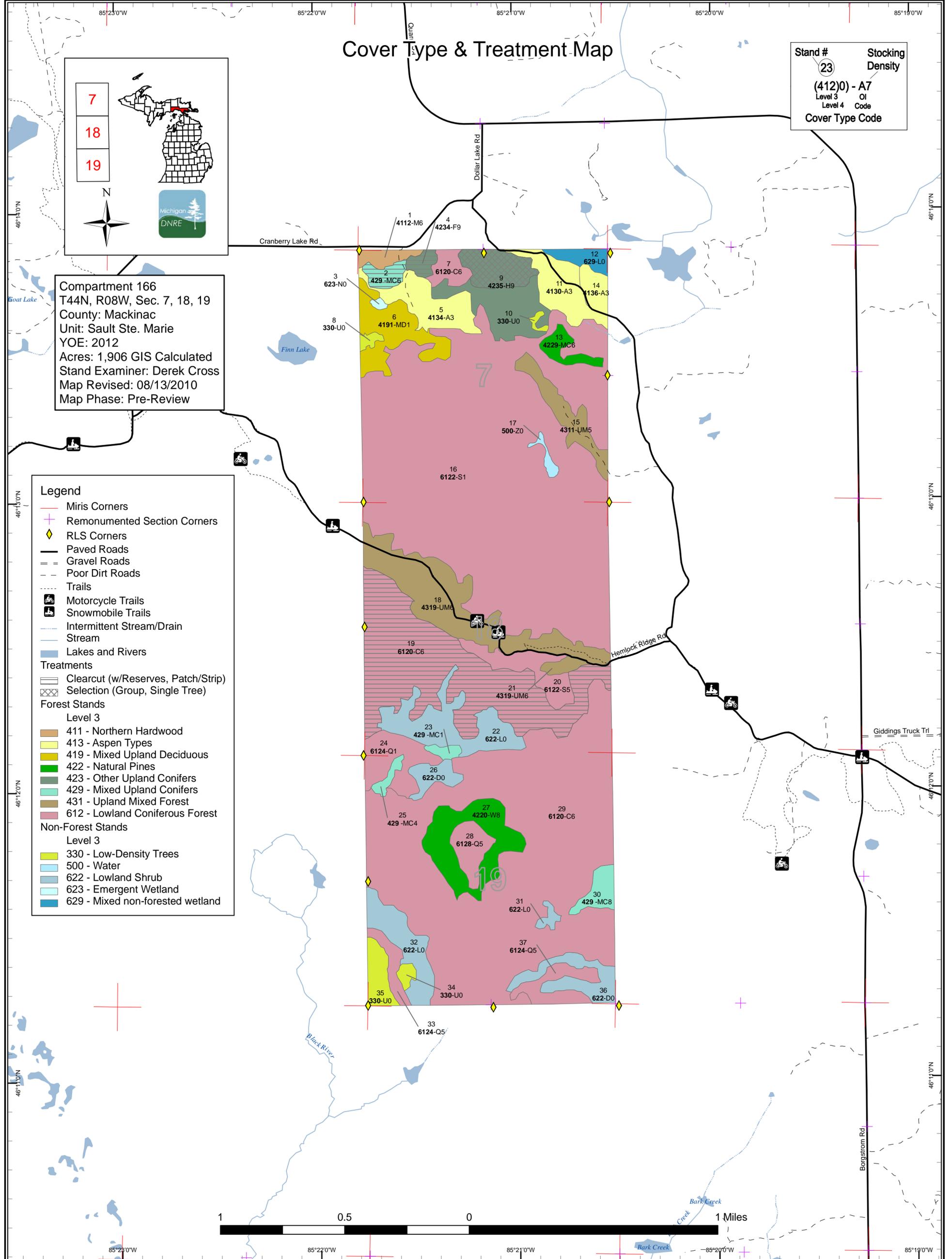
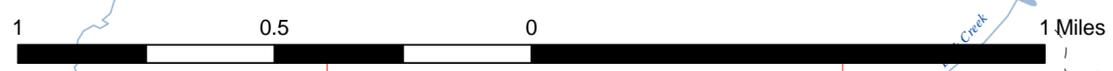
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 431 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest

Non-Forest Stands

Level 3

- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland



Stand Boundary Map

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- 🏂 Snowmobile Trails
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Forest Stands

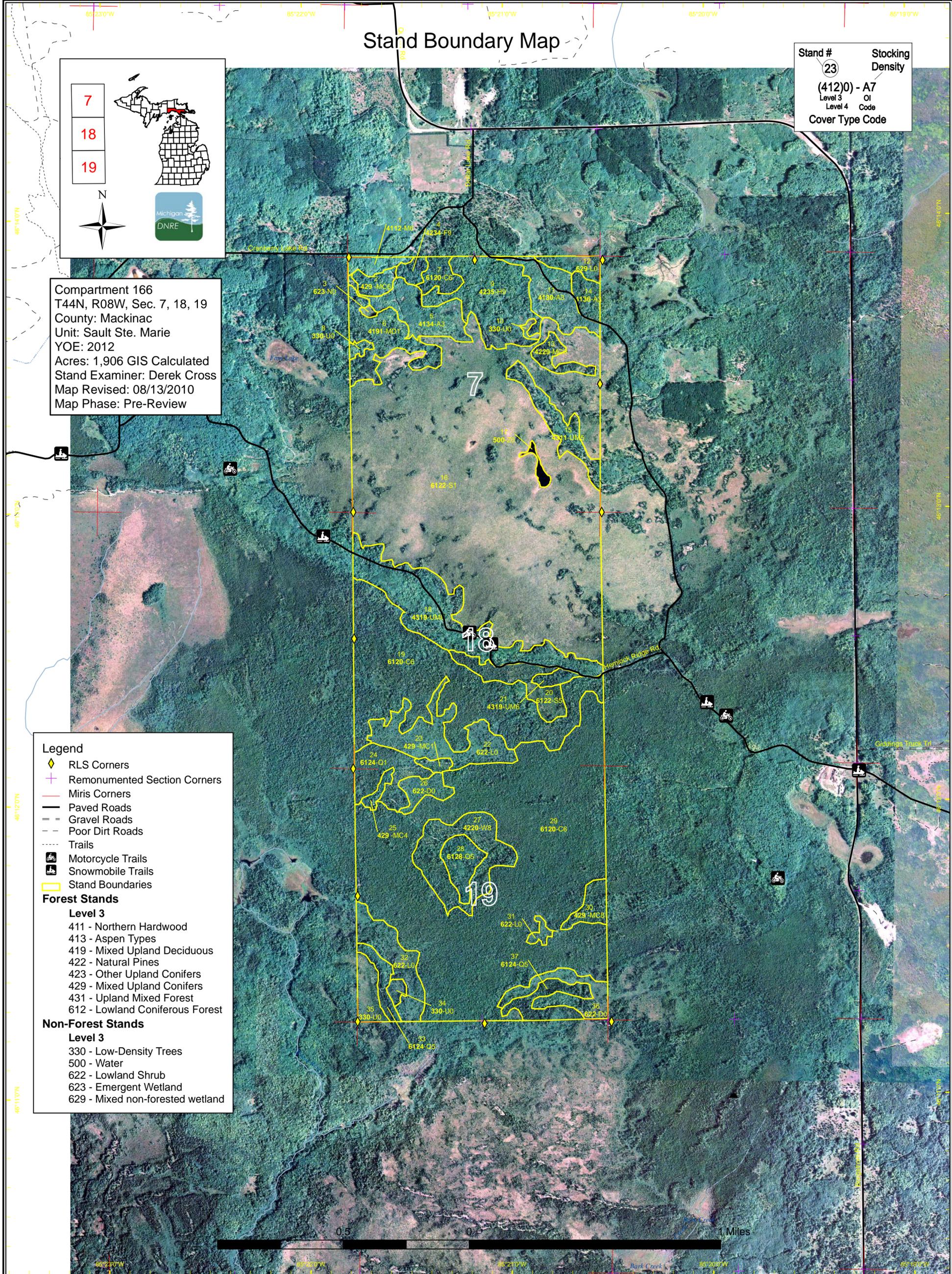
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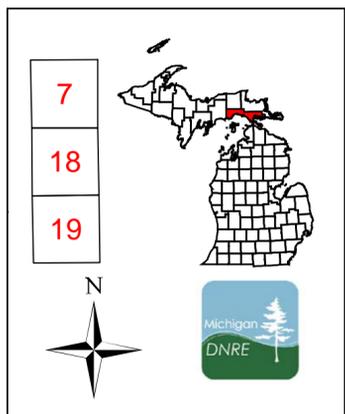
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Dedicated & Proposed Special Conservation Area Map

