

CADILLAC FOREST MANAGEMENT UNIT



COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 094 ENTRY YEAR: 2014

County: Missaukee

Revision Date: 10/09/2012 2:18 PM

Stand Examiner: Blair A. Tweedale Jr., Forester

Legal Description: T22N, R5W, Sections 1,2,3,10,11.

RMU (if applicable): Habitat/vegetative, wildlife intensive.

Management Goals: Maintain a variety of cover types and age class diversity.

Soil and Topography: Augres-Iosco-Lupton association and Otisco-Roscommon association. Terrain nearly level, some areas poorly drained. River bottom areas are muck or peat.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Solid State ownership, no private within the compartment. This is one compartment of three that make up the Porter Ranch wildlife research area. The office, residence, and deer pen facilities are in this compartment.

Unique, Natural Features (include only non-site specific and non-sensitive information): Muskegon River is the western boundary of the compartment. Potential habitat for wood turtle, spotted turtle, and osprey.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): One concern in the archaeological site listing.

Special Management Designations or Considerations: Forested portion of the compartment to be managed for timber production and wildlife habitat.

Watershed and Fisheries Considerations: The Muskegon River, Dead Horse Creek, and several small tributaries flow through Compartment 94. The Muskegon River and Deadhorse Creek are classified warm transitional streams and should be protected with the standard setbacks provided in the Forest Management Best Management Practices. The Muskegon River has a coolwater fishery with walleye and northern pike. No file data exists on Dead Horse Creek. (R. O'Neal 10/12)

Wildlife Habitat Considerations: This compartment includes the Houghton Lake State Wildlife Research Area (formerly known as Porter Ranch); therefore potential treatments must take into account any potential wildlife research-related issues. This area is a large wintering complex for deer, and is part of the corridor between the Deadstream Swamp, Deadstream Flooding, and Deadhorse Flooding. Major concerns center on regenerating jack pine to provide thermal cover and maintaining the ground cover of blueberry. The combination of conifer cover, mixed deciduous timber, and blueberry provide valuable habitat for many wildlife species. The high water table throughout this area presents major concerns in establishing regeneration. Mixed habitat types and age classes in the lowland area along the Muskegon River offer valuable habitat for a variety of wildlife species. Featured species guidance will be considered for American

woodcock, beaver, black bear, eastern massasauga rattlesnake, mallard, pileated woodpecker, red-headed woodpecker, ruffed grouse, snowshoe hare, white-tailed deer, and wood duck. (E. Victory 9/2012)

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 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 one mile to the northeast and two miles to the south and potential is considered limited. This area is located three miles south of Enterprise Field that produced over 4.7 MBO from the Devonian Richfield Formation. Most of the State minerals are leased for oil and gas development.

Vehicle Access: A forest road access plan is detailed on the compartment map. Identified are state and county roads as well as forest roads and trails under the jurisdiction of the DNR. Also indicated are forest roads and trails under the jurisdiction of the DNR that are proposed for abandonment. These roads were determined to be in excess of the access needs in the area, are a threat to the resources, or are a concern environmentally. Proposed new roads or roads recommended for substantial improvement are noted below.

Survey Needs: No survey needs at this time. With continuous State ownership, no property lines need to be established.

Recreational Facilities and Opportunities: Recreational Facility Considerations: Snowmobile Trail 6/7 (aka West Higgins snowtrail) runs along the western edge, and northern portion of this compartment. Proposed timber management activities should include trail protection specifications to reduce impacts, as well as serve as an example of how silviculturally sound timber harvesting practices can co-exist, and often improve, recreation and hunting experiences for future generations. A non-winter harvest coupled with avoiding the use of the trail as a haul route are suggested considerations. The Muskegon River offers canoeing, fishing, and dispersed camping opportunities (T.M.N. 8-31-12)

Fire Protection: Compartment normally is a lowland wet marsh area. Access may be limited to amphibious water suppression units and low ground pressure tractor plows. During an abnormally dry period ground fires maybe a concern. Limited residential improvements is not a factor. ORV route/snowmobile trail maybe a concern during a wildfire or a prescribe burn. Dispersed camping along the Muskegon River maybe a concern for wildfire starts. Wildfire is controlled by Houghton Lake Field Office. (BET 8-01-12)

Additional Compartment Information:

The following 9 Inventory reports from are attached:

- ◆ Table 1 - Cover Type by Age Class
- ◆ Table 2 - Treatment Type Summary
- ◆ Table 3 – Treatments with No Limiting Factors
- ◆ Table 4 – Treatments with Limiting Factors
- ◆ Table 5 – Out of YOE Treatments (when applicable)
- ◆ Tables 6 & 7- Forested and Nonforested stands
- ◆ Tables 8 & 9 – Proposed and Dedicated Special Conservation Areas

The following information is displayed, where pertinent, on the attached compartment maps:

- ◆ Base feature information, stand numbers, cover types
- ◆ Proposed treatments

◆ Suggested potential and current SCA's

Table 1 – Total Acres by Cover Type and Age Class

Blair TWEEDALE : Examiner



	Age Class													Total	
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +		Unretn Age
Aspen	8	37	0	12	167	0	17	0	0	0	0	0	0	35	275
Bare/Sparsely Vegetated	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Herbaceous Openland	57	0	0	0	0	0	0	0	0	0	0	0	0	0	57
Jack Pine	159	59	0	34	84	173	267	10	0	0	0	0	0	0	786
Low-Density Trees	151	0	0	0	0	0	0	0	0	0	0	0	0	0	151
Lowland Aspen/Balsam Poplar	0	35	0	43	0	0	20	0	0	0	0	0	0	0	98
Lowland Conifers	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6
Lowland Deciduous	0	0	0	0	0	9	6	0	171	0	0	0	0	0	186
Lowland Shrub	118	0	0	0	0	0	0	0	0	0	0	0	0	0	118
Marsh	260	0	0	0	0	0	0	0	0	0	0	0	0	0	260
Mixed Upland Deciduous	0	0	0	0	21	32	0	0	0	0	0	0	0	0	53
Natural Mixed Pines	0	20	0	0	0	0	0	0	0	0	0	0	0	0	20
Northern Hardwood	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
Planted Mixed Pines	0	0	0	0	0	0	30	0	0	0	0	0	0	0	30
Red Pine	0	0	0	37	0	17	14	35	21	0	0	0	0	0	122
Upland Mixed Forest	36	18	0	0	4	0	0	0	0	0	0	0	0	0	58
Urban	21	0	0	0	0	0	0	0	0	0	0	0	0	0	21
Water	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
White Pine	0	0	0	0	4	0	8	4	0	0	0	0	0	0	16
Total	818	170	0	125	288	231	362	49	192	0	0	0	0	35	2270



