### CADILLAC FOREST MANAGEMENT UNIT



## COMPARTMENT REVIEW PRESENTATION COMPARTMENT # 99 ENTRY YEAR: 2012

Compartment Acreage (GIS Acres): 1570 County: Missaukee

Revision Date: 10/11/2010 10:38 AM

**Stand Examiner:** Steven Eisele. Forest Technician

**Legal Description:** T21N, R5W, Sections 9, 10, 11 and 12.

RMU (if applicable): 228

**Management Goals:** Maintain species and age diversity. Continue to buffer river corridors.

**Soil and Topography:** Mostly Rubicon and Croswell sands with Lupton muck along the river.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Scattered private blocks along river corridor, with seasonal cabins. Section 10 is solid state ownership.

Unique, Natural Features (include only non-site specific and non-sensitive information): Muskegon River runs through sections 11 and 12.

Osprey\* documented within compartment in sections 11 and 12; more records to NE. Eastern massasauga\* records in SW 1/4 of section 12 and NE 1/4 of section 13. Wood turtle\* recorded in NE 1/4 of section 21 and NW 1/4 of section 7; additional records to SE and NW. Kirtland's warbler to SE. Bald eagle within 1 mile to E in sections 5 and 6; more occurrences to NE. Great blue heron rookeries to E. Boreal brachionyncha to E. Secretive locust to SW. Slippershell mussel to SE. Bigmouth shiner records to SE and NE.

Potential for osprey, bald eagle, red-shouldered hawk, and great blue heron rookery. Potential for massasauga, wood turtle, and Blanding's turtle.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information):

#### **Special Management Designations or Considerations:**

Watershed and Fisheries Considerations: Muskegon River

**Wildlife Habitat Considerations:** Comp. 99 - Featured wildlife species are deer, ruffed grouse, woodcock, turkey, bear, and bobcat. Major management objectives are to maintain a variety of cover types and age classes which favor a variety of game and non-game species, There have been major concerns with the regeneration of the oak type throughout compartments in this area. (L. Smith, 9/24/10)

## Mineral Resource and Development Concerns and/or Restrictions:

COMPARTMENT 99 Sections 9 -12, T21N-R5W, Missaukee County

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 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 within two miles of this compartment and potential is considered good. This area is located three miles southeast of South Prosper Field. Production of over 1 million BO is primarily from the Devonian Dundee Limestone. All state lands are leased for oil and gas development, or are nominated for the May 2010 auction.

**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:**

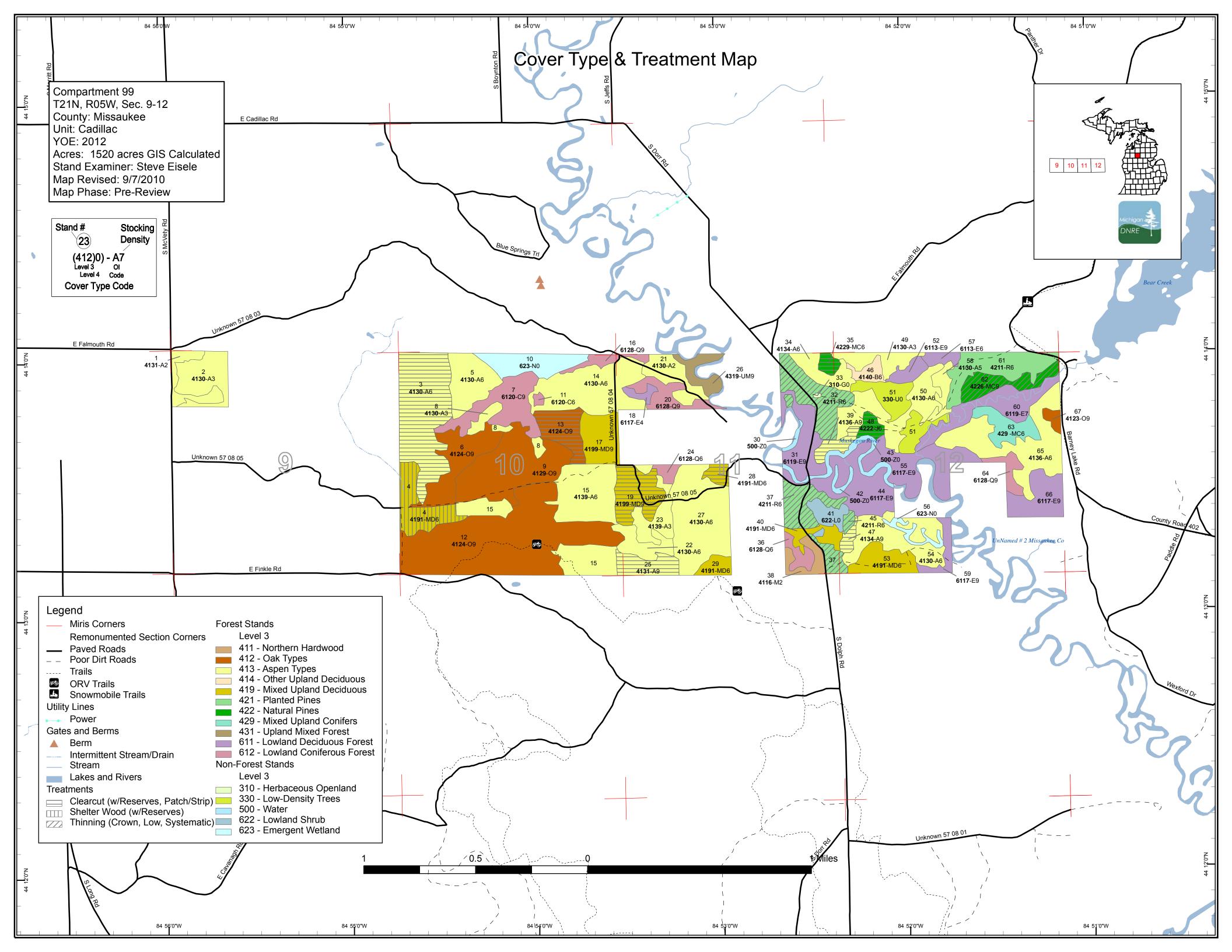
## **Recreational Facilities and Opportunities:**

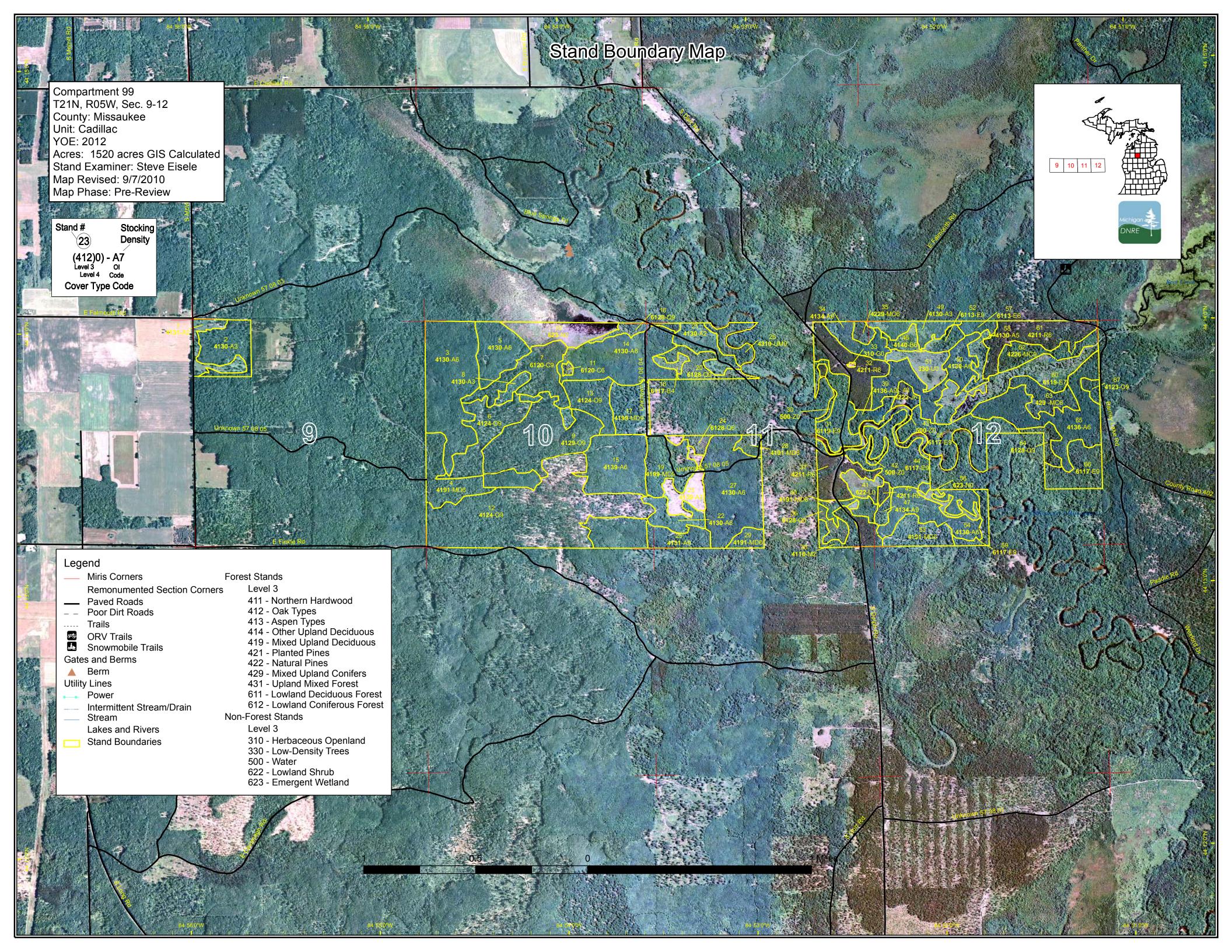
**Fire Protection:** Initial attack for the compartment is from the Houghton Lake Field Office. Access could be a problem, as this compartment is on both sides of the Muskegon River. There are "no plow" zones located close to this compartment. Any fire within this compartment has the potential to become labor intensive. 10-6-10/BRA

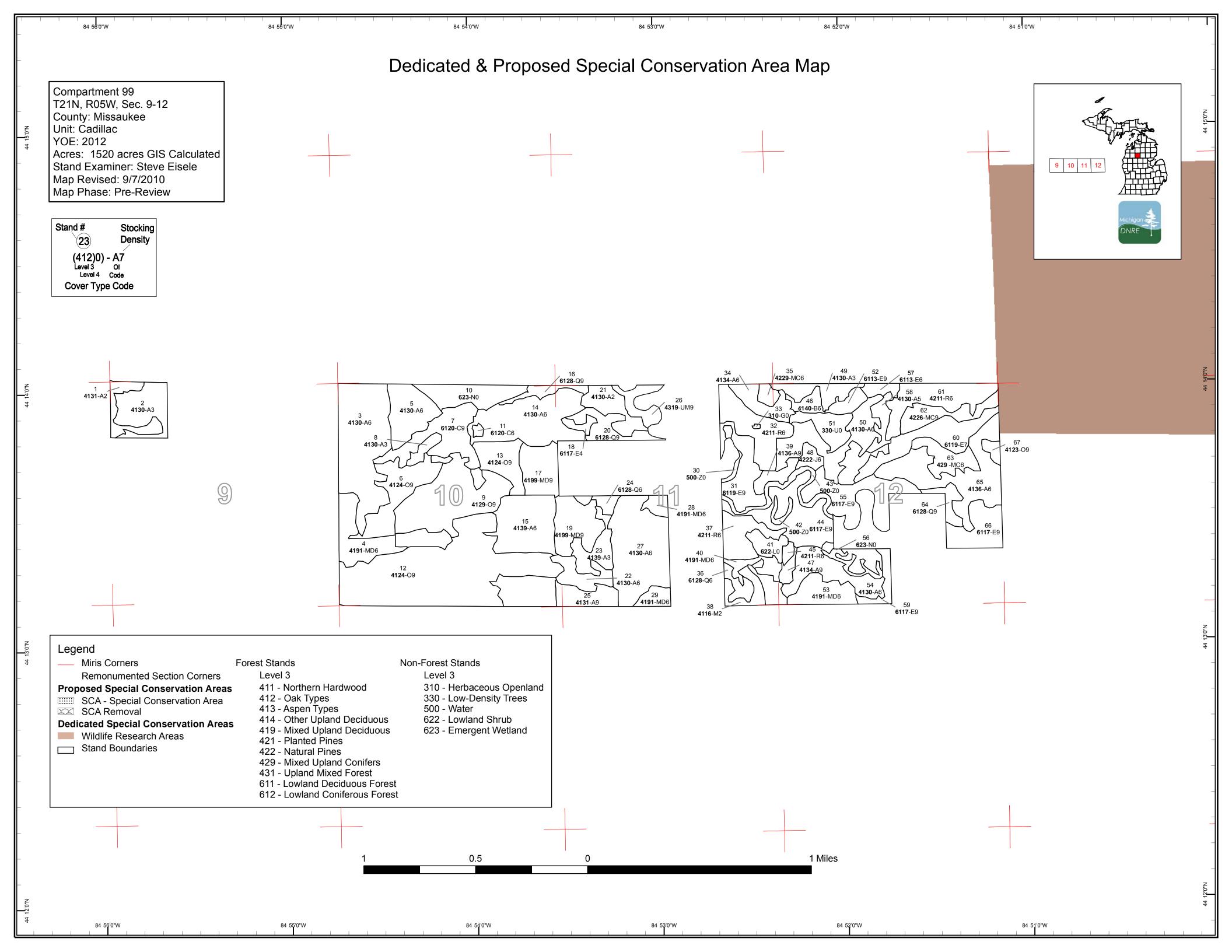
## **Additional Compartment Information:**

The following parcels are recommended for acquisition if they become available for sale:

- 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 099 Year of Entry 2012



## Age Class

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	Hou	To the state of th	\$ /	0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0	,	, S	D. C.	\$ / S	8 / S	, R. / .	\$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	86.2	8,00	\\ \sigma_{1/2}\\ \sigma_{1/2}\\ \end{array}	\$0°   30°	AS LOS
Aspen	0	32	124	224	0	123	76	0	23	0	0	0	0	0	4	607
Cedar	0	0	0	0	0	0	0	0	0	0	35	0	0	0	1	37
Herbaceous Openland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jack Pine	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	6
Low-Density Trees	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
Lowland Conifers	0	0	0	0	0	0	0	0	0	16	7	0	0	0	19	42
Lowland Deciduous	0	0	0	0	0	0	0	0	8	0	0	33	0	0	145	187
Lowland Shrub	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Marsh	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
Mixed Upland Deciduous	0	0	0	0	0	0	27	6	28	0	0	0	0	0	60	120
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	23
Northern Hardwood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9
Oak	0	0	0	0	0	0	0	0	0	235	0	0	0	0	34	269
Paper Birch	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
Red Pine	0	0	0	0	0	0	99	0	0	0	0	0	0	0	0	99
Upland Conifers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12
Water	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Total	86	32	124	224	0	123	208	6	60	251	42	33	0	0	332	1520



## **Table 2 – Proposed Treatment Summaries**

Data updated yesterday after 6:00 PM

Cadillac Mgt. Unit Year of Entry 2012

Compartment 099
Total Compartment Acres: 1520

Acres	by	Treatment 7	Гуре
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Commercial Harvest - 279 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								
		The last of the la								
Aspen		104	0	0	0	0	0	104		
Jack Pine		6	0	0	0	0	0	6		
Mixed Upland Deciduous		33	0	0	27	0	0	60		
Natural Mixed Pines		5	0	0	0	18	0	23		
Oak	21	0	0	0	0	0	21			
Red Pine	·	0	0	0	0	65	0	65		
	Total	169	0	0	27	83	0	279		

Compartment: 099 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 CoverType Method Objective Name Density **Status** d Age Type 3 63099003-Cut 76.1 4130 - Aspen High Density Pole 50 Harvest Clearcut with Aspen Cmpt. Review Reserves Proposal Prescription Clear cut with reserves. Leave oak. Leave hillside and smaller diameter islands. Specs: <u>Other</u> Comments: <u>Next</u> Steps: 63099004-Cut 27.0 4191 - Mixed High Density Pole 55 Harvest Shelterwood Mixed Upland Cmpt. Review **Upland Deciduous** Deciduous with Proposal Conifer with Conifer Prescription Shelterwood cut. Remove all pine. Specs: Other Comments: Next Steps: 63099013-Cut 21.4 4124 - Red with Red with White Oak Cmpt. Review 13 High Density Log 80 Harvest Clearcut with White Oak Reserves Proposal Prescription Final harvest with reserves, leave oak less than 6 inches DBH Specs: Other Comments: Next Steps: 63099019-Cut 27.8 4199 - Other Mixed Cmpt. Review 19 High Density Log 75 Harvest Clearcut with Other Mixed Upland **Upland Deciduous** Reserves Deciduous Proposal Prescription Final harvest with reserves. Mark some mast oak to leave Specs: Other Comments: <u>Next</u> Steps: 25 63099025-Cut 15.5 4131 - Aspen, Oak High Density Log 75 Harvest Clearcut with Aspen, Oak Cmpt. Review . Proposal Reserves Prescription Final harvest with reserves. Mark some mast oak to leave Specs: Other Comments: <u>Next</u>

Steps:

Compartment: 099 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 Density Method Objective **Status** d Name CoverType Age Type 28 63099028-Cut 5.5 4191 - Mixed High Density Pole 60 Harvest Clearcut with Mixed Upland Cmpt. Review **Upland Deciduous** Reserves Deciduous with Proposal with Conifer Conifer Prescription Clear cut with reserves. Leave oak Specs: Other Comments: Next Steps: 42110 - Planted 32 63099032-Cut 33.9 High Density Pole 54 Harvest Systematic Thinning Planted Red Pine Cmpt. Review Red Pine Proposal Prescription Thin to 120 basal area. Mark to cut Specs: Other Property Comments: <u>Next</u> Steps: 35 63099035-Cut 4.6 42290 - Natural High Density Pole 55 Harvest Clearcut Natural Mixed Pine Cmpt. Review Mixed Pine Proposal Prescription Clear cut, leave wet, edge areas. Specs: <u>Other</u> Comments: <u>Next</u> Steps: 63099037-Cut Cmpt. Review 28.4 42110 - Planted High Density Pole Harvest Systematic Thinning Planted Red Pine Red Pine Proposal Prescription Thin to 120 basal area. Mark to cut Specs: Other Comments: <u>Next</u> Steps: 39 63099039-Cut 8.0 4136 - Aspen, High Density Log 70 Harvest Clearcut with Aspen, Mixed Conifer Cmpt. Review Mixed Conifer Proposal Reserves Prescription Clear cut with reserves. Mark some mast oak to leave. Buffer river Specs: Other Comments: <u>Next</u> Steps: 45 63099045-Cut 2.5 42110 - Planted High Density Pole Harvest Systematic Thinning Planted Red Pine Cmpt. Review Red Pine Proposal Prescription third row thin or thin to basal area of 120, small area never thinned. <u>Specs:</u> Other Comments: Next

Steps:

s t	Data up	Cadillac Mgt. Unit Data updated yesterday after 6:00 PM				atments Pres Limiting Fact		Compartment: 099 Year of Entry 2012	Michigan DNRE
a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
47	63099047-Cut	4.2	4134 - Aspen, Spruce/Fir	High Density Log	70	Harvest	Clearcut with Reserves	Aspen, Spruce/Fir	Cmpt. Review Proposal
Preso Spec		t with res	erves. Mark some n	nast oak to leave					
Other Comr	_ <u>ments:</u>								
Next Steps		m manag	ement objective is a	spen					
48	63099048-Cut	5.9	42220 - Natural Jack Pine	High Density Pole	50	Harvest	Clearcut with Reserves	Natural Jack Pine	Cmpt. Review Proposal
Preso Spec		t with res	eves, leave oak, hav	e logger scarify.					
Other Comr	_ <u>ments:</u>								
Next Steps	<u>s:</u>								
62	63099062-Cut	18.4	42260 - Natural Pine, Mixed Deciduous	High Density Log	75	Harvest	Crown Thinning	Natural Pine, Mixed Deciduous	Cmpt. Review Proposal
Preso Spec		pine over	10 inches and all de	eciduos.					
Other Comr	<u>nents:</u>								
Next Steps	<u>s:</u>								

279.3 Acreage Proposed:

Cadillac Mgt. Unit Table 4 -- Treatments Prescribed with Compartment: 099 a Limiting Factor s Year of Entry 2012 Data updated yesterday after 6:00 PM t а **Treatment Treatment** n Acres Stage1 Size Stand **Treatment Cover Type Approval** Method Objective Status Name CoverType Density Age Type

#Error

Prescription

Specs:

Other Comment:

Next Steps:

<u>Limiting Factor and No</u> <u>Treatment Reason</u>

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:								
Other Comments:								

Total Treatment Acreage Proposed:

Next Steps:

0

5 - Forested Stands Compartment: 099 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 Comments: Acres Age Range d 4131 - Aspen, Oak Medium 6 1 13.1 Density 4130 - Aspen High Density 27.5 16 2 Sapling 4130 - Aspen High Density 76.1 50 3 Pole 4191 - Mixed Upland High Density 27.0 55 51-80 log size oak over white pine Deciduous with Conifer Pole High Density 4130 - Aspen 28.4 28 5 Pole High Density 4124 - Red with White 34.2 Uneven Age 51-80 treated last year of entry log size oak over aspen maple sprouts Oak Log 6120 - Lowland Cedar High Density 35.3 90 deer yard Log 4130 - Aspen **High Density** 9.5 12 8 Sapling 4129 - Mixed Oak High Density 65.2 80 81-110 dead oak has been salvaged and stolen throughout stand let 9 Log regen get established treat next year of entry 6120 - Lowland Cedar High Density 1.5 Uneven Age 11 Pole 4124 - Red with White High Density 144.3 85 51-80 treated last year of entry log size oak over aspen maple sprouts 12 Oak Log 4124 - Red with White High Density 21.4 80 81-110 final harvest with reserves leave oak less than 6 inches 13 Oak Log 4130 - Aspen High Density 57.1 28 14 Pole 4139 - Aspen, Mixed **High Density** 15 76.1 28 Deciduous Pole 6128 - Lowland High Density 7.2 Uneven Age corridor along creek and marsh 16 Coniferous, Mixed Log Deciduous 4199 - Other Mixed High Density 23.5 Uneven Age 51-80 log size oak over aspen maple look up cut records 92\94 17 **Upland Deciduous** Log 6117 - Lowland Low Density 3.8 Uneven Age very wet with cattails 18 Deciduous, Mixed Pole Coniferous 4199 - Other Mixed **High Density** 81-110 19 27.8 75

**Upland Deciduous** 

Log

s t	Cadillad	Cadillac Mgt. Unit		<b>5 – Fo</b> i ata updated ye	rested Sta esterday a	
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
20	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	15.8	85	81-110	deer yard wet
21	4130 - Aspen	Medium Density	18.6	16		
22	4130 - Aspen	High Density Pole	15.0	14		treated in 1996
23	4139 - Aspen, Mixed Deciduous	High Density Sapling	18.4	4		treated 06 log size oak over aspen maple sprouts
24	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	4.4	Uneven Age		wet with dead standing cedar
25	4131 - Aspen, Oak	High Density Log	15.5	75		
26	4319 - Mixed Upland Forest	High Density Log	11.6	Uneven Age	1-50	corridor along river
27	4130 - Aspen	High Density Pole	66.2	40		treat next year of entry or cut north half of stand to start another age class?
28	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	5.5	60		final harvest with reserves leave oak cut up to cedar line gets wet
29	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	7.3	Uneven Age	81-110	treat next year of entry
31	6119 - Mixed Lowland Deciduous Forest	High Density Log	25.5	Uneven Age	81-110	river corridor hardwoods standing water in spots
32	42110 - Planted Red Pine	High Density Pole	33.9	54	171-200	
34	4134 - Aspen, Spruce/Fir	High Density Pole	15.0	27		
35	42290 - Natural Mixed Pine	High Density Pole	4.6	Uneven Age	51-80	wet on edges
36	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	7.0	90		
37	42110 - Planted Red Pine	High Density Pole	28.4	54	141-170	
38	4116 - Mixed N. Hardwood - Aspen	Medium Density	9.5	Uneven Age		log size oak over aspen maple sprouts
39	4136 - Aspen, Mixed Conifer	High Density Log	8.0	70		do not merge with 34