Stand #
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 (412)0 - A7
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 Map Phase: Pre-Review

- Legend**
- Miris Corners
 - ⊕ Remonumented Section Corners
 - Stand Boundaries
 - Proposed Special Conservation Areas**
 - ▨ SCA - Special Conservation Area
 - ▩ SCA Removal
 - Dedicated Special Conservation Areas**
 - Dedicated Special Conservation Areas
 - Dedicated Special Conservation Areas
 - Cold Water Streams
 - ⊗ Mineral Resource Points
 - Forest Stands**
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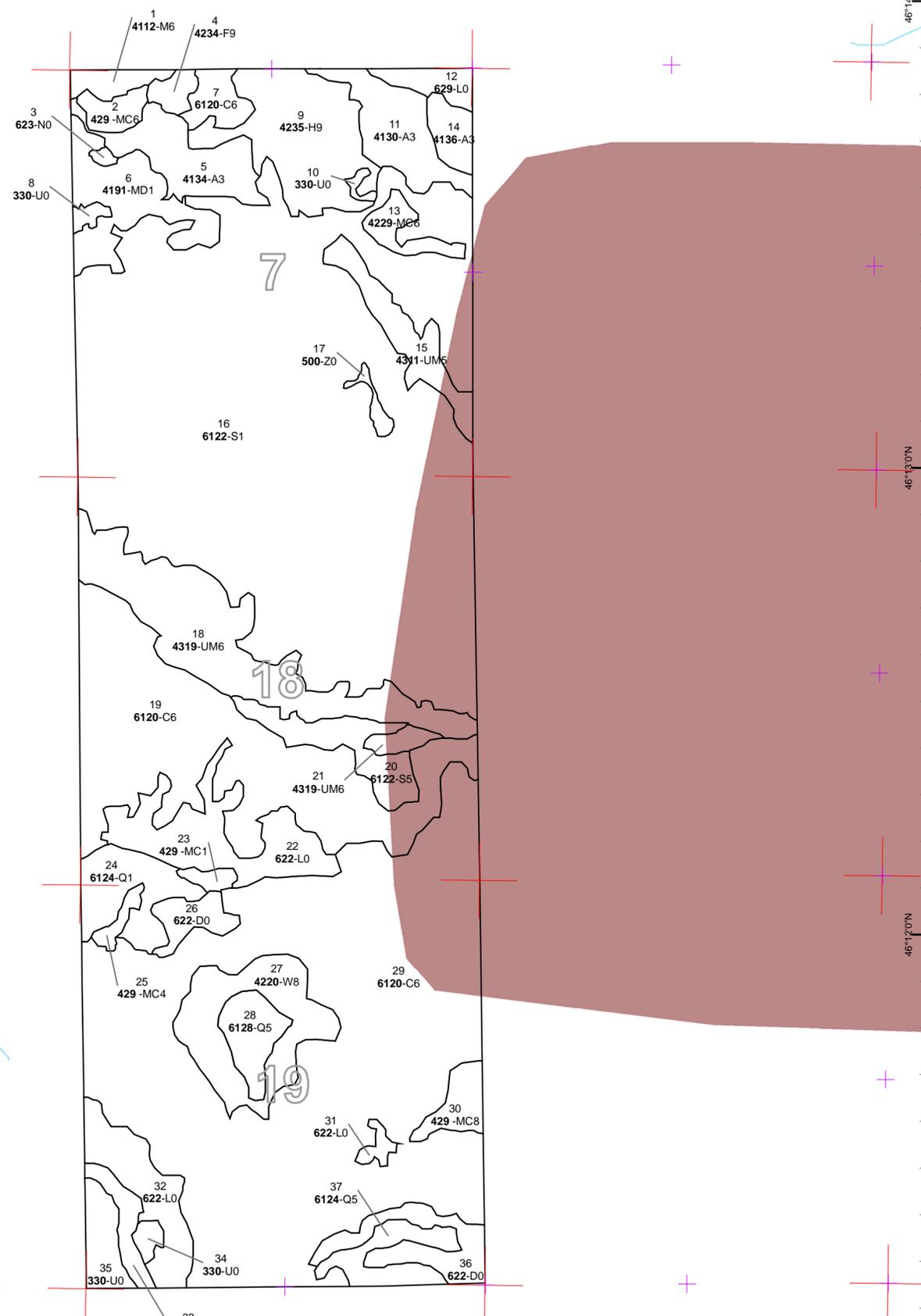