Table 2 – Proposed Treatment Summaries

Cadillac Mgt. Unit
Year of Entry 2014

Compartment 094
Total Compartment Acres: 2270

Acres by Treatment Type

Commercial Harvest - 525	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
Aspen	137	0	0	0	0	0	0	137
Jack Pine	302	0	0	0	0	0	0	302
Lowland Aspen/Balsam Poplar	20	0	0	0	0	0	0	20
Planted Mixed Pines	0	0	16	0	0	0	0	16
Red Pine	21	0	0	0	14	0	0	34
Upland Mixed Forest	4	0	0	0	0	0	0	4
White Pine	0	0	0	0	12	0	0	12
Total	483	0	16	0	26	0	0	525

Table 3 -- Treatments Prescribed
with No Limiting Factor

S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
4	63094004-Cut	20.4	6112 - Lowland Aspen	High Density Pole	65		Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<u>Prescription</u> Final harvest. Retain scattered oak throughout stand.										
<u>Specs:</u>										
<u>Other</u> Protect snowmobile trail during harvest. If winter harvest, make sure trail remains open during operations.										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
20	63094020-Cut	69.3	42220 - Natural Jack Pine	High Density Pole	56	81-110	Harvest	Clearcut with Reserves	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<u>Prescription</u> Final harvest. Cut all jack pine and aspen. Retain the white and red pine component, thinning in areas where needed.										
<u>Specs:</u>										
<u>Other</u>										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
23	63094023-Cut	8.5	4130 - Aspen	High Density Pole	60		Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal
<u>Prescription</u> Final harvest. Retain white pine and oak component for stand diversity.										
<u>Specs:</u>										
<u>Other</u>										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
24	63094024-Cut	21.0	42220 - Natural Jack Pine	High Density Pole	65		Harvest	Clearcut with Reserves	42221 - Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal
<u>Prescription</u> Final harvest. Cut all jack pine and red maple. Leave oak and majority of red pine for species diversity.										
<u>Specs:</u>										
<u>Other</u> Protect snowmobile trail during harvest. If winter harvest, make sure trail remains open during operations.										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
31	63094031-Cut	8.3	4130 - Aspen	High Density Pole	69		Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<u>Prescription</u> Final harvest. Retain scattered oak. Retain the white pine component.										
<u>Specs:</u>										
<u>Other</u>										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
34	63094034-Cut	13.7	42210 - Natural Red Pine	High Density Log	60	111-140	Harvest	Crown Thinning	42210 - Natural Red Pine	Cmpt. Review Proposal
<u>Prescription</u> Stand has variable densities. Thin stand BA to 80-110 while removing aspen and maple.										
<u>Specs:</u>										
<u>Other</u>										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
49	63094049-Cut	20.7	42110 - Planted Red Pine	High Density Log	80	200+	Harvest	Clearcut with Reserves	4116 - Mixed N. Hardwood - Aspen	Cmpt. Review Proposal
<u>Prescription</u> Final harvest. Retain some black cherry that are present in stand. Let stand convert by natural seeding. Leave scattered red pine along road for seed trees.										
<u>Specs:</u>										
<u>Other</u> The stand appears to have been planted as a wind break at one time.										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
52	63094052-Cut	21.4	6126 - Lowland Jack Pine	High Density Pole	66		Harvest	Clearcut with Reserves	6126 - Lowland Jack Pine	Cmpt. Review Proposal
<u>Prescription</u> Final Harvest while retaining oak and red pine component to meet retention guidelines.										
<u>Specs:</u>										
<u>Other</u> Natural jack pine with red pine, aspen, and oak mixed throughout.										
<u>Comments:</u>										
<u>Next</u> Regen Survey.										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
61	63094061-Cut	13.5	4132 - Aspen, Jack Pine	High Density Pole	44		Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal
<u>Prescription:</u> Final harvest. Remove aspen, jack pine and red maple. Retain large white pine and red pine to increase long lived pine component. Also, harvest area adjacent to road that is located in compartment 95. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u> 10/01/2013										
69	63094069-Cut	6.3	42220 - Natural Jack Pine	High Density Pole	64		Harvest	Clearcut with Reserves	4113 - R.Maple, Conifer	Cmpt. Review Proposal
<u>Prescription:</u> Cut all jack pine. Protect red maple advanced regeneration. <u>Specs:</u> <u>Other Comments:</u> Convert stand to mixed red maple type. <u>Next Steps:</u> <u>Proposed Start Date:</u> 10/01/2013										
71	63094071-Cut	62.5	4130 - Aspen	High Density Pole	44		Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal
<u>Prescription:</u> Final harvest. Cut all aspen while retaining some white pine and all oak. Also, retain some trees on lowland edge. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u> 10/01/2013										
73	63094073-Cut	8.3	42200 - Natural White Pine	High Density Log	62	200+	Harvest	Systematic Thinning	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<u>Prescription:</u> Thin pine species to a residual BA between 80-110. Remove all aspen. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u> 10/01/2013										



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
74	63094074-Cut	3.9	42200 - Natural White Pine	High Density Pole	70	171-200	Harvest	Crown Thinning	42200 - Natural White Pine	Cmpt. Review Proposal
<u>Prescription:</u> Thin red and white pine to 80-110 BA. Remove all jack pine and aspen. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u> 10/01/2013										
79	63094079-Cut	23.0	42220 - Natural Jack Pine	High Density Pole	49		Harvest	Clearcut with Reserves	42221 - Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal
<u>Prescription:</u> Final harvest while maintaining oak and red pine component. Leave jack pine tops scattered across site. <u>Specs:</u> <u>Other Comments:</u> Wind damage in stand. <u>Next Steps:</u> Regen survey <u>Proposed Start Date:</u> 10/01/2013										
80	63094080-Cut	16.5	42220 - Natural Jack Pine	High Density Pole	66		Harvest	Clearcut with Reserves	42221 - Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal
<u>Prescription:</u> Final harvest. Leave some wind firm trees along wet lowland to the north. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u> 10/01/2013										
87	63094087-Cut	45.8	42220 - Natural Jack Pine	High Density Pole	67		Harvest	Clearcut with Reserves	42221 - Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal
<u>Prescription:</u> Final harvest. Leave all oak and create an island pocket to break up the large harvested area. Leave jack pine tops scattered across site. <u>Specs:</u> <u>Other Comments:</u> Wind damage is found throughout stand, with greater frequency along narrow stand edges. Try to avoid N-S strip cuts in future to limit wind damage in adjacent stands. <u>Next Steps:</u> <u>Proposed Start Date:</u> 10/01/2013										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
92	63094092-Cut	33.2	4130 - Aspen	High Density Pole	44		Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal
<u>Prescription:</u> Final harvest. Retain some white pine and protect oak regeneration.										
<u>Specs:</u>										
<u>Other</u>										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
98	63094098-Cut	15.6	42140 - Planted Mixed Pine	High Density Pole	67	111-140	Harvest	Seed Tree with Reserves	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<u>Prescription:</u> Final harvest. Remove all jack pine, aspen and maple. Leave scattered red and white pine seed trees, 10-30 BA where possible.										
<u>Specs:</u>										
<u>Other</u>										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
100	63094100-Cut	55.7	42220 - Natural Jack Pine	High Density Pole	67		Harvest	Clearcut with Reserves	42221 - Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal
<u>Prescription:</u> Final harvest. Retain oak scattered throughout stand. Leave an island to break up large young jack pine areas, if possible. Leave jack pine tops										
<u>Specs:</u> scattered across site.										
<u>Other</u>										
<u>Comments:</u> Wind damage is found throughout stand, with greater frequency along narrow stand edges. Try to avoid N-S strip cuts in future to limit wind damage in adjacent stands.										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
105	63094105-Cut	10.9	4130 - Aspen	High Density Pole	44		Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal
<u>Prescription:</u> Final harvest. Leave scattered pine for retention.										
<u>Specs:</u>										
<u>Other</u>										
<u>Comments:</u>										
<u>Next</u>										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										

Table 3 -- Treatments Prescribed
with No Limiting Factor

S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
106	63094106-Cut	3.6	4311 - Pine, Aspen Mix	High Density Pole	44		Harvest	Clearcut with Reserves	4132 - Aspen, Jack Pine	Cmpt. Review Proposal

Prescription Final harvest. Leave scattered seed trees where possible.

Specs:

Other

Comments:

Next

Steps:

Proposed

Start Date: 10/01/2013

107	63094107-Cut	42.6	42220 - Natural Jack Pine	High Density Pole	66		Harvest	Clearcut with Reserves	42221 - Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Final harvest. Retain wind firm trees scattered throughout stand, if possible. Leave jack pine tops scattered across site.

Specs:

Other

Comments: Wind damage throughout stand, and more prevalent along stand edges adjacent to clearcut areas. Try to avoid N-S strip cuts in future to limit

Next

Steps:

Proposed

Start Date: 10/01/2013

**Total Treatment
Acreage Proposed: 524.7**

Table 4 -- Treatments Prescribed with a Limiting Factor



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Error

Prescription Specs:

Other Comment:

Next Steps:

Proposed Start Date: #Error

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: 0

**Out of YOE -- Treatments
Prescribed with No Limiting Factor**

Year of Entry: 2014



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
	5.2	Unspecified				Harvest	Unspecified	Unspecified	Cmpt. Review Proposal - Incomplete
<u>Prescription Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u>									
	3.5	Unspecified				Harvest	Unspecified	Unspecified	Cmpt. Review Proposal - Incomplete
<u>Prescription Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u>									
	0.1	Unspecified				Harvest	Unspecified	Unspecified	Cmpt. Review Proposal - Incomplete
<u>Prescription Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u>									
	0.0	Unspecified				Harvest	Unspecified	Unspecified	Cmpt. Review Proposal - Incomplete
<u>Prescription Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> <u>Proposed Start Date:</u>									

**Out of YOE -- Treatments
Prescribed with No Limiting Factor**

Year of Entry: 2014



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
63086083-Cut	10.2	4123 - Red Oak	High Density Log	80		Harvest	Shelter Wood with Reserves	4124 - Red with White Oak	Cmpt. Review Proposal

Prescription Mark red and white oak in groups reducing basal area down to an average of 30 sq.ft.(range from 20-50).

Specs:

Other This is a natural continuation of stand 1 in Comp 79 (also prescribed).

Comments:

Next Steps: Follow harvest with roller chopping of red maple in gaps from previous harvest. Goal is to decrease red maple and cause enough scarification with harvest to create a seedbed for adjacent pine to seed in, as well as oak. Stump sprout oak is not expected, but would be welcome. Regen survey per work instructions.

Proposed

Start Date: 10/01/2013

**Total Treatment
Acreage Proposed: 19.0**

Stand	Cadillac Mgt. Unit		5 – Forested Stands			Compartment: 094	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2014	
2	6113 - Lowland Maple	High Density Pole	35.8	83			
3	6112 - Lowland Aspen	High Density Sapling	5.3	14			
4	6112 - Lowland Aspen	High Density Pole	20.4	65			Lowland aspen type with pockets of upland throughout.
5	4130 - Aspen	High Density Sapling	7.7	5			
6	6112 - Lowland Aspen	High Density Sapling	17.2	11			
8	6119 - Mixed Lowland Deciduous Forest	High Density Pole	75.0	83			
9	4131 - Aspen, Oak	High Density Pole	13.4	14			
10	6126 - Lowland Jack Pine	High Density Pole	42.5	46			Lowland jack pine stand with islands of high ground. Reevaluate in 10 years for harvest. Low shrub openings scattered throughout the stand. Standing water present.
11	6126 - Lowland Jack Pine	Medium Density Pole	8.9	46			Stand is mainly a jack pine stand with wind damage. Tip-ups present and a high water table.
12	42220 - Natural Jack Pine	Medium Density Pole	6.4	46			
13	4130 - Aspen	High Density Sapling	3.3	14			Advanced aspen regeneration with scattered northern pin oak and black cherry.
14	4133 - Aspen, Mixed Pine	Medium Density Pole	34.7	Uneven Age			Stand is composed of variable density and species. Red oak and white pine seed trees present. Open grown red maple with Aspen regen clumps.
16	42220 - Natural Jack Pine	High Density Pole	3.7	39			Mixed pine clump containing mainly jack pine, with some white pine and red pine.
19	6112 - Lowland Aspen	High Density Pole	42.7	32			Stand is mainly composed of Aspen, ash, red maple and scattered oak.
20	42220 - Natural Jack Pine	High Density Pole	69.3	56	81-110		Mix of jack pine and red pine, with scattered white pine. Upland with low areas.
23	4130 - Aspen	High Density Pole	8.5	60			Aspen stand with scattered jack pine and mixed deciduous.
24	42220 - Natural Jack Pine	High Density Pole	21.0	65			





Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
26	42120 - Planted Jack Pine	High Density Pole	7.5	37	111-140	
27	42220 - Natural Jack Pine	Medium Density	16.6	5		Jack pine regeneration.
29	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	5.9	65	81-110	This area has a large amount of shallow drainage ditches. blueberry and bog laurel dominate canopy floor.
30	42220 - Natural Jack Pine	High Density Pole	18.3	65		This stand is mainly upland jack pine.
31	4130 - Aspen	High Density Pole	8.3	69		Aspen stand with scattered oak and white pine.
33	4199 - Other Mixed Upland Deciduous	High Density Pole	20.5	46	51-80	Mix of upland and lowland ground. Red maple dominated stand with low wet pockets of alder mixed throughout. oak and pine only found on drier portions of stand.
34	42210 - Natural Red Pine	High Density Log	13.7	60	111-140	Natural red pine stand.
39	6126 - Lowland Jack Pine	High Density Pole	103.9	56		Stand is mainly low and wet, with some drier areas scattered throughout stand. After observing a few jack pine tip-ups, watertable seems to be about 4 inches below surface of ground. Bog laurel present throughout stand.
40	4130 - Aspen	Medium Density Pole	14.9	14		Mix of upland and lowland ground dominated by aspen.
41	42110 - Planted Red Pine	Medium Density Pole	23.2	37	81-110	
42	4311 - Pine, Aspen Mix	Medium Density	11.3	14		Mix of seed tree jack pine, Dominated by jack pine pole/saplings, along with advanced aspen regen.
43	42260 - Natural Pine, Mixed Deciduous	High Density Sapling	20.2	14		Stand dominated by jack pine regeneration. Variable amounts of aspen, white and red pine.
44	4311 - Pine, Aspen Mix	High Density Sapling	7.2	14		A mix of jack pine, quaking aspen, and red maple regeneration, averaging 14 feet tall.
45	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	9.2	56	81-110	Stand as some residual scattered mature trees, but stem count is dominated by advanced regeneration. Storm damage seems to be the cause of the loss of mature trees.
47	4130 - Aspen	High Density Pole	38.7	48		Aspen dominated stand with varying amounts of red maple, red pine, and jack pine. Mix of upland and lowland ground.
48	42220 - Natural Jack Pine	High Density Pole	10.2	73		Natural jack pine located on high islands in wet marsh.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
49	42110 - Planted Red Pine	High Density Log	20.7	80	200+	Planted red pine.
50	4132 - Aspen, Jack Pine	Medium Density Pole	10.3	38		Mixed stand with multiple clumps of trees dominated by either white pine, jack pine, or aspen. A good portion of the stand has grass openings.
51	6113 - Lowland Maple	High Density Pole	6.5	86	81-110	Stand composed of mixed pine and oak on edge, with red maple and ash dominating the interior of the stand.
52	6126 - Lowland Jack Pine	High Density Pole	21.4	66		Natural jack pine with red pine, aspen, and oak mixed throughout.
54	4130 - Aspen	High Density Sapling	5.2	14		Aspen and maple advanced regeneration.
55	42220 - Natural Jack Pine	Medium Density	20.9	5		Mixed jack pine and red maple regeneration with variable density.
57	42220 - Natural Jack Pine	High Density Pole	11.6	13		Natural jack pine regen. Stand origin 1998.
58	42110 - Planted Red Pine	High Density Pole	13.6	37	171-200	Planted red pine stand. Small diameter.
61	4132 - Aspen, Jack Pine	High Density Pole	13.5	44		Aspen stand with mixed pine and red maple.
63	4112 - Maple, Beech, Cherry Association	High Density Pole	2.7	41	111-140	Stand is dominated by red maple, with scattered aspen and oak.
64	6119 - Mixed Lowland Deciduous Forest	High Density Pole	54.0	83		Muskegon river flood plain. Oxbows present throughout stand. Moving water.
69	42220 - Natural Jack Pine	High Density Pole	6.3	64		Natural jack pine stand.
70	4199 - Other Mixed Upland Deciduous	High Density Pole	32.4	55	141-170	Complex mix of oak, maple, aspen, white pine with scattered ash. Hold stand until next inventory entry.
71	4130 - Aspen	High Density Pole	62.5	44		
73	42200 - Natural White Pine	High Density Log	8.3	62	200+	Stand has a mix of red and white pine, along with some scattered aspen.
74	42200 - Natural White Pine	High Density Pole	3.9	70	171-200	White pine dominated stand with mixes of red pine, jack pine and aspen.
76	42100 - Planted White Pine	High Density Pole	4.1	47	81-110	White pine plantation.

