

CADILLAC FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 112 ENTRY YEAR: 2012

GIS Compartment Acreage: 1784 County: Missaukee

Revision Date: 9/9/10

Stand Examiner: Jim Malloy

Legal Description: T23N, R8W, Sections. 13, 24, 25, 26, 34

Management Goals: To maintain forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment while providing for multiple use and visual management.

Soils and Topography: Sands to loamy sands, some areas of muck. Rolling to hilly terrain, especially towards the northern portion of the compartment. Southern portion contains a few lakes. (Goose Lake, Long Lake, Twin Lake)

Ownership Patterns, Development, and Land Use in and Around the Compartment: Large solid blocks of state land with some private in every section. Lake City is just south of compartment. Two major state highways, M42 and M-66 are located in the compartment. M-42 bisects the compartment with M66 forming the east boundary of the compartment. Land use is primarily forest recreation. Goose Lake State Forest Campground and Long Lake State Forest Campground are located in the southern portion of the compartment. The compartment surrounds the Missaukee Ski Hill operated by the city of Lake City. To the west is the Indian Lakes property, a large privately owned and managed property.

Unique, Natural Features (include only non-site specific and non-sensitive information):

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): Woodland Indian mound listed on State Archeological Inventory (unknown location)

Special Management Designations or Considerations: Lake City School Forest an 80 acres parcel is located in the southeast portion of section 24. Efforts should be made to assist and encourage the management of the school forest as we work on the adjacent lands. Oak wilt issues surrounding the compartment will require monitoring and active management to attempt to contain/diminish the impacts of the disease.

Watershed and Fisheries Considerations: TBD

Wildlife Habitat Considerations: Featured wildlife species are deer, ruffed grouse, and turkey. Wildlife habitat objectives are to continue to maintain species and age class diversity across the compartment. (L Smith, 9/24/10)

Mineral Resource and Development Concerns and/or Restrictions:

Sections 13, 24-26 & 34, T23N-R8W, Missaukee County

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and end moraine deposits of coarse-textured till. The glacial drift thickness varies between 600 and 800 feet. Beneath the glacial drift are the Pennsylvanian Grand River and Saginaw Formations. The Saginaw is quarried for clay/shale in other parts of the State. Gravel pits are located inside the compartment, Section 13, and gravel potential is considered good. This area is sparsely explored for oil and gas. The closest field is Falmouth. The field produces from the Stray Sandstone, Richfield and the Prairie du Chien (PdC). It was the first PdC field in Michigan. All state lands are leased for oil and gas development, or are nominated for the May 2010 auction.

Vehicle Access: See attached maps.

Survey Needs: None at this time

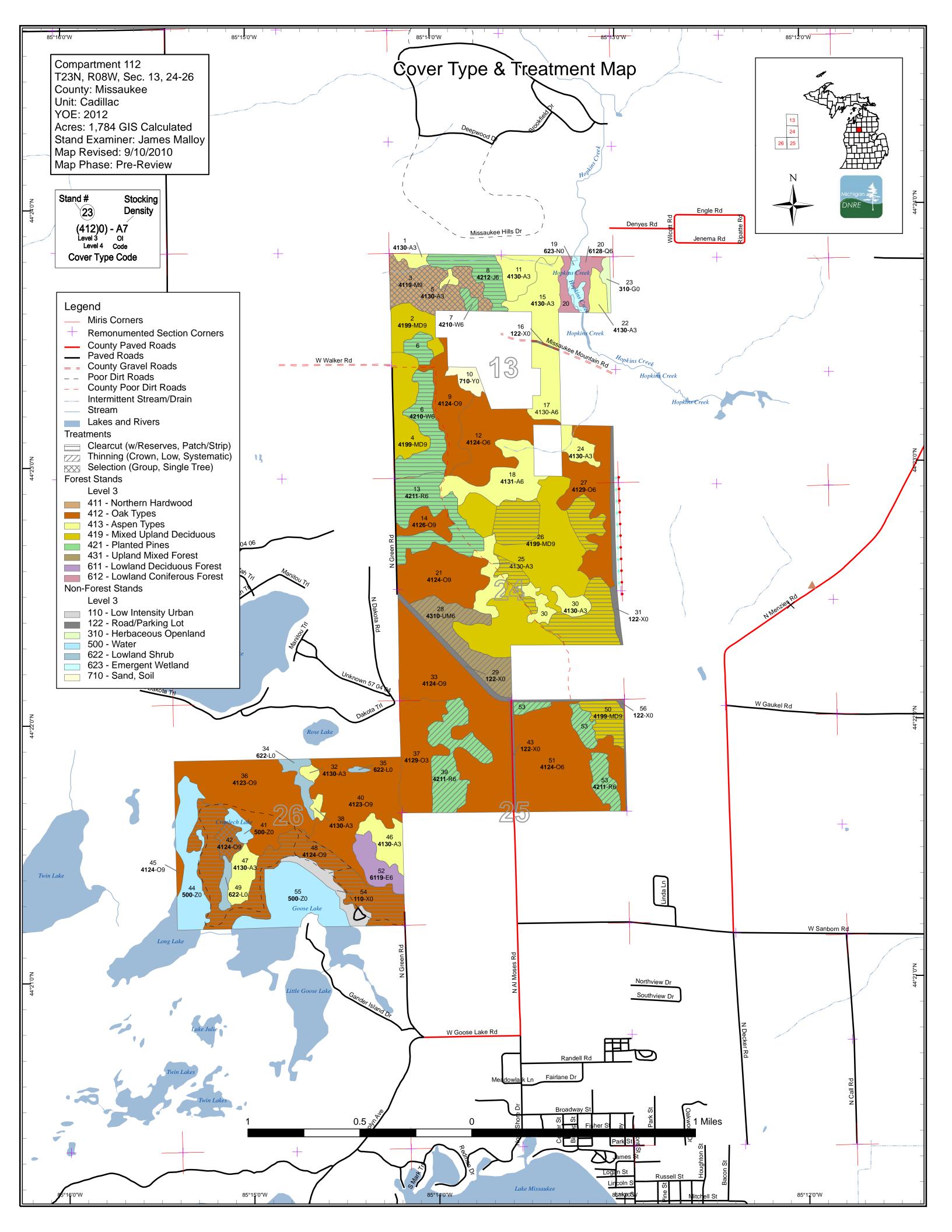
Recreational Facilities and Opportunities: A north-south spur of Miss-Kal Snowmobile Trail, which starts north of Lake City, is located in the compartment. It is a connection with the main east-west portion of the Miss-Kal Trail to the north. Goose Lake and Long Lake Campgrounds complex provides over 70 rustic forest campsites. Missaukee Mountain ski area is located in section 13 and is owned and operated by the Lake City. The land was provided to Lake City under a public use deed by the DNR. Dispersed hunting and fishing opportunities are available through out the compartment.

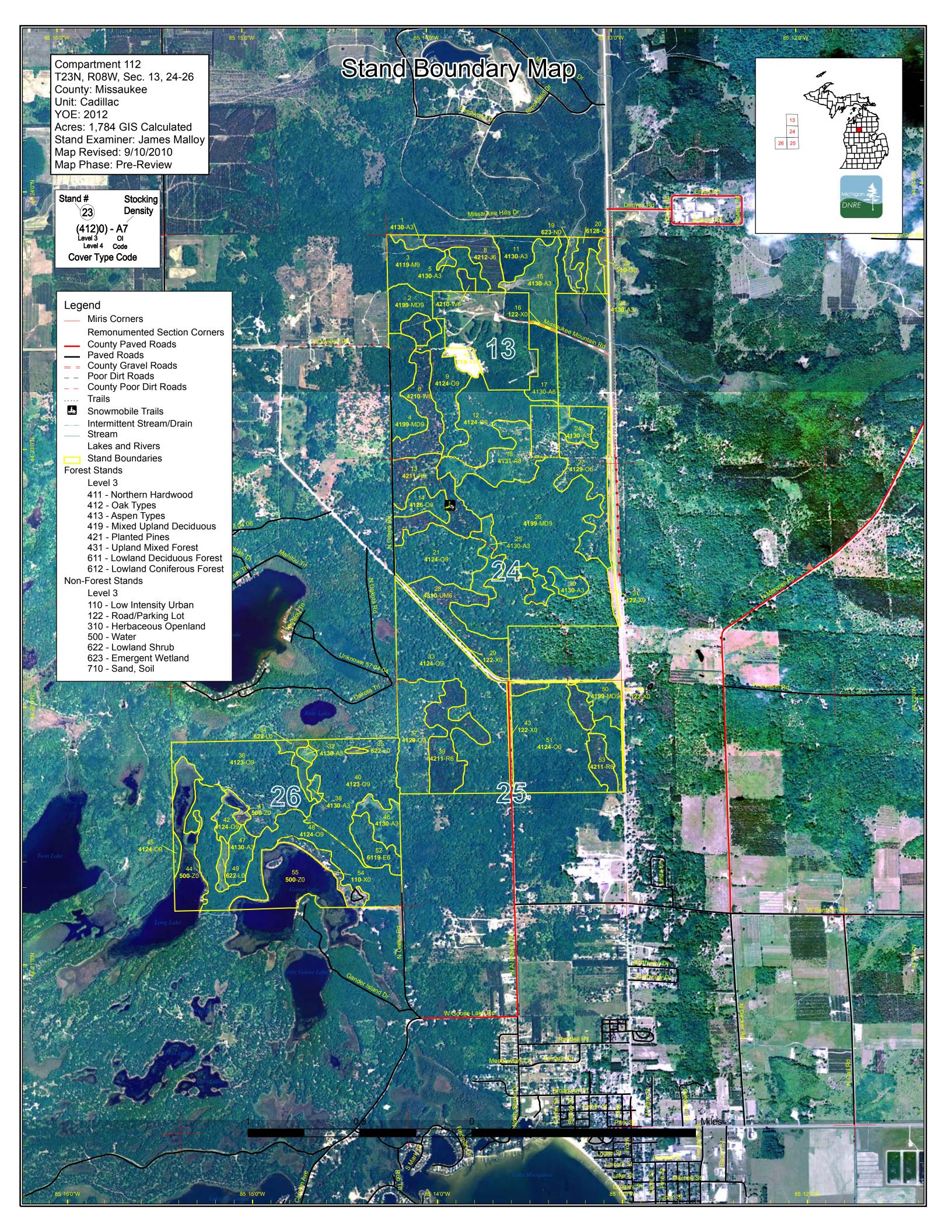
Fire Protection: Most areas of the compartment would not support crown fire. However, due to the terrain, limited access, and response time, the compartment has the potential for large fire growth. There are many areas of urban interface concern, within the compartment. 10-4-10/BRA

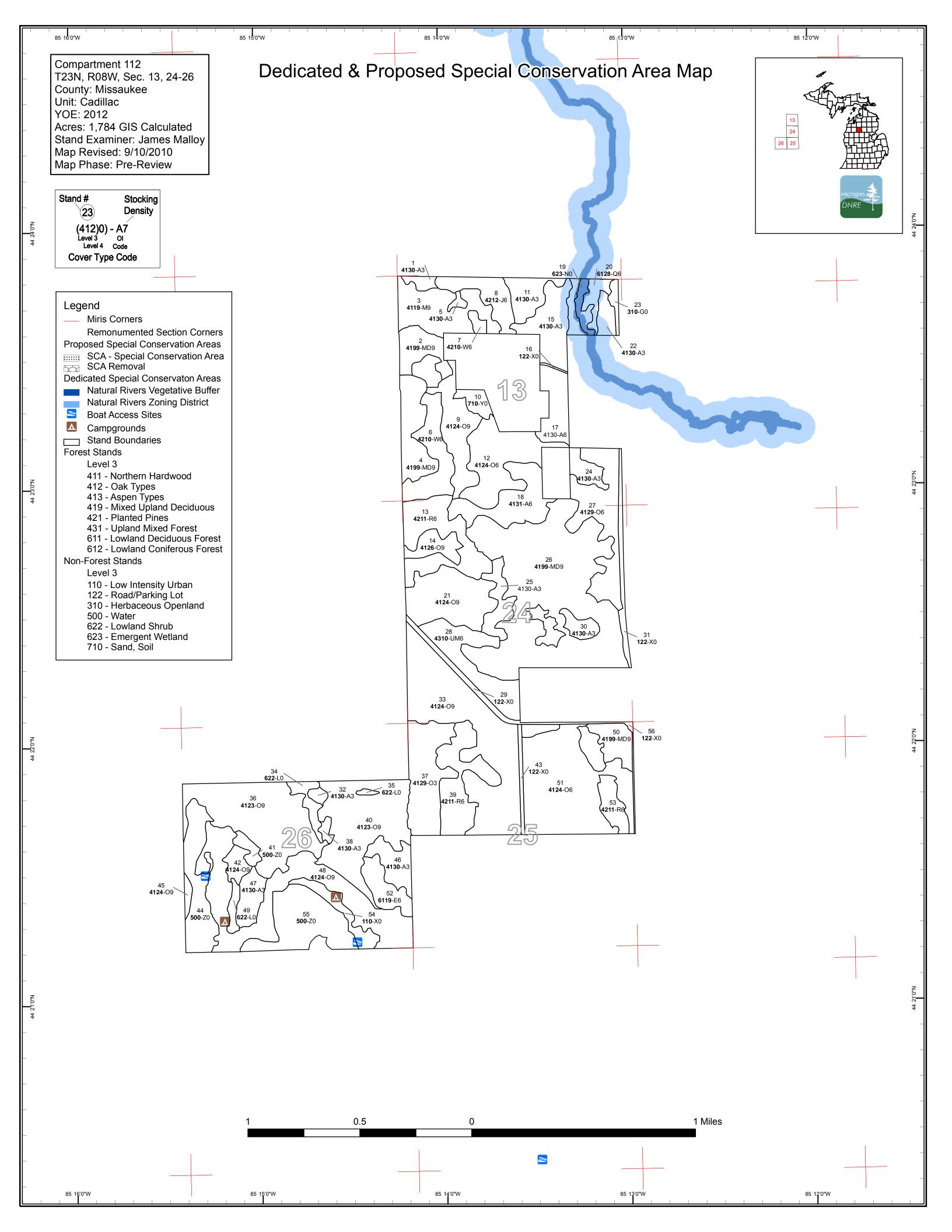
Additional Compartment Information: Missaukee Mountain is currently operating a cross-county ski trail on adjacent state forest land in section 13 and is being operated without a use permit.

LOTS Compartment Acreage:	
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- > The following 5 reports from the Operations Inventory System (OIPC) are attached:
 - **♦** Cover Type by Age Class
 - **♦** Cover Type by Management Objective
 - **♦** Compartment Volume Summary
 - **♦** Proposed Treatments No Limiting Factors
 - **♦** Proposed Treatments With Limiting Factors
- > 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
 - ♦ Suggested potential old growth







Cadillac Mgt. Unit

Data updated yesterday after 6:00 PM

Compartment 112 Year of Entry 2012



Age Class

	No.	A September 1	2,/	0,70	or l		O. L. C.	\$	\$3.70°	\$2.7°			å, å,	70.73	50× 100	8 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 / 2 /
Aspen	0	55	63	64	16	0	0	0	0	0	0	0	0	0	19	217
Herbaceous Openland	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Jack Pine	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	24
Lowland Conifers	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	16
Lowland Deciduous	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	19
Lowland Shrub	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Marsh	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Mixed Upland Deciduous	0	0	0	0	0	0	0	17	21	0	0	0	0	0	247	285
Northern Hardwood	0	0	0	0	0	0	0	0	0	0	46	0	0	0	0	46
Oak	0	0	0	51	0	0	0	0	14	289	12	102	0	0	325	793
Red Pine	0	0	0	0	0	0	122	0	0	0	0	0	0	0	0	122
Sand, Soil	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	42
Urban	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47
Water	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102
White Pine	0	0	0	0	0	0	46	0	0	0	0	0	0	0	0	46
Total	185	55	63	115	16	40	168	36	35	289	58	102	0	0	633	1795



Table 2 – Proposed Treatment Summaries

Data updated yesterday after 6:00 PM

Cadillac Mgt. Unit Year of Entry 2012

Compartment 112
Total Compartment Acres: 1795

Acres by Treatment Type

Commercial Harvest - 906 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

		Cover Type by Harvest Method							
			15 0 O	Joseph Of	100 K	No. Oo	Out Out		S. S
Jack Pine	24	0	0	0	0	0	24		
Mixed Upland Deciduous		102	0	0	0	0	0	102	
Northern Hardwo	od	0	46	0	0	0	0	46	
Oak	Oak		187	0	0	236	0	525	
Red Pine		50	0	0	0	71	0	122	
Upland Mixed Forest		0	0	0	0	42	0	42	
White Pine		42	0	0	0	4	0	46	
	Total	320	233	0	0	353	0	906	

Compartment: 112 Cadillac Mgt. Unit Table 3 -- Treatments Prescribed with No Limiting Factor Year of Entry 2012 s Data updated yesterday after 6:00 PM t а **Treatment** Acres Stage1 Size Stand **Treatment Treatment Cover Type Approval** n Name Density Method Objective **Status** d CoverType Age Type 3 63112003-Cut 46.0 4119 - Mixed High Density Log 92 Harvest Single Tree Selection Mixed Northern Cmpt. Review Northern Hardwoods Hardwoods Proposal Prescription Thin hardwoods and oaks to 60-80 ba Specs: Other Comments: <u>Next</u> Steps: 63112006-Cut 42.3 42100 - Planted High Density Pole Clearcut Planted White Pine Cmpt. Review Harvest White Pine Proposal Prescription Final Harvest. Trench and replant to red pine. May need to herbicide to diminish maple competition. Leave all oaks. Specs: Other Comments: Next trench and replant to red pine Steps: 63112007-Cut 7 3.5 42100 - Planted High Density Pole 51 Harvest Low Thinning Planted White Pine Cmpt. Review White Pine Proposal Prescription Thin pine to 110-130ba Specs: Other Comments: **Next** Steps: 63112008-Cut 23.6 42120 - Planted High Density Pole Planted Red Pine Cmpt. Review 48 Harvest Clearcut Jack Pine Proposal Prescription Final harvest pine. Replant to red pine Specs: <u>Other</u> Comments: <u>Next</u> Replant to red pine Steps: 13 63112013-Cut 50.4 42110 - Planted High Density Pole 52 Harvest Clearcut Planted Red Pine Cmpt. Review Red Pine Proposal Prescription Final harvest and replant to red pine. Leave oak. Specs: <u>Other</u> Comments: trench and replant to red pine <u>Next</u> Steps: 26 63112026-Cut 84.6 4199 - Other Mixed High Density Log 88 Harvest Patch or Strip Red with White Oak Cmpt. Review **Upland Deciduous** Clearcut Proposal Prescription Patch clear cuts to release oak regen and encourage aspen. Treat approx 1/3 of stand. Target red oak due to oak wilt in area Specs: Other_ Retain trees along the snowmobile trail to maintain the integreity of the trail following the harvet. Comments: <u>Next</u> Steps:

Compartment: 112 Cadillac Mgt. Unit Table 3 -- Treatments Prescribed Year of Entry 2012 with No Limiting Factor s Data updated yesterday after 6:00 PM t а **Treatment** Acres Stage1 Size Stand **Treatment Treatment Cover Type Approval** n CoverType Method Name Density Objective **Status** d Age Type Planted Red Pine 28 63112028-Cut 42.4 4310 - Pine, Oak High Density Pole 37 Harvest Low Thinning Cmpt. Review Proposal Mix Prescription Thin pine to 90-110 ba. Remove red oak due to oak wilt in area Specs: Other Comments: <u>Next</u> Steps: 63112033-Cut 126.5 4124 - Red with High Density Log Harvest Systematic Thinning Red with White Oak Cmpt. Review White Oak Proposal -Incomplete Prescription Target red oak due to oak wilt in area. Mark 50 sqft total oak to leave. Target white oak to leave Specs: <u>Other</u> Comments: **Next** Steps: 36 63112036-Cut 92.7 4123 - Red Oak High Density Log 110 Harvest Single Tree Selection Red with White Oak Cmpt. Review Proposal -Incomplete Prescription Remove all red oak due to oak wilt in area Specs: <u>Other</u> Comments: Next Steps: 42110 - Planted 39 63112039-Cut 43.8 High Density Pole Low Thinning Planted Red Pine Cmpt. Review Harvest Red Pine Proposal Prescription Thin pine to a residual ba of 110-130. Remove all red oak due to oak wilt in area Specs: Other_ Comments: <u>Next</u> Steps: 63112040-Cut 86.3 4123 - Red Oak 40 High Density Log 87 Harvest Single Tree Selection Red with White Oak Cmpt. Review Proposal -Incomplete Prescription Remove all red oak due to oak wilt in area. Specs: <u>Other</u> Comments:

Next Steps:

Compartment: 112 Cadillac Mgt. Unit Table 3 -- Treatments Prescribed with No Limiting Factor Year of Entry 2012 s Data updated yesterday after 6:00 PM t а **Treatment** Acres Stage1 Size Stand **Treatment Treatment Cover Type Approval** n Method Name CoverType Density Objective **Status** d Age Type 42 63112042-Cut 8.5 4124 - Red with High Density Log 94 Harvest Single Tree Selection Red with White Oak Cmpt. Review White Oak Proposal Prescription Remove all red oak due to oak wilt in area Specs: Other Comments: <u>Next</u> Steps: 63112048-Cut 101.7 4124 - Red with High Density Log Harvest Clearcut with Red with White Oak Cmpt. Review White Oak Reserves Proposal Prescription Remove all red oak due to oak wilt in area. Do not cut white oak, maple, or pine. Expand sale into stand 54 (Goose Lake SFCG) Specs: Other_ Slae should be cut winter of 2010-2011 due to trenching efforts in the area. Comments: Plant red pine or white if necessary for campground maintaince. <u>Next</u> Steps: 63112050-Cut 16.9 4199 - Other Mixed High Density Log Clearcut with Aspen, Oak Cmpt. Review Harvest **Upland Deciduous** Reserves Proposal Prescription Final harvest. Leave 20 sqft of oak for seed. Specs: <u>Other</u> Comments: <u>Next</u> Steps: 63112051-Cut 109.2 4124 - Red with High Density Pole Crown Thinning Red with White Oak Cmpt. Review Harvest White Oak Proposal -Incomplete Prescription Remove all red oak due to oak wilt in area. Release oak regen. Final harvest areas of aspen to promote regen. Protect integrety of snopwmobile trail. Target a residual ba of 50 sqft of white oak Specs: Other_

Comments:

Next

Steps:

63112053-Cut 27.6 42110 - Planted High Density Pole Low Thinning Planted Red Pine Cmpt. Review 53 50 Harvest Red Pine Proposal

Prescription Thin pine to 110-130 ba. Remove all red oak due to oak wilt in area. Leave maple and aspen.

Specs:

<u>Other</u>

Comments:

<u>Next</u>

Steps:

Total Treatment

906.0 Acreage Proposed:

Cadillac Mgt. Unit Table 4 -- Treatments Prescribed with Compartment: 112 a Limiting Factor s Year of Entry 2012 Data updated yesterday after 6:00 PM t а **Treatment Treatment Cover Type** n Acres Stage1 Size Stand **Treatment Approval** Method Objective Status Name CoverType Density Age Type

#Error

Prescription Specs:

<u>Other</u> Comment:

<u>Next</u> Steps:

Limiting Factor and No Treatment Reason

> **Total Treatment Acreage Proposed:**

0

Data updated yesterday after 6:00 PM

Out of YOE -- Treatments Prescribed with No Limiting Factor

Year of Entry: 2012

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status	
Prescription Specs:									

Total Treatment

Other Comments: Next Steps:

Acreage Proposed: 0

5 - Forested Stands Compartment: 112 Cadillac Mgt. Unit s Year of Entry: 2012 Data updated yesterday after 6:00 PM t а Level 4 Size Stand BA General n **Cover Type** Density Acres Comments: Age Range d 4130 - Aspen High Density 8 1 4.5 Sapling 4199 - Other Mixed High Density 76 Thin hardwoods 21.1 111-140 2 **Upland Deciduous** Log 4119 - Mixed Northern High Density 46.0 92 111-140 Thin 3 Hardwoods Log 4199 - Other Mixed High Density 32.8 Uneven Age 111-140 WAit for understory to mature before harvest **Upland Deciduous** Log 4130 - Aspen **High Density** 2.2 7 5 Sapling High Density 42100 - Planted White 42.3 51 141-170 thin pine. target white pine. Pine Pole 42100 - Planted White High Density 3.5 51 111-140 Pine Pole 42120 - Planted Jack **High Density** 23.6 48 81-110 8 Pine Pole 4124 - Red with White High Density 36.4 multiple stemmed oaks with small diameter red maple and Uneven Age 51-80 9 Oak Log scattered beech 4130 - Aspen High Density 11 18.6 Uneven Age 1-50 Stand was cut in 2008 due to wind damage. Produce never Sapling finished sale. Some aspen still standing. Allow too fall apart and existing regen to overtake. High Density 4124 - Red with White 12 55.0 Uneven Age 51-80 Oak Pole 42110 - Planted Red High Density 50.4 52 141-170 thin 13 Pine Pole 4126 - White, Black, N. **High Density** 14.2 74 51-80 14 Pin Oak Log High Density 4130 - Aspen 8 34.1 15 Sapling 4130 - Aspen High Density 23.8 26 51-80 17 Pole High Density 4131 - Aspen, Oak 40.3 28 1-50 18 Pole 6128 - Lowland High Density 47 15.9 51-80 Buffer along Hopkins Creek 20 Coniferous, Mixed Pole Deciduous 4124 - Red with White **High Density** 53.8 89 51-80 21

Oak

Log

5 - Forested Stands Compartment: 112 Cadillac Mgt. Unit s Year of Entry: 2012 Data updated yesterday after 6:00 PM t а Level 4 Size General Stand BA n **Cover Type** Density Comments: Acres Age Range d 4130 - Aspen High Density 8 22 8.5 Sapling 4130 - Aspen High Density 10.8 15 24 Sapling 4130 - Aspen High Density 17.2 15 25 Sapling 4199 - Other Mixed High Density 214.1 Uneven Age 51-80 Thin oak. Release regen 26 **Upland Deciduous** Log 4129 - Mixed Oak **High Density** 55.1 51-80 27 Uneven Age Slavage cut 15 yrs ago Pole High Density 4310 - Pine, Oak Mix 28 42.4 Uneven Age 111-140 oaks along edge of m42 with underplanted red pine to north. Pole 4130 - Aspen High Density 16.9 14 30 Sapling 4130 - Aspen High Density 3.0 7 Stand swapped from Non-Forested to Forested. 32 Sapling 4124 - Red with White High Density 126.5 88 81-110 Similar to 55 but less aspen and more patchy. 33 Oak Log 4123 - Red Oak **High Density** 92.7 Uneven Age 51-80 Treated last entry, removed red maple. understory thick to red 36 Log maple and some BTA, minimal oak. Some high quality oaks in overstory. High Density 4129 - Mixed Oak 37 50.6 24 1-50 Sapling 4130 - Aspen High Density 7 3.0 young aspen bordering wet area and oak stand 38 Sapling 42110 - Planted Red High Density 43.8 50 39 141-170 Patchy, with pockes of oak and aspen. Thin pine leave oak and Pine Pole aspen