Table 1 – Total Acres by Cover Type and Age Class

Data updated yesterday after 6:00 PM



	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	0	0	74	0	0	0	0	0	0	0	0	0	0	0	0	74
Cedar	0	0	0	0	0	0	0	0	0	463	0	175	0	0	0	638
Hemlock	0	0	0	0	0	0	0	0	0	0	0	0	61	0	0	61
Low-Density Trees	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Lowland Conifers	0	0	0	29	0	0	10	17	18	0	0	0	0	0	0	76
Lowland Shrub	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93
Lowland Spruce/Fir	0	0	0	0	25	619	0	0	0	0	0	0	0	0	0	644
Marsh	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mixed Upland Deciduous	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	39
Natural Mixed Pines	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	11
Northern Hardwood	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	8
Treed Bog	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
Upland Conifers	0	0	0	0	0	0	9	0	8	12	0	0	0	0	0	29
Upland Mixed Forest	0	0	0	0	0	5	0	0	0	87	0	0	0	0	24	117
Upland Spruce/Fir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Water	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
White Pine	0	0	0	0	0	0	0	0	0	48	0	0	0	0	0	48
Total	155	39	74	29	25	624	27	28	27	147	463	0	236	0	30	1906



Sault Ste. Marie Mgt. Unit
Year of Entry 2012

Table 2 – Proposed Treatment Summaries

Data updated yesterday after 6:00 PM

Compartment 166
Total Compartment Acres: 1906

Acres by Treatment Type

Commercial Harvest - 214	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Cedar	175	0	0	0	0	0	175
Hemlock	0	24	0	0	0	0	24
Upland Conifers	9	0	0	0	0	0	9
Upland Spruce/Fir	6	0	0	0	0	0	6
Total	190	24	0	0	0	0	214

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Data updated yesterday after 6:00 PM

Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2 45166002-Cut	8.6	429 - Mixed Upland Conifers	High Density Pole	54	Harvest	Clearcut with Reserves	Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal

Prescription Clearcut stand leaving white pine, hemlock and cedar where present.

Specs:

Other

Comments:

Next Steps: Check for regeneration in 4-5 years. Acceptable regeneration will include red maple, paper birch, yellow birch, balsam fir, black cherry and hemlock.