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Cadillac Mgt. Unit

5 – Forested Stands

Compartment: 094
Year of Entry: 2014

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
79	42220 - Natural Jack Pine	High Density Pole	23.0	49		Natural jack pine stand with some aspen, red maple, and red pine.
80	42220 - Natural Jack Pine	High Density Pole	16.5	66		Natural jack pine stand.
81	42220 - Natural Jack Pine	Low Density Sapling	85.2	3		Stand swapped from Non-Forested to Forested.
82	42140 - Planted Mixed Pine	High Density Pole	14.3	69	111-140	Mixed pine stand.
83	4130 - Aspen	High Density Pole	4.8	44		Aspen stand with a few scattered jack pine.
84	6127 - Lowland Pine	Low Density Pole	5.7	46		Very low density trees. Very heavy alder and willow component.
86	42120 - Planted Jack Pine	High Density Pole	10.6	14		
87	42220 - Natural Jack Pine	High Density Pole	53.8	67		Mostly upland jack pine stand with low wet pockets throughout.
88	6112 - Lowland Aspen	High Density Sapling	12.4	10		Aspen regeneration dominates stand with pockets of black ash dominated pockets. Scattered swamp white oak seed trees.
90	42110 - Planted Red Pine	High Density Log	16.7	56	111-140	
91	42220 - Natural Jack Pine	Low Density Sapling	24.5	15		Open grassy area with 27% tree cover.
92	4130 - Aspen	High Density Pole	33.2	44		Aspen stand with scattered jack pine and white pine.
93	42221 - Natural Jack Pine, Mixed Deciduous	High Density Pole	8.8	14		Natural jack pine and aspen regeneration.
95	42120 - Planted Jack Pine	Medium Density Pole	22.8	37	111-140	Young jack pine stand with scattered red pine and aspen clones.
96	6126 - Lowland Jack Pine	Medium Density Pole	12.7	67		Sphagnum with low density trees. Trees appear stunted due to high water table.
97	42210 - Natural Red Pine	Medium Density Log	17.5	70	111-140	Red Pine dominated stand. Mix of upland and lowland.
98	42140 - Planted Mixed Pine	High Density Pole	15.6	67	111-140	Red pine is spaced out fairly uniform throughout stand. Jack pine is found throughout.
99	4133 - Aspen, Mixed Pine	High Density Pole	1.6	39		Young aspen stand with older red and white pine mixed.

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Cadillac Mgt. Unit

5 – Forested Stands

Compartment: 094
Year of Entry: 2014

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
100	42220 - Natural Jack Pine	High Density Pole	73.9	67		Natural jack pine stand.
102	4311 - Pine, Aspen Mix	Low Density Sapling	35.8	5		New stand added.
103	42110 - Planted Red Pine	Low Density Log	17.1	70	81-110	Mostly upland with some low wet pockets with bog lorel.
104	4133 - Aspen, Mixed Pine	High Density Pole	3.7	45		Aspen stand with limited pine component.
105	4130 - Aspen	High Density Pole	10.9	44		Aspen stand with a mixed pine component.
106	4311 - Pine, Aspen Mix	High Density Pole	3.6	44		Aspen jack pine mixed stand.
107	42220 - Natural Jack Pine	High Density Pole	42.6	66		Natural jack pine stand.
109	42220 - Natural Jack Pine	Low Density Sapling	36.6	3		Natural jack pine regeneration site.
110	6126 - Lowland Jack Pine	Medium Density Pole	3.0	44		Natural jack pine stand.
111	42220 - Natural Jack Pine	High Density Pole	3.7	14		Natural regenerating jack pine.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	6239 - Mixed Emergent Wetland	6.8	No	Unspecified	Grassy shub opening commonly flooded by Muskegon river.
7	6229 - Mixed lowland shrub	2.2	No	Unspecified	
15	3302 - Low Density Conifer Trees	84.9	N/A	Low (NonForested)	Open field complex with scattered trees and shrubs.
17	6229 - Mixed lowland shrub	2.5	No	Low (NonForested)	lowland shrub type.
18	6229 - Mixed lowland shrub	18.5	No	Low (NonForested)	Mixed lowland shrub dominated stand. Scattered jack pine saplings.
21	6229 - Mixed lowland shrub	2.5	No	Unspecified	Lowland Shrub type dominated by bog laurel, with scattered black spruce.
22	11 - Low Intensity Urban	14.1	No	Unspecified	Jeff's Road.
25	3105 - Mixed Upland Herbaceous	15.0	No	Unspecified	Upland herbaceous with scattered conifer and cherry.
28	6229 - Mixed lowland shrub	20.3	No	Low (NonForested)	Leatherleaf opening with scattered jack pine saplings.
32	3102 - Grass	2.6	Yes	Low (NonForested)	Grass opening near snowmobile trail and muskegon river.
35	6229 - Mixed lowland shrub	9.3	No	Unspecified	
36	3105 - Mixed Upland Herbaceous	3.2	No	Unspecified	Bracken fern and grass type with a shrub component heavy on the west edge of stand.
37	6229 - Mixed lowland shrub	1.3	No	Unspecified	
38	122 - Road/Parking Lot	1.4	No	Unspecified	M-55
46	6229 - Mixed lowland shrub	2.4	No	Unspecified	
53	3102 - Grass	1.5	No	Unspecified	Grassy opening.
56	6239 - Mixed Emergent Wetland	2.9	No	Low (NonForested)	Low wet shrub-grass type.
59	3102 - Grass	15.2	No	Low (NonForested)	Grass opening, low and wet on south end.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
60	6239 - Mixed Emergent Wetland	26.0	No	Low (NonForested)	Open wetland containing jack pine snags. Mostly grass covered with low shrubs.
62	6233 - Wet Meadow	224.4	No	Low (NonForested)	
65	3102 - Grass	9.2	No	Unspecified	Grassy opening near state facility.
66	11 - Low Intensity Urban	5.2	No	Unspecified	Michigan Department of Natural Resources facility.
67	790 - Other Bare/Sparsely Vegetate	7.1	No	Low (NonForested)	Access road.
68	3105 - Mixed Upland Herbaceous	3.2	No	Low (NonForested)	
72	3303 - Mixed Low Density Trees	44.7	No	Low (NonForested)	
75	6229 - Mixed lowland shrub	1.5	No	Low (NonForested)	Bog laurel dominated lowland pocket.
77	3302 - Low Density Conifer Trees	19.7	No	Low (NonForested)	Open field type dominated with sweetfern. Scattered jack pine and red pine in stand, mainly on east end.
78	3105 - Mixed Upland Herbaceous	7.3	No	Low (NonForested)	Herbaceous opening with scattered pine.
85	6220 - Alder/willow	32.5	No	Low (NonForested)	Mix of upland and lowland shrub type.
89	50 - Water	1.1	No	Unspecified	old drainage ditch.
94	6229 - Mixed lowland shrub	12.2	No	Unspecified	Mixed lowland shrub.
101	6229 - Mixed lowland shrub	7.8	No	Low (NonForested)	low wet area.
108	6229 - Mixed lowland shrub	5.3	No	Low (NonForested)	Mix of grasses, sedges, and lowland shrubs. Shrub height 3 feet and scattered.
112	3302 - Low Density Conifer Trees	1.5	Yes	Jack Pine	Final Harvested Stand with adjacent compartment.



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.

Stand	SCA Type	SCA Name	Acres	Comments



8 – DEDICATED CONSERVATION AREA DETAILS

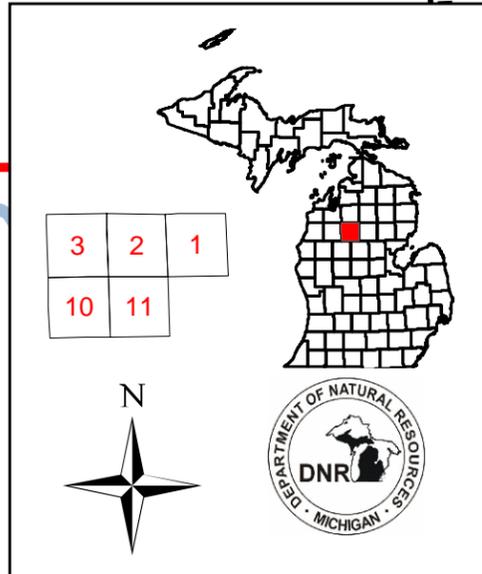
* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

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

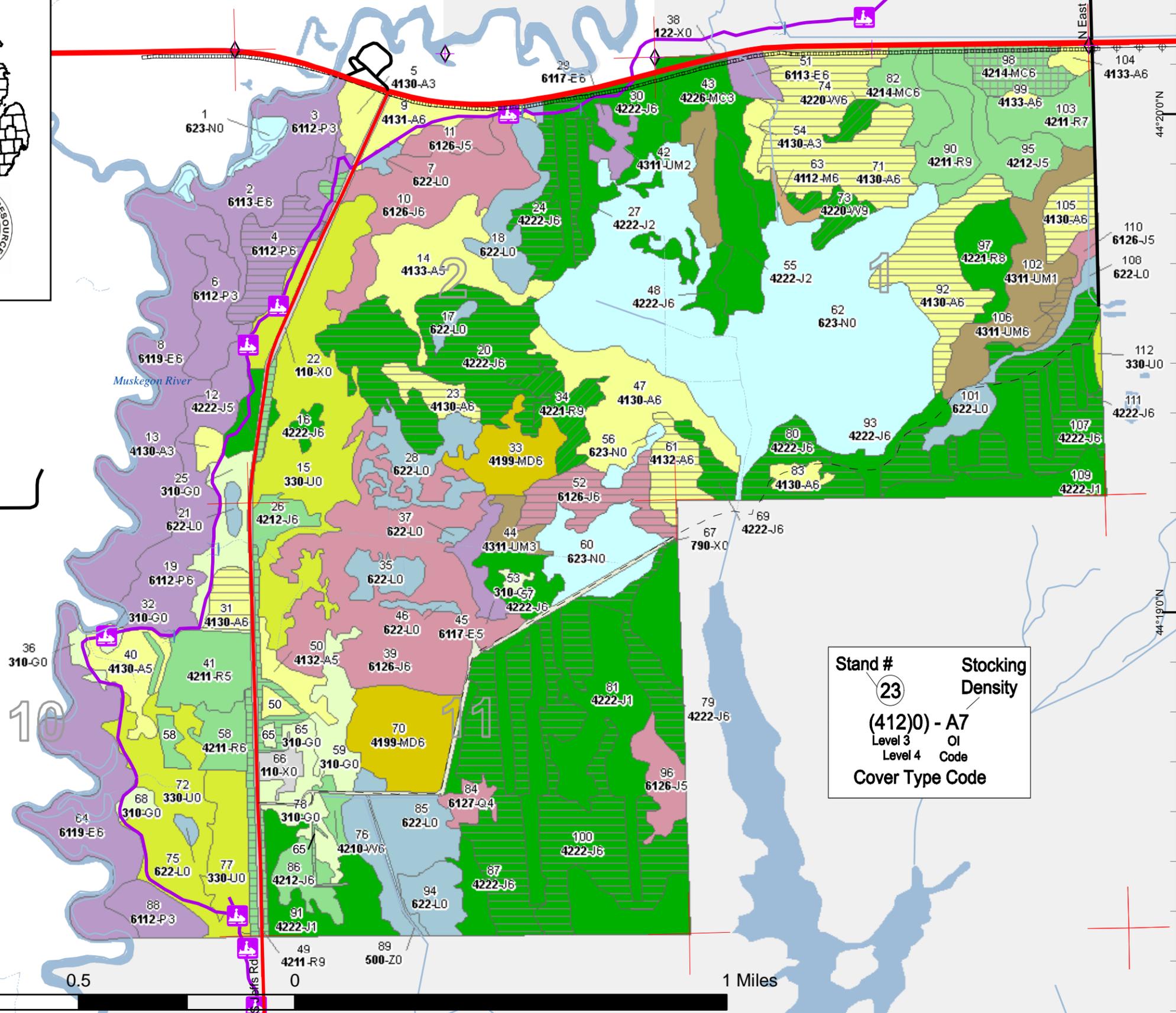
Conservation Area	Type	Description
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.

Cover Type & Treatment Map

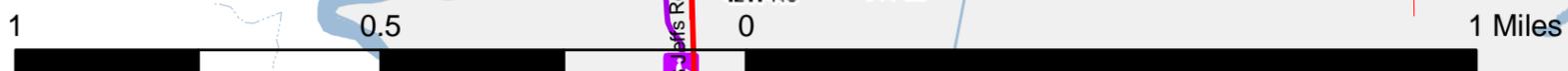
Compartment: 094
 T22N R05W
 01 02 03 10 11
 County: Missaukee
 Unit: Cadillac
 YOE: 2014
 Acres: 2,270 GIS Calculated
 Examiner: Blair Tweedale
 Map Revised: 10/08/2012
 Map Phase: Pre-Review



- Legend**
- DNR Survey Corner
 - Field Survey Corner
 - Remonumented Section Corners
 - Miris Corners
 - Culverts
 - Snowmobile Trails
 - Highway
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Gravel Roads
 - Poor Dirt Roads
 - County Poor Dirt Roads
 - Trail (Non-Recreation)
 - Closed Roads
 - Pipeline
 - Powerline
 - Snowmobile Trail
 - Stream
 - Intermittent Stream
 - Lakes and Rivers
 - State Forest Land
- Treatments**
- Clearcut (w/Reserves, Patch/Strip)
 - Seed Tree (w/Reserves)
 - Thinning (Crown, Low, Systematic)
- Forest Stands**
- Level 3
- 411 - Northern Hardwood
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 431 - Upland Mixed Forest
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
- Non-Forest Stands**
- Level 3
- 110 - Low Intensity Urban
 - 122 - Road/Parking Lot
 - 310 - Herbaceous Openland
 - 330 - Low-Density Trees
 - 500 - Water
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland
 - 790 - Other Bare/Sparsely Vegetated

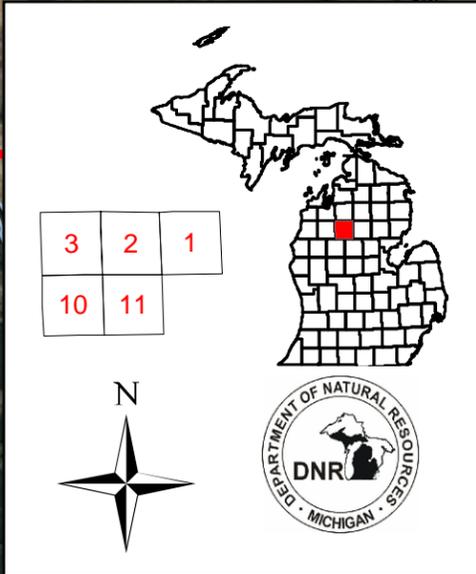


Stand #
 23
Stocking Density
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 Level 3 OI
 Level 4 Code
Cover Type Code



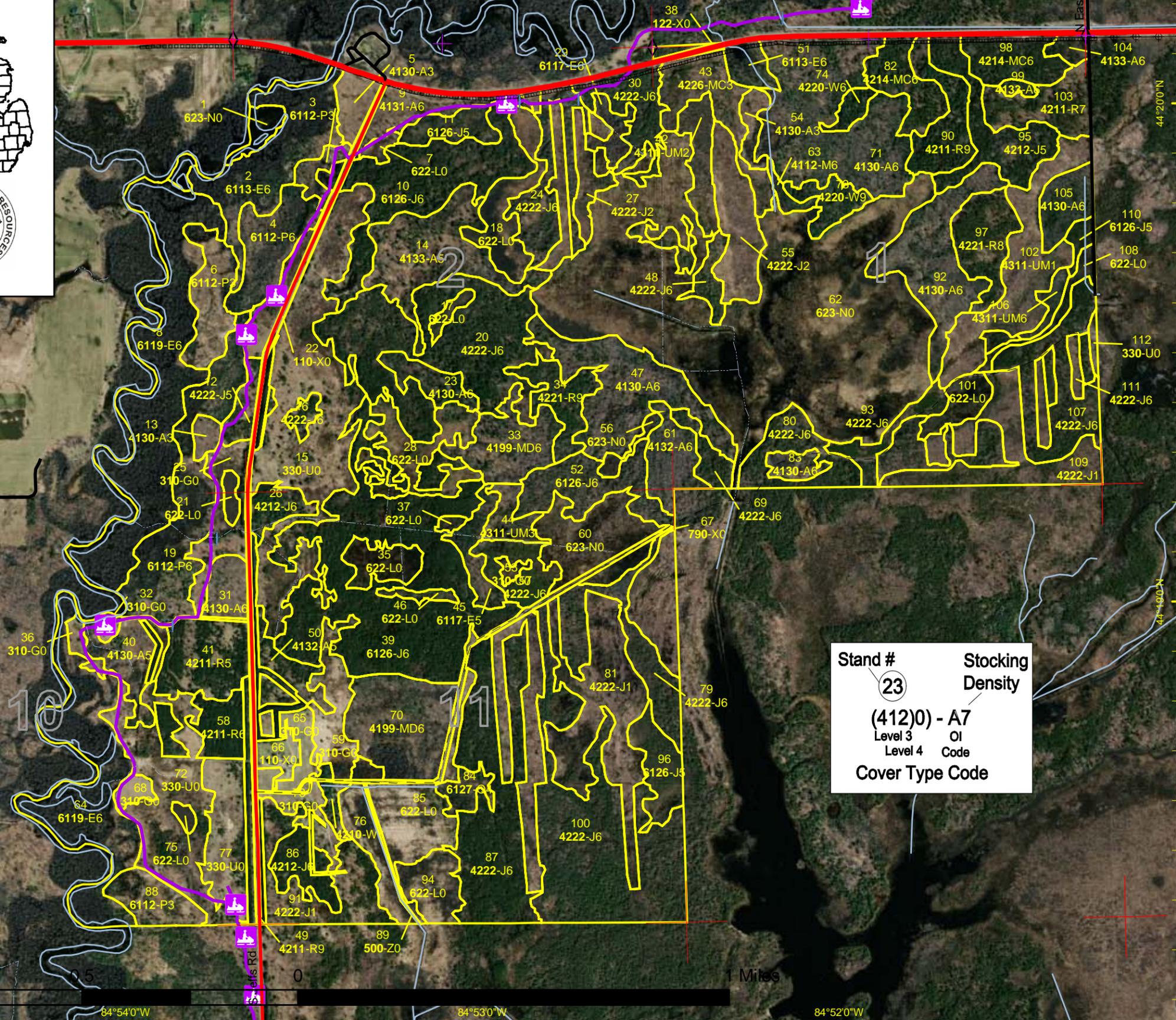
Stand Boundary Map

Compartment: 094
 T22N R05W
 01 02 03 10 11
 County: Missaukee
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Legend

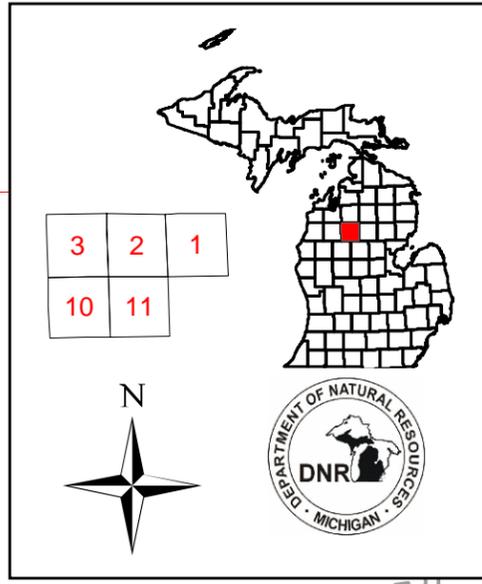
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 - Field Survey Corner
 - Miris Corners
 - Remonumented Section Corners
 - Culverts
 - Snowmobile Trails
 - Highway
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Gravel Roads
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 - County Poor Dirt Roads
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 - Stream
 - Intermittent Stream
 - Stand Boundaries
- Forest Stands**
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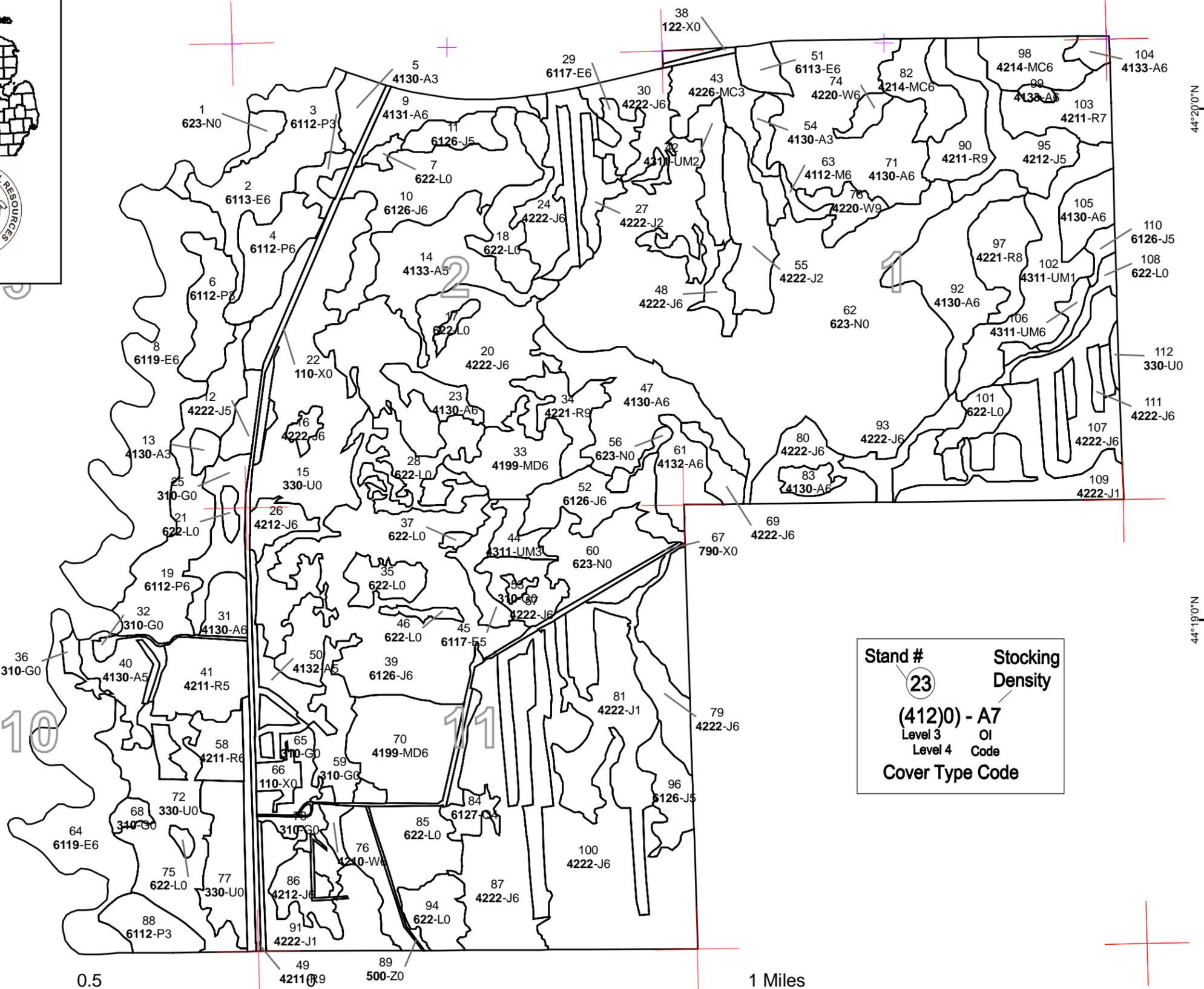
Stand #	Stocking Density
23	
(412)0 - A7	
Level 3	OI
Level 4	Code
Cover Type Code	



Compartment: 094
 T22N R05W
 01 02 03 10 11
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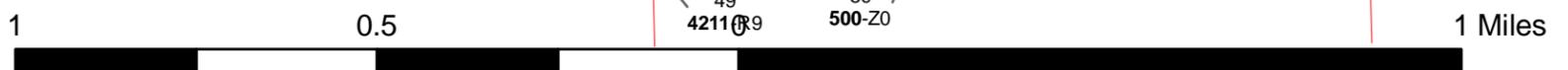


Dedicated & Proposed Special Conservation Area Map



- Legend**
- Miris Corners
 - + Remonumented Section Corners
 - Stand Boundaries
 - Proposed Special Conservation Areas
 - ▨ SCA - Special Conservation Area
 - ▩ SCA Removal
 - Forest Stands
 - Level 3
 - 411 - Northern Hardwood
 - 413 - Aspen Types
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 - 623 - Emergent Wetland
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Stand #	Stocking Density
23	
(412)0 - A7	
Level 3	OI
Level 4	Code
Cover Type Code	



84°55'0"W 84°54'0"W 84°53'0"W 84°52'0"W 84°51'0"W

44°20'0"N 44°19'0"N

84°55'0"W 84°54'0"W 84°53'0"W 84°52'0"W