4123 - Red Oak

4124 - Red with White

Oak

4124 - Red with White

Oak

4130 - Aspen

40

42

45

46

High Density

Log

High Density

Log

High Density

Log

High Density

Sapling

86.3

8.5

3.1

18.5

Uneven Age

94

95

16

81-110

111-140

oak stand was cut last entry heavy red maple regen. was

scheduled for Rx burn, never completed. numerous small wet hols and a large dum hole near center of stand.

Remove red oak due to oak wilt concerns.

Cadillac Mgt. Unit t

5 – Forested StandsData updated yesterday after 6:00 PM

Compartment: 112 Year of Entry: 2012



t			Dal	a upuateu j	yesieruay a	DNRE
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
47	4130 - Aspen	High Density Sapling	15.7	30	111-140	
48	4124 - Red with White Oak	High Density Log	101.7	109	81-110	less red maple regen throughout stand than stand to the north.
50	4199 - Other Mixed Upland Deciduous	High Density Log	16.9	65	81-110	Final harvest. Leave 30 sqft of oak. Should regenerate to aspen
51	4124 - Red with White Oak	High Density Pole	109.2	89	81-110	many multiple stemmed oaks and maple with scattered clones of aspen.
52	6119 - Mixed Lowland Deciduous Forest	High Density Pole	19.2	65		WET!!
53	42110 - Planted Red Pine	High Density Pole	27.6	50	141-170	Thin red pine, leave oak and maple

Cadillac Mgt. Unit

6 – Nonforested StandsData updated yesterday after 6:00 PM

Compartment: 112
Year of Entry: 2012

Michigan
DNRE

Stand	Cover Type	Acres	Gen Cmts:
10	710 - Sand, Soil	8.4	Gravel Pit
16	122 - Road/Parking Lot	0.7	Road into Missaukee Mtn.
19	623 - Emergent Wetland	7.2	
23	3102 - Grass	4.2	ROW for M-66
29	122 - Road/Parking Lot	13.0	M-42
31	122 - Road/Parking Lot	11.6	M-66/Morey Rd
34	6229 - Mixed lowland shrub	9.3	Stand swapped from Forested to Non-Forested.
35	6229 - Mixed lowland shrub	1.3	small wet area in oak stand
41	50 - Water	6.1	
43	122 - Road/Parking Lot	5.1	Al Moses Rd.
44	50 - Water	41.5	Long Lake (Missaukee)
49	6220 - Alder/willow	5.5	
54	11 - Low Intensity Urban	14.9	Goose Lake SFCG
55	50 - Water	54.4	Goose Lk.
56	122 - Road/Parking Lot	1.6	M-66/Morey Rd.

Cadillac Mgt. Unit Compartment: 112

Year of Entry: 2012



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

Cadillac Mgt. Unit Compartment: 112





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.

Conservation Area	on Type	Data updated yesterday after 6:00 PM Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
SCA	Concentrated Recreation Area	Facilities that are designed and maintained for routine or heavy State Forest campgrounds, motorized and non-motorized trails, access sites.	, ,
HCVA	patial buffers set from an established and s Zoning District is a 400 foot buffer for 00 feet. To view specific Zoning Districts ted on the I:\Documentation\GDSE data		