



**CADILLAC FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION**

COMPARTMENT # 085 ENTRY YEAR: 2012

GIS Compartment Acreage: 2454 County: Missaukee

Revision Date: 9/9/10

Stand Examiner: Jim Malloy

Legal Description: T24N, R5W, Sections, 33, 34, 35, 36

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: Mostly flat swampland surrounding Deadstream and Addis Creek. Lupton, Tawas muck. Otisco, Crosswell sands.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Solid state ownership except two parcels in section 33. Recommend acquisition of T24N, R5W section 33, SWNW.

Unique, Natural Features (include only non-site specific and non-sensitive information): Hill's pondweed record to SW. Hill's thistle to E. Potential for northern harrier, American bittern, yellow rail, massasauga, spotted turtle, wood turtle, and Blanding's turtle. Potential for secretive locust. Potential for rare plants of conifer swamp: limestone oak fern, ram's head lady's-slipper, and calypso orchid.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): None Listed

Special Management Designations or Considerations: Deadstream Swamp was dedicated by Governor and U.S. Dept. of Interior in January 1976 as a National Landmark representing one of the largest contiguous Northern White Cedar swamps in the U.S. The entire compartment east of the pipeline in section 33 is in Deadstream Swamp Area.

Watershed and Fisheries Considerations: TBD

Wildlife Habitat Considerations: Featured wildlife species are deer, ruffed grouse, woodcock, bear, bobcat, numerous furbearers, and those species associated with lowland hardwood, lowland conifer complexes and emergent wetlands. This compartment is a part of the Deadstream Swamp which is a core black bear area and the largest deer wintering area in Lower Michigan. Wildlife habitat objectives for this compartment are to continue to maintain the aspen type, manage for high structural diversity within stands, and age class diversity across the compartment in those areas where treatments can be conducted. (L. Smith, 9/24/10)

Mineral Resource and Development Concerns and/or Restrictions:

Sections 33 – 36, T24N-R5W, Missaukee County

Surface sediments consist of peat and muck. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift is the Mississippian Michigan Formation. The Michigan Formation is used for gypsum in other areas of the State. The nearest gravel pits are within one mile to the southwest on the uplands, but potential in the compartment is considered limited. Enterprise Field lies one mile to the south. The field has produced over 4.7 million BO from the Devonian Richfield Formation. It is in secondary recovery operations currently. All of the State land is either currently leased for oil and gas development, or nominated for the May 2010 oil and gas auction.

Vehicle Access: Limited. See map

Survey Needs: None at this time

Recreational Facilities and Opportunities: Hunting, trapping, fishing are the main recreation opportunities in the compartment. There are no developed recreational facilities in the compartment. Most of the compartment is inaccessible to wheeled vehicles

Fire Protection: **Initial attack for fire suppression is from the Houghton Lake Field Office. There are “no plow” zones within the compartment and on neighboring private lands. Access for suppression equipment could be difficult within the compartment. Fires within the compartment could become labor intensive. 10-8-10/BRA**

Additional Compartment Information: A temporary bridge will be necessary for crossing of Addis Creek to facilitate logging operations.

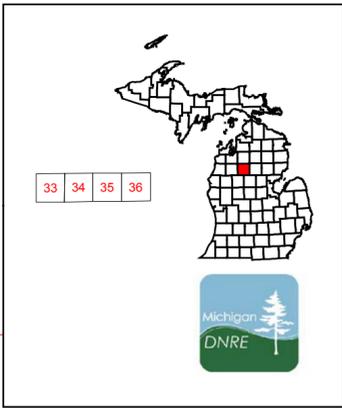
LOTS Compartment Acreage: _____

- **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**

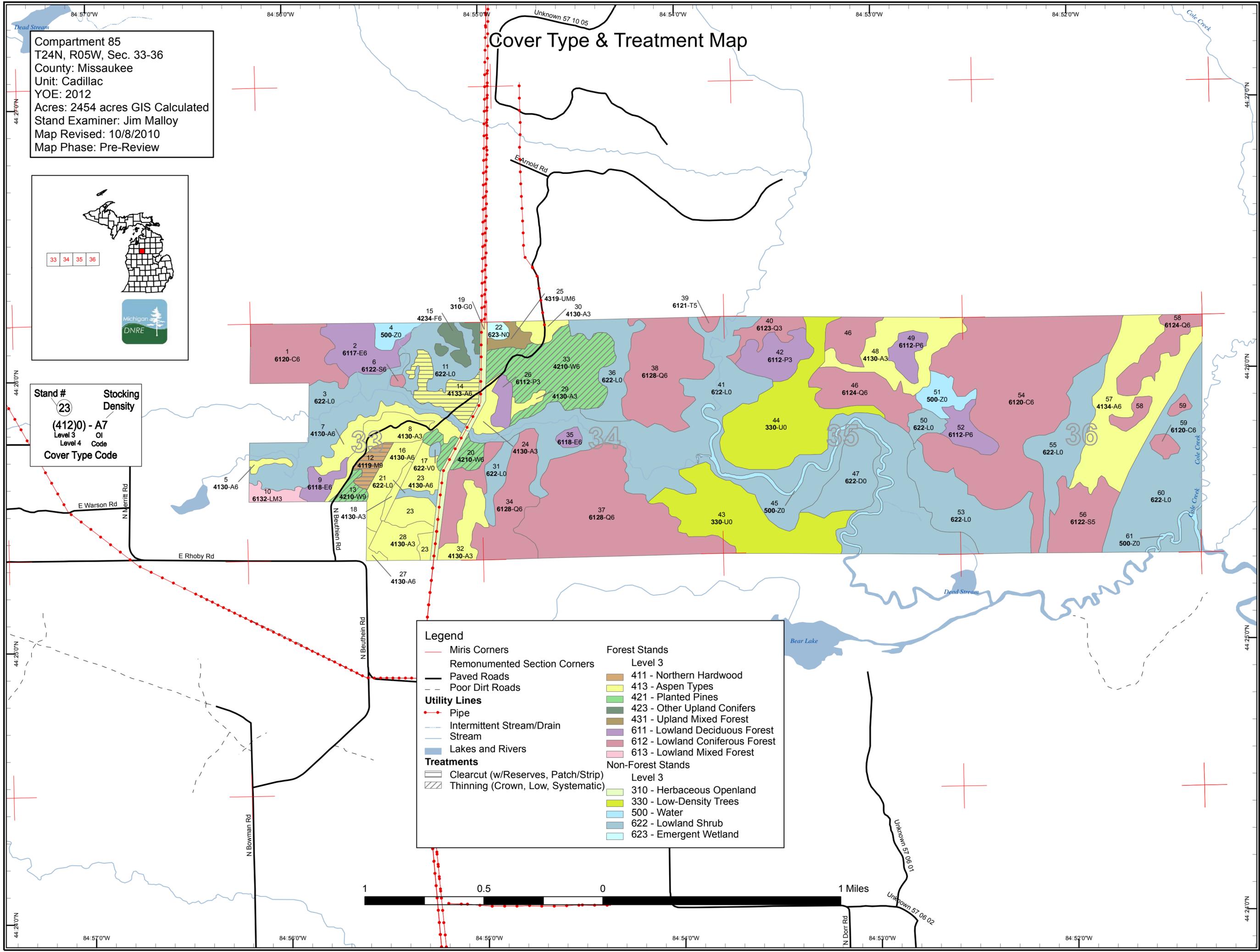
- **The following information is displayed, where pertinent, on the attached compartment maps:**
 - ◆ **Base feature information, stand numbers, cover types**
 - ◆ **Proposed treatments**
 - ◆ **Proposed road access system**
 - ◆ **Suggested potential old growth**

Cover Type & Treatment Map

Compartment 85
 T24N, R05W, Sec. 33-36
 County: Missaukee
 Unit: Cadillac
 YOY: 2012
 Acres: 2454 acres GIS Calculated
 Stand Examiner: Jim Malloy
 Map Revised: 10/8/2010
 Map Phase: Pre-Review



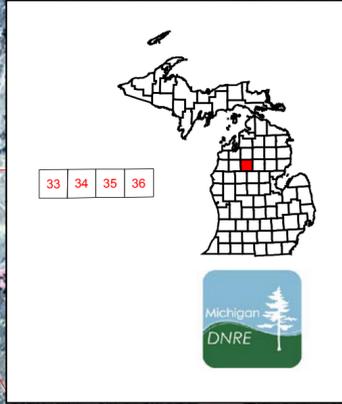
Stand #
 (412)0 - A7
Stocking Density
 Level 3 OI
 Level 4 Code
Cover Type Code



Legend

— Miris Corners	Forest Stands
— Remonumented Section Corners	Level 3
— Paved Roads	411 - Northern Hardwood
— Poor Dirt Roads	413 - Aspen Types
Utility Lines	421 - Planted Pines
— Pipe	423 - Other Upland Conifers
— Intermittent Stream/Drain	431 - Upland Mixed Forest
— Stream	611 - Lowland Deciduous Forest
— Lakes and Rivers	612 - Lowland Coniferous Forest
	613 - Lowland Mixed Forest
Treatments	Non-Forest Stands
▨ Clearcut (w/Reserves, Patch/Strip)	Level 3
▨ Thinning (Crown, Low, Systematic)	310 - Herbaceous Openland
	330 - Low-Density Trees
	500 - Water
	622 - Lowland Shrub
	623 - Emergent Wetland

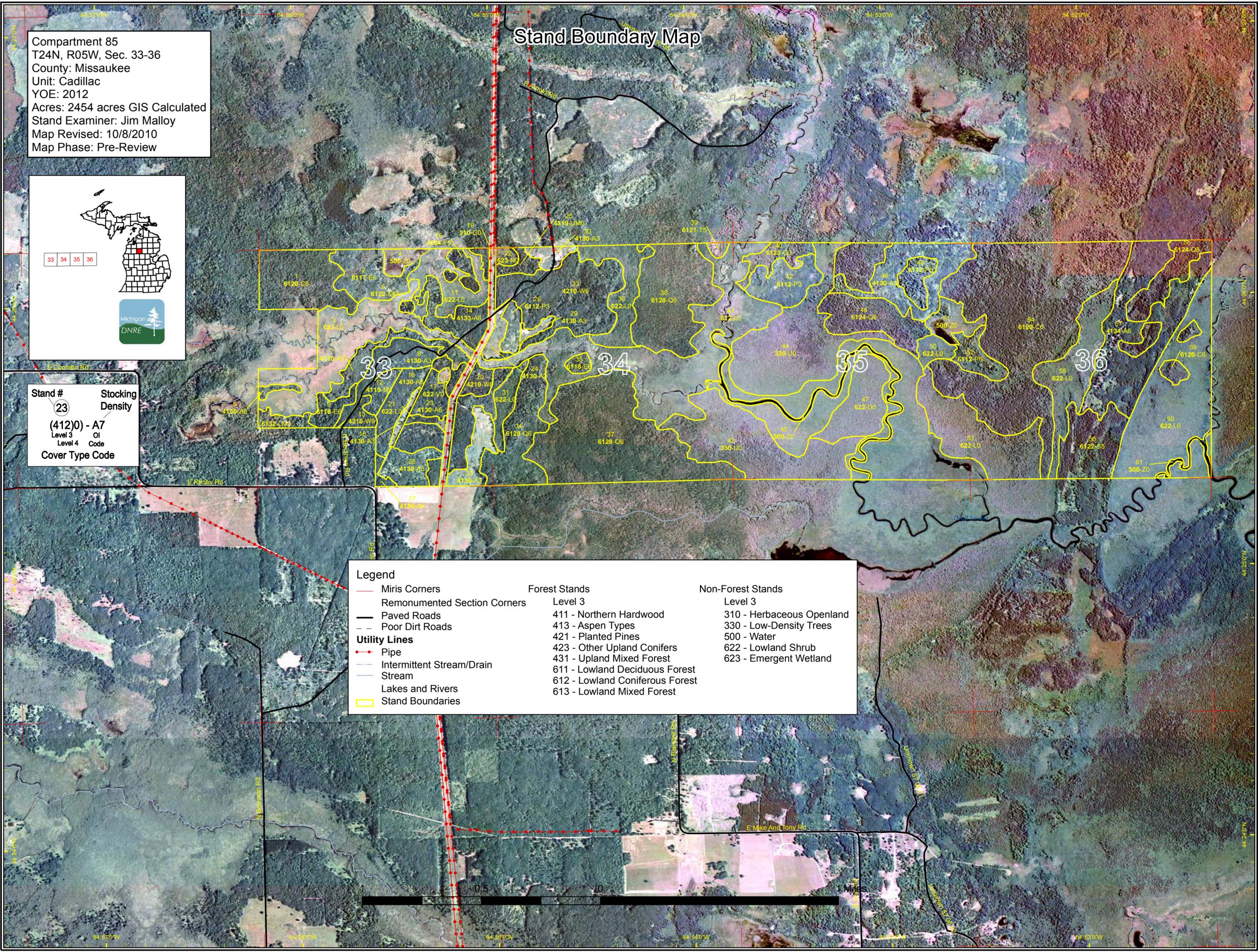
Compartment 85
 T24N, R05W, Sec. 33-36
 County: Missaukee
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Stand #
 23
Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

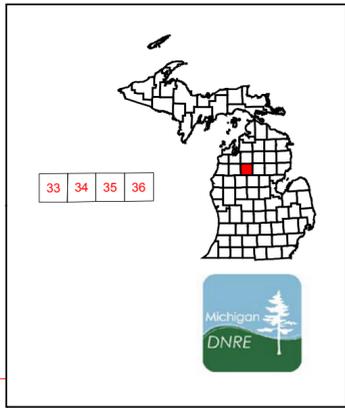
Stand Boundary Map

Legend		
— Miris Corners	Forest Stands	Non-Forest Stands
— Remonumented Section Corners	Level 3	Level 3
— Paved Roads	411 - Northern Hardwood	310 - Herbaceous Openland
— Poor Dirt Roads	413 - Aspen Types	330 - Low-Density Trees
Utility Lines	421 - Planted Pines	500 - Water
● Pipe	423 - Other Upland Conifers	622 - Lowland Shrub
— Intermittent Stream/Drain	431 - Upland Mixed Forest	623 - Emergent Wetland
— Stream	611 - Lowland Deciduous Forest	
— Lakes and Rivers	612 - Lowland Coniferous Forest	
□ Stand Boundaries	613 - Lowland Mixed Forest	

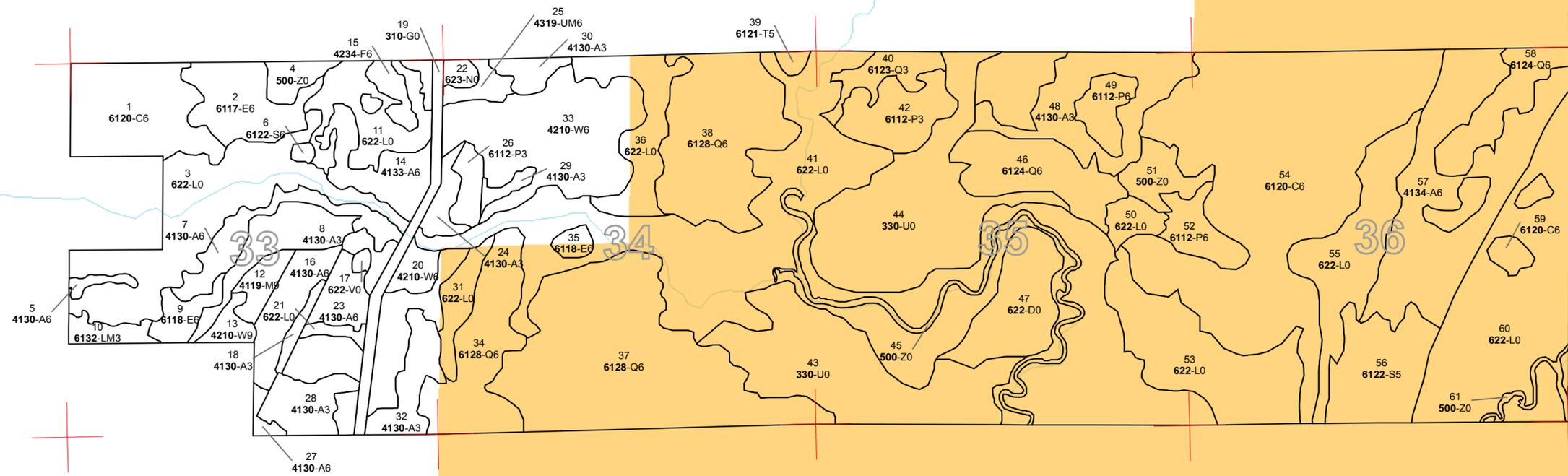


Dedicated & Proposed Special Conservation Area Map

Compartment 85
 T24N, R05W, Sec. 33-36
 County: Missaukee
 Unit: Cadillac
 YOE: 2012
 Acres: 2454 acres GIS Calculated
 Stand Examiner: Jim Malloy
 Map Revised: 10/8/2010
 Map Phase: Pre-Review



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



Legend		Forest Stands	Non-Forest Stands
	Miris Corners	Level 3	Level 3
	Remonumented Section Corners	411 - Northern Hardwood	310 - Herbaceous Openland
	SCA - Special Conservation Area	413 - Aspen Types	330 - Low-Density Trees
	SCA Removal	421 - Planted Pines	500 - Water
	Dedicated Special Conservation Areas	423 - Other Upland Conifers	622 - Lowland Shrub
	Non_Dedicated Natural Areas and National Natural Landmarks	431 - Upland Mixed Forest	
	Stand Boundaries	611 - Lowland Deciduous Forest	
		612 - Lowland Coniferous Forest	
		613 - Lowland Mixed Forest	

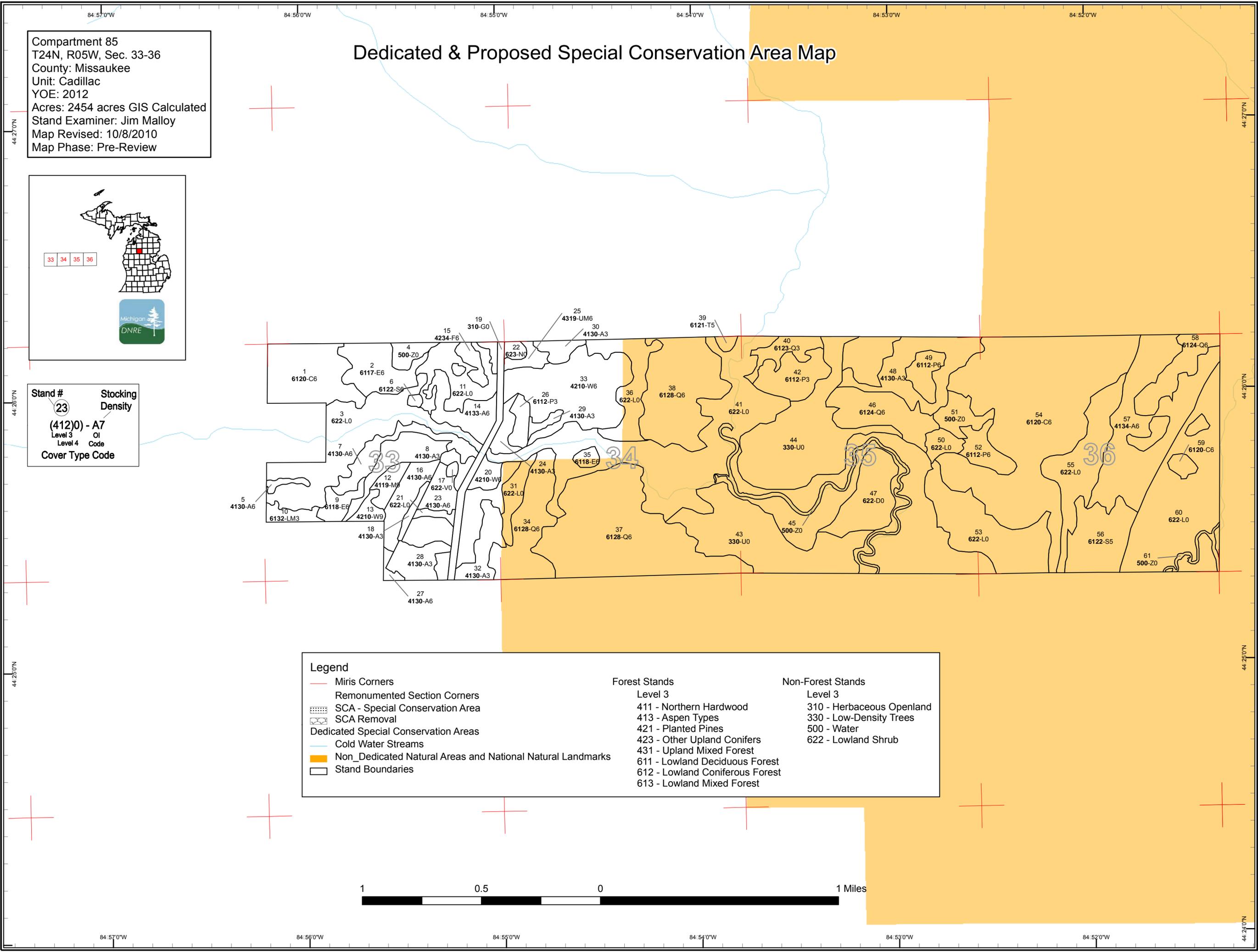
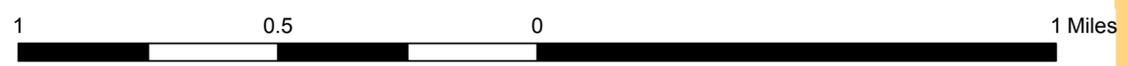


Table 1 – Total Acres by Cover Type and Age Class

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	47	93	22	56	133	3	0	0	0	0	0	0	0	0	354
Bog	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Cedar	0	0	0	0	0	0	0	0	0	0	56	256	0	0	0	312
Herbaceous Openland	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
Low-Density Trees	198	0	0	0	0	0	0	0	0	0	0	0	0	0	0	198
Lowland Aspen/Balsam Poplar	0	0	38	0	0	0	0	0	31	0	0	0	0	0	0	70
Lowland Conifers	0	0	15	0	0	34	0	63	0	0	228	0	0	0	82	423
Lowland Deciduous	0	0	0	0	34	0	11	0	0	0	5	0	0	0	0	49
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9
Lowland Shrub	743	0	0	0	0	0	0	0	0	0	0	0	0	0	0	743
Lowland Spruce/Fir	0	0	0	0	0	0	0	47	0	0	0	0	0	0	0	47
Marsh	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Northern Hardwood	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	10
Tamarack	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
Treed Bog	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40
Upland Mixed Forest	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
Upland Spruce/Fir	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	12
Water	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
White Pine	0	0	0	0	0	0	105	0	0	0	0	0	0	0	0	105
Total	1054	47	147	22	89	170	142	117	31	0	297	256	0	0	82	2455



Table 2 – Proposed Treatment Summaries

Data updated yesterday after 6:00 PM

Cadillac Mgt. Unit
Year of Entry 2012

Compartment 085
Total Compartment Acres: 2455

Acres by Treatment Type

Commercial Harvest - 141	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	26	0	0	0	0	0	26
Northern Hardwood	10	0	0	0	0	0	10
White Pine	0	0	0	0	105	0	105
Total	35	0	0	0	105	0	141

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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
12 63085012-Cut	9.8	4119 - Mixed Northern Hardwoods	High Density Log	54	Harvest	Clearcut with Reserves	Mixed N. Hardwood - Aspen	Cmpt. Review Proposal

Prescription: Harvest all maple, pine and aspenSpecs:Other: Retain 3% of BA of maple. Encourage aspen regeneration.Comments:NextSteps:

13 63085013-Cut	6.9	42101 - Planted White Pine, Mixed Deciduous	High Density Log	50	Harvest	Low Thinning	Planted White Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription: Thin pine to a residual BA of 110. Expand aspen and maple by cutting all aspen and most of the maple. Cut all pine in aspen zones toSpecs: encourage aspen regeneration.Other: Retain 3% of ba of maple and unmarked pine.Comments:NextSteps:

20 63085020-Cut	14.5	42100 - Planted White Pine	High Density Pole	50	Harvest	Low Thinning	Planted White Pine	Cmpt. Review Proposal
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Prescription: Thin pine a residual of 110. Remove hardwood necessary to access pine. Expand aspen where possible.Specs:Other: Pine was planted as thermal cover for deer. Paermit may be needed for access across pipeline. Check with fisheries regarding buffer alongComments: addis creek.NextSteps:

Total Treatment Acreage Proposed:	31.3
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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
14 63085014-Cut	25.7	4133 - Aspen, Mixed Pine	High Density Pole	42	Harvest	Clearcut with Reserves	Aspen, Mixed Pine	Cmpt. Review Proposal

Prescription Cut all aspen, maple and pine. Leave any scattered cherry. Portions not cut commercially will be habitat cut by wildlife.

Specs:

Other Tem bridge need to allow loggin equipment across Addis Creek. Check with fisheries regarding buffer along addis creek.

Comment:

Next

Steps:

Limiting Factor and No 2C: Bridge out or unsafe
Treatment Reason Sale will require Temp Bridge

33 63085033-Cut	83.7	42101 - Planted White Pine, Mixed Deciduous	High Density Pole	50	Harvest	Low Thinning	Planted White Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Thin areas dominated by white pine to a residual ba of 110. Cut all aspen and red maple. Encourage aspen regeneration where aspen is present by removing overstory pine. Tempoyary bridge is needed for logging equipment to access across Addis Creek.

Specs:

Other White pine was planted by wildlife division as a thermal cover for deer. Long term goal of the stand is a aspen dominated stand.

Comment:

Next

Steps:

Limiting Factor and No 2C: Bridge out or unsafe
Treatment Reason Sale will require Temp Bridge

**Total Treatment
Acreage Proposed: 109.3**

Data updated yesterday after 6:00 PM

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

Year of Entry: 2012



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

Other
Comments:

Next
Steps:

**Total Treatment
Acreage Proposed: 0**

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Cadillac Mgt. Unit

5 – Forested Stands

Compartment: 085

Data updated yesterday after 6:00 PM

Year of Entry: 2012



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6120 - Lowland Cedar	High Density Pole	55.8	94		
2	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	33.6	34	51-80	
5	4130 - Aspen	High Density Pole	3.5	45		Ridge in swamp area of Addis creek
6	6122 - Black Spruce	High Density Pole	1.8	65		Small pocket of spruce and aspen in middle of Addis creek swamp
7	4130 - Aspen	High Density Pole	24.3	38		
8	4130 - Aspen	High Density Sapling	25.5	12		
9	6118 - Lowland Deciduous with Cedar	High Density Pole	11.0	53	51-80	Wanted to cut last entry. To wet and hummucky.
10	6132 - Mixed Lowland Forest with Cedar	High Density Sapling	8.5	92	51-80	
12	4119 - Mixed Northern Hardwoods	High Density Log	9.8	54	81-110	Harvest all maple and aspen. Mark white pine to cut. A small amount of planted pine to the south.
13	42101 - Planted White Pine, Mixed Deciduous	High Density Log	6.9	50		
14	4133 - Aspen, Mixed Pine	High Density Pole	25.7	42	51-80	
15	42340 - Upland Spruce/Fir	High Density Pole	12.5	55		
16	4130 - Aspen	High Density Pole	22.2	27		
18	4130 - Aspen	High Density Sapling	4.7	8		
20	42100 - Planted White Pine	High Density Pole	14.5	50	111-140	
23	4130 - Aspen	High Density Pole	31.2	35	1-50	Few scatterd red pines
24	4130 - Aspen	High Density Sapling	9.3	8		
25	4319 - Mixed Upland Forest	High Density Pole	7.6	61		

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Cadillac Mgt. Unit

5 – Forested Stands

Compartment: 085

Data updated yesterday after 6:00 PM

Year of Entry: 2012



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
26	6112 - Lowland Aspen	High Density Sapling	9.3	12		
27	4130 - Aspen	High Density Pole	3.4	56	51-80	
28	4130 - Aspen	High Density Sapling	19.2	16		
29	4130 - Aspen	High Density Sapling	4.0	8		
30	4130 - Aspen	High Density Sapling	8.6	8		
32	4130 - Aspen	High Density Sapling	20.2	8		
33	42101 - Planted White Pine, Mixed Deciduous	High Density Pole	83.7	50	141-170	Thin pine, cut aspen and maple
34	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	75.9	98	111-140	Pockets of cedar and wet areas
35	6118 - Lowland Deciduous with Cedar	High Density Pole	4.6	98		
37	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	152.0	98		
38	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	82.1	Uneven Age	51-80	
39	6121 - Tamarack	Medium Density Pole	2.9	45		
40	6123 - Lowland Fir	High Density Sapling	15.3	16		
42	6112 - Lowland Aspen	High Density Sapling	29.0	16		
46	6124 - Lowland Spruce-Fir	High Density Pole	62.9	68		
48	4130 - Aspen	High Density Sapling	48.7	16		
49	6112 - Lowland Aspen	High Density Pole	14.1	70		
52	6112 - Lowland Aspen	High Density Pole	17.1	73		

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Cadillac Mgt. Unit

5 – Forested Stands

Compartment: 085

Data updated yesterday after 6:00 PM

Year of Entry: 2012



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
54	6120 - Lowland Cedar	High Density Pole	247.3	104		Mix of cedar, balsam fir, black sporce, scattered white pine, scattered maples, ash, aspen. A common mix of swamp species.
56	6122 - Black Spruce	Medium Density Pole	45.2	60		Stand is a mix of black spruce with scattered aspen clones/
57	4134 - Aspen, Spruce/Fir	High Density Pole	103.4	40		Aspen and balsam growing on a ridge in Deadstream Swamp.
58	6124 - Lowland Spruce- Fir	High Density Pole	34.5	42		Stand is a mix of balsam fir, black spruce and scattered aspen. there look to be a few wet areas of leatherleaf included within the stand.
59	6120 - Lowland Cedar	High Density Pole	8.8	108		Stand is a mix of Cedar, balsam fir, black spruce, ash and maple. This info is taken from previous inventory.



Stand	Cover Type	Acres	Gen Cmts:
3	6220 - Alder/willow	89.6	Alder surrounding channel of Addis Creek. Stand also includes Addis Creek as the creek is too small to be an individual stand.
4	50 - Water	9.1	Another wet hole in the swamp
11	6229 - Mixed lowland shrub	33.0	Stand also contains a drainage into Addis Creek
17	6225 - Bog	1.6	Small vernal pond
19	3102 - Grass	19.3	Pipeline. This stand also includes some lowland areas and a stream crossing.
21	6220 - Alder/willow	3.7	
22	6239 - Mixed Emergent Wetland	4.1	
31	6220 - Alder/willow	14.0	
36	6220 - Alder/willow	34.7	
41	6220 - Alder/willow	310.0	Stand is a mix alder and tamarack. Also contains the channel of the deadstream river/creek.
43	3302 - Low Density Conifer Trees	96.2	Mix of Tamarack, Cedar, and Alder, with a few scattered maples.
44	3302 - Low Density Conifer Trees	102.0	Stand is a mix of Tamarack and Alder with a few small scattered maples.
45	50 - Water	17.9	Main channel of the deadstream river/creek.
47	6224 - Treed Bog	40.5	Wet with tag and Tamarack.
50	6220 - Alder/willow	9.5	Small pocket of alder between river and wet hole
51	50 - Water	16.2	Wet hole
53	6220 - Alder/willow	70.8	Tag alder mixed with an occasional Tamarack
55	6220 - Alder/willow	55.4	



Stand	Cover Type	Acres	Gen Cmts:
60	6220 - Alder/willow	122.0	Lots of Tag Alder
61	50 - Water	4.9	Stand is a portion of the deadstream river/creek. an extension of stand 50



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
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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	Non-Dedicated Natural Areas and National Natural Landmarks	This category is comprised of those Natural, Wilderness and Wild Areas that have been nominated or proposed for legal dedication, but for which legal dedication by legislature has not occurred. The nomination process is defined by Part 351, Wilderness and Natural Areas, of the Natural Resources and Environmental Protection Act, 1994 PA 451. The program is administered by the DNR. Nominations require the submittal of a Natural Areas Nomination Packet to the DNR. This is an active program, with proposed sites in various stages of review. Final dedication of nominated Natural, Wilderness and Wild Areas is accomplished through legislative action.