4 45166004-Cut	6.2	42340 - Upland Spruce/Fir	High Density Log	61	Harvest	Clearcut with Reserves	Upland Spruce/Fir	Cmpt. Review Proposal
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Prescription Clearcut stand leaving white pine, hemlock and cedar where present.

Specs:

Other

Comments:

Next Steps: Check for regeneration in 4-5 years. Acceptable regeneration will include red maple, paper birch, aspen, balsam fir, white pine, and spruce.

9 45166009-Cut_small	24.0	42350 - Upland Hemlock	High Density Log	119	Harvest	Group Selection	Y.Birch, Hemlock NH	Cmpt. Review Proposal
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Prescription Remove red maple, paper birch, and pockets of hemlock where advanced hemlock regeneration is present. The objective is to release young hemlock into the canopy. Leave 1 hemlock nurse log per 3 acres to promote new seedlings in the stand, this nurse log will be created by girdling a stressed tree if possible. Target BA 60-80 throughout stand.

Other

Comments:

Next Steps: Check for sapling release and regeneration in 4-5 years. Acceptable regeneration will include red maple, paper birch, balsam fir, black cherry, hemlock, white pine, yellow birch, and beech.

**Total Treatment
Acreage Proposed: 38.7**

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Data updated yesterday after 6:00 PM

	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
19	45166019-Cut	175.0	6120 - Lowland Cedar	High Density Pole	116	Harvest	Patch or Strip Clearcut	Lowland Cedar	Cmpt. Review Proposal

Prescription set up 2, 5 acre clearcuts in the northwest corner of stand to promote regeneration.

Specs:

Other there is a road heading south off the hemlock ridge rd. place the cuts so they can be accessed off this road.

Comment:

Next Check for regeneration.

Steps:

Limiting Factor and No 1E: Cedar or hemlock restraints
Treatment Reason

**Total Treatment
Acreage Proposed: 175.0**



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4112 - Maple, Beech, Cherry Association	High Density Pole	8.4	57	51-80	Thinned last Rotation regeneration is good.
2	429 - Mixed Upland Conifers	High Density Pole	8.6	54		Stand is a mix of poor form deciduous mixed with conifer clear cut stand to regenerate. Leave white pine and hemlock and upland cedar where present.
4	42340 - Upland Spruce/Fir	High Density Log	6.2	Uneven Age		mix of conifer and hwd cut to regen. Split out stands 7m and 7e
5	4134 - Aspen, Spruce/Fir	High Density Sapling	32.5	17		Regen aspen with balsam fir
6	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	39.0	3		Stand was harvested in 2007 lots of stump sprouts 3-10 feet tall fair amount of fir and upland cedar remaining as retention.
7	6120 - Lowland Cedar	High Density Pole	11.3	92		New stand added. Scattered super canopy hemlock and white pine with small diameter cedar, black spruce and tag alder underneath. Ground cover is sphagnum moss.
9	42350 - Upland Hemlock	High Density Log	61.0	119	171-200	New stand added. Lots of hemlock regeneration underneath a mature mix of hemlock, paper birch and red maple.
11	4130 - Aspen	High Density Sapling	31.2	17		Aspen regen 15-20 foot tall, small scattered openings throughout.
13	42290 - Natural Mixed Pine	High Density Pole	10.6	67	81-110	Sand ridge located within a black spruce bog Contains Some lowland pockets Featuring the black spruce Component of this stand.
14	4136 - Aspen, Mixed Conifer	High Density Sapling	10.5	14		Aspen Regen with Large white pine and hemlock that were left from previous harvest.
15	4311 - Pine, Aspen Mix	Medium Density Pole	24.2	Uneven Age		Sand ridge extending into black spruce bog. Stand crosses compartment boundary to the east (154). Aspen was harvested 2 rotations ago and Pine was left. Higher density of pine on northern Tip of stand.
16	6122 - Black Spruce	Low Density Sapling	618.8	42		Black spruce Bog Very wet
18	4319 - Mixed Upland Forest	High Density Pole	87.4	89		Steep ridge with a mix of inferior quality conifer and deciduous under large White Pine and Hemlock. ORV trail runs through stand.
19	6120 - Lowland Cedar	High Density Pole	175.0	116		Mostly Cedar and fir mixed with black Spruce. Small pockets of tag alder with black ash saplings scattered throughout the stand.
20	6122 - Black Spruce	Medium Density Pole	25.5	37		Trace amaounts of large white Pine located on hummocks. Ground cover is a mix of moss and grass.