Cadillac Mgt. Unit

## **5 – Forested Stands**Data updated yesterday after 6:00 PM

Compartment: 099 Year of Entry: 2012 Michigan A

t			Da	ata updated ye	esterday at	ter 6:00 PM Year of Entry: 2012
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
40	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	9.4	Uneven Age		
44	6117 - Lowland Deciduous, Mixed Coniferous	High Density Log	39.4	Uneven Age	51-80	along river low and wet
45	42110 - Planted Red Pine	High Density Pole	2.5	54	171-200	plantation never treated variable diameters
46	4140 - Other Upland Deciduous	High Density Pole	6.9	Uneven Age		
47	4134 - Aspen, Spruce/Fir	High Density Log	4.2	Uneven Age		New stand added.
48	42220 - Natural Jack Pine	High Density Pole	5.9	50	81-110	
49	4130 - Aspen	High Density Sapling	14.5	14		
50	4130 - Aspen	High Density Pole	38.8	27		
<del></del>	6113 - Lowland Maple	High Density Log	7.5	Uneven Age		New stand added. wet
53	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	19.4	Uneven Age		log size oak and white pine over maple and aspen saplings
 54	4130 - Aspen	High Density Pole	38.9	16		merge 63
<del></del>	6117 - Lowland Deciduous, Mixed Coniferous	High Density Log	38.8	Uneven Age	51-80	same as 50 merge if you can with river separating them
57	6113 - Lowland Maple	High Density Pole	5.5	Uneven Age	51-80	more pole size than log size neighboring stand wet
<del></del>	4130 - Aspen	Medium Density Pole	8.9	27		
59	6117 - Lowland Deciduous, Mixed Coniferous	High Density Log	8.3	75		
60	6119 - Mixed Lowland Deciduous Forest	Low Density Log	33.1	100		mostly dead standing snags creek meanders throughout stand
61	42110 - Planted Red Pine	High Density Pole	34.5	57	141-170	is this marked for red pine project clearcut ? replant red pine
62	42260 - Natural Pine, Mixed Deciduous	High Density Log	18.4	Uneven Age	1-50	

5 - Forested Stands Compartment: 099 Cadillac Mgt. Unit s Year of Entry: 2012 Data updated yesterday after 6:00 PM t а Level 4 Size Stand ВА General n **Cover Type** Density Acres Age Range Comments: d 429 - Mixed Upland High Density 63 16.8 Uneven Age hummocky ground treat next year of entry Conifers Pole 6128 - Lowland High Density 7.9 Uneven Age deer yard 64 Coniferous, Mixed Log Deciduous 4136 - Aspen, Mixed High Density 65 57.3 43 treat next year of entry Conifer Pole 6117 - Lowland High Density 24.7 Uneven Age low wet no access 66 Deciduous, Mixed Log Coniferous

1-50

4123 - Red Oak

67

**High Density** 

Log

3.9

80

Cadillac Mgt. Unit

# **6 – Nonforested Stands**Data updated yesterday after 6:00 PM

Compartment: 099 Year of Entry: 2012



Stand	Cover Type	Acres	Gen Cmts:
10	6239 - Mixed Emergent Wetland	24.8	salvaged dead cedar here in the past still a lot of dead standing cedar cattails
30	50 - Water	1.8	Muskegon river
33	3102 - Grass	0.4	old landing in pine plantation
41	6220 - Alder/willow	10.2	
42	50 - Water	2.9	
43	50 - Water	12.2	
51	3301 - Low Density Deciduous Tree	27.3	wet with scattered dead ash cattails and alder
56	6239 - Mixed Emergent Wetland	5.9	beaver activity cutting aspen saplings

Cadillac Mgt. Unit Compartment: 099

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: 099





## **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	Туре	Description	Data updated yesterday after 6:00 PM	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area
SCA	Habitat Area	and Waterfowl openings and s endangered or general in natu	ovide some specific need for the life cycle of wi Production Areas, deer wintering complexes in savannas. Habitat areas are distinct from critical threatened species (such as Kirtland's warbler re, are not primarily associated with threatened scies recovery plans that are developed in coop	lowland conifer communities, grassland I habitat designated for recovery of or piping plover areas) in that they are more or endangered species, and are not