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Sault Ste. Marie Mgt. Unit

5 – Forested Stands

Compartment: 166

Data updated yesterday after 6:00 PM

Year of Entry: 2012



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
21	4319 - Mixed Upland Forest	High Density Pole	5.3	47		Stand looks good no treatments necessary
23	429 - Mixed Upland Conifers	Low Density Sapling	3.8	73		New stand added. Large white pine with paper birch, balsam, and spruce located on a sand ridge in the middle of a swamp.
24	6124 - Lowland Spruce-Fir	Low Density Sapling	29.5	22		Bog Area Containing mostly Spruce and fir scattered Red maple and Birch
25	429 - Mixed Upland Conifers	Low Density Pole	4.3	79		Sand ridge located within a black spruce and cedar swamp containing large white pine with smaller paper birch, balsam and black spruce underneath.
27	42200 - Natural White Pine	Medium Density Log	47.8	83	81-110	Small upland Island in a large Cedar Swamp. mostly large white pine with Paper Birch, Balsam, Black spruce and some tamarack on edge of Cedar and inner bowl
28	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	17.2	63		Lowland bowl surrounded by a donut shaped pine ridge in the middle of a cedar swamp. No reasonable access at this time.
29	6120 - Lowland Cedar	High Density Pole	452.0	93		There are high concentrations of cedar regeneration in places, Possible strip cut to release some of these areas. There is an existing road leading to the northeast edge of the stand use this road to gain access.
30	429 - Mixed Upland Conifers	Medium Density Log	11.9	87	81-110	White pine ridge extending into cedar swamp. Some bigger diameter deciduous. Low quality and volume. Access would be difficult.
33	6124 - Lowland Spruce-Fir	Medium Density Pole	10.5	53		To wet to access call made from a distance with the help of previous inventory.
37	6124 - Lowland Spruce-Fir	Medium Density Pole	18.4	75		Unable to reach stand, too wet. Stand is over a mile away from the closest road through wet cedar harvest unlikely.



Stand	Cover Type	Acres	Gen Cmts:
3	6239 - Mixed Emergent Wetland	1.4	
8	3303 - Mixed Low Density Trees	2.8	Stand was harvested in the spring of 2010. Trees remain on site in retention pockets and unmerchantable size classes.
10	3303 - Mixed Low Density Trees	1.8	Mostly Alder and labrador tea with some trees mixed in.
12	629 - Mixed non-forested wetland	10.0	Mostly alder with Some trees mixed in Canopy Closure less than 25 %
17	50 - Water	3.4	
22	6229 - Mixed lowland shrub	48.3	Mostly tag alder with small pockets of cedar and fir. Some deciduous species interspersed throughout the stand. No significant volume associated with these sparse trees.
26	6224 - Treed Bog	11.4	Alder with Scattered spruce, Birch and cedar less than 25% Canopy Closure
31	6220 - Alder/willow	3.5	
32	6229 - Mixed lowland shrub	31.1	
34	3303 - Mixed Low Density Trees	3.6	
35	3303 - Mixed Low Density Trees	14.2	
36	6224 - Treed Bog	24.1	



7 – 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.

Data updated yesterday after 6:00 PM

Stand	SCA Type	SCA Name	Acres	Comments



8 – 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.

Data updated yesterday after 6:00 PM

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

Conservation Area	Type	Description
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	Habitat Area	An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies.