CADILLAC FOREST MANAGEMENT UNIT

COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 012 ENTRY YEAR: 2013

Compartment Acreage (GIS Acres): 3207 County: Lake

Revision Date: 10/07/2011 10:13 AM

Stand Examiner: Michael Lesinski, Forester

Legal Description: T19N, R12W Sec. 7, 8, 9, 16, 17, and 18
T19N, R13W Sec. 11, 12, 13, and 14

Management Goals: Mixed Use.

Soil and Topography: Compartment soils range from Grayling to Graycalm sands. The topography ranges from rolling hills to flat plains.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The ownership in the compartment is primarily contiguous blocks of State-owned land. There are, however, a few blocks of privately owned recreational lands found primarily along the Little Manistee River corridor. In general, the compartment has a mix of timber types and a wide variety of recreational opportunities.

Unique, Natural Features (include only non-site specific and non-sensitive information): This compartment contains some moraine ridges, few kettle lakes, and somewhat excessively drained sand. There is potential for Dusted Skipper and Great Plains Spittlebug in grassy openings. Additionally, there is potential for the Eastern Massasauga rattlesnake in several sections of the compartment (especially in lowland to upland transition areas). Lastly, this compartment has been known to contain Wood Turtles in areas near the Little Manistee River.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): This compartment contains a former CCC camp listed in the Archeological Site Listing. It is recommended that no activities that disturb the soil take place in the camp's location.

Special Management Designations or Considerations: Special consideration should be given to stands that influence the compartment's riparian zones (Little Manistee River, Twin Creek, Widewaters Flooding, etc.). Aside from riparian zones, the area around this compartment shows signs of oak decline and/or oak wilt. Oak stands within this compartment should be monitored for mortality, and prescriptions/management activities should be adjusted accordingly.

Watershed and Fisheries Considerations: The Little Manistee River, the N. Branch of Twin Creek, the South Branch of Twin Creek, Twin Creek, Syers Creek, Little Widewaters Creek, and several unnamed tributaries flow through Compartment 12. All are Designated Trout Streams. The Little Manistee River supports naturally reproducing populations of brook trout, brown trout, coho salmon, chinook salmon, and steelhead. The Little Manistee River is the sole source of steelhead eggs for Michigan winter run steelhead, which are stocked in many rivers throughout Michigan and several other Great Lakes states. Therefore, it and its tributaries are deserving of the utmost protection. Syers Creek, the East Branch of Twin Creek, the

West Branch of Twin Creek and Twin Creek all have naturally reproducing populations of brook trout, brown trout, and rainbow trout (steelhead). Twin Creek is the largest tributary to the Little Manistee and most likely contributes good numbers of wild steelhead smolts to the fishery. BMPs should be followed when working around any of these streams and appropriate buffers should be maintained. Along Twin Creek, we recommend managing for species other than young aspen, in order to avoid problems with beavers.

Wildlife Habitat Considerations: Priority Wildlife Species: Those wildlife species associated with early and mid-seral stage mesic forests. Particular concerns with management for prey species to improve habitat for bobcat and maintain continuity for bear habitat.
Habitat Objectives: This compartment is located within the Newaygo Outwash Plain Ecosystem, LTA's 5111 and 2211. Soils in this area are characterized by excessively drained and somewhat excessively drained sands in the uplands and the river corridor by very poorly drained and moderately well drained muck and sandy soil. Historically this area was composed of a matrix of dry conifer dominated forests and oak/pine savannas. Stand replacement events in this community historically included fire and wind throw. Presently, this compartment is composed of early (0-50) and mid seral (50-100) stage dry conifer, dry hardwood and aspen. Much of the conifer component along the river has been lost to wind throw and flooding. Lowland hardwoods along existing river and creek corridors are primarily ash and red maple. Large amounts of oak have died throughout this compartment due to old age, drought and disease. Wildlife habitat objectives are to maintain oak stands and mixed pine and oak stands and aspen of various age classes. Maintain current habitat conditions along the river and floodplains. (TL 9/30/11)

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and a minor amount of end moraine of coarse-textured till. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Mississippian Michigan Formation. The Michigan Formation is quarried for gypsum in other areas of the State. The nearest gravel pit is less than one mile to the north in Section 2- T19N-R12W on moraine deposits. Gravel potential in the compartment is thought to be limited. This compartment is located in an area sparsely drilled oil and gas. The nearest good production is Peacock Field located one mile to the west. Peacock Field has produced over 1.6 million BO from the Devonian Traverse Limestone. None of the compartment is currently under lease.

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.

Survey Needs: There are no known survey needs in this compartment.

Recreational Facilities and Opportunities: The Little Manistee Snowmobile/ORV route and motorcycle trails run throughout this compartment, providing motorized recreation opportunities year round. Both trails are heavily used by ORV's and cycles. In winter, the route is a groomed snowmobile trail and used by snowmobilers (BET 08/2011). There are two recreation bridges, one in section 8 over East Twin Creek and one in section 11 over the Little Manistee River, they are designed to support only recreational traffic and both require periodic maintenance. Hunting and fishing pressure is heavy in this compartment.

Fire Protection: The area has a mixture of urban interface through out, mostly along the Little Manistee River. Access for fire suppression equipment is good along the north and south side of the compartment. There may be some concern with fire suppression along the river bottom. (BET 08/2011)

Additional Compartment Information:

- **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**

Table 1 – Total Acres by Cover Type and Age Class

Cadillac Mgt. Unit **Compartment 012 Year of Entry 2013**

Michael Lesinski : Examiner

Age Class

	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	Total
Aspen	0	0	24	83	102	139	64	0	0	0	0	0	0	0	0	**412**
Cropland	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**31**
Herbaceous Openland	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**
Jack Pine	0	26	29	75	41	0	0	0	0	0	0	0	0	0	0	**172**
Low-Density Trees	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**114**
Lowland Aspen/Balsam Poplar	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	**50**
Lowland Conifers	0	0	0	0	0	151	25	19	0	0	0	0	0	0	0	**195**
Lowland Deciduous	0	0	0	0	0	38	24	44	0	0	0	0	0	0	0	**105**
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	93	0	0	0	0	0	**93**
Lowland Shrub	259	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**259**
Marsh	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Mixed Upland Deciduous	0	33	145	0	32	0	0	0	42	0	0	0	0	0	0	**251**
Natural Mixed Pines	0	0	0	0	0	46	0	0	0	0	0	0	0	0	0	**46**
Northern Hardwood	0	140	0	0	0	0	0	0	0	0	0	0	0	0	0	**140**
Oak	0	68	93	19	0	107	75	150	540	0	0	0	0	0	0	**1052**
Red Pine	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	**25**
Upland Mixed Forest	0	0	0	0	0	70	0	0	0	0	0	0	0	0	0	**70**
White Pine	0	0	0	21	117	10	40	0	0	0	0	0	0	0	0	**188**
Total	**409**	**267**	**292**	**198**	**317**	**609**	**228**	**213**	**581**	**93**	**0**	**0**	**0**	**0**	**0**	**3207**

Table 2 – Proposed Treatment Summaries

Cadillac Mgt. Unit
Year of Entry 2013

Compartment 012
Total Compartment Acres: 3207

Acres by Treatment Type

Commercial Harvest - 251	Site Prep - 0	Tree Planting - 53	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	73	0	0	0	0	0	**73**
Oak	0	0	92	0	0	0	**92**
White Pine	0	0	0	0	86	0	**86**
Total	**73**	**0**	**92**	**0**	**86**	**0**	**251**

Data updated yesterday after 6:00 PM

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
22	63012022-Cut	54.3	4126 - White, Black, N. Pin Oak	High Density Log	74	Harvest	Seed Tree with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal

Prescription Specs: Reduce stand BA to 10 to 20 square feet. Leave a representative mix of species, and create some reserve areas where there is a high concentration of aspen saplings.

Other Comments: Retention: Residual oak BA and aspen reserve areas.

Acceptable alternate regen is an oak/maple/aspen mix.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
29	63012029-Cut	56.9	4131 - Aspen, Oak	High Density Pole	44	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Final harvest. Reserve approximately 10 BA of scattered oak (favoring white oak) where applicable. Apply dead and down creation spec for grouse habitat.

Other Comments: Retention: Scattered oak and uncut portions of stand.

Harvest acres may differ from treatment acres due to variability in stand age and diameter.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
41	63012041-Cut	32.2	4126 - White, Black, N. Pin Oak	High Density Log	65	Harvest	Seed Tree with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal

Prescription Specs: Reduce stand BA to 20-30 square feet. Expand aspen clones where applicable.

Other Comments: Retention: Residual stand BA.

Acceptable alternate regen is a maple/pine/aspen/oak mix.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
58	63012058_small-Cut	5.2	4126 - White, Black, N. Pin Oak	Low Density Log	78	Harvest	Seed Tree with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal

Prescription Specs: Expand aspen clones where applicable. In oak areas reduce BA to 20 to 30 square feet. Create regeneration openings throughout. Apply dead and down creation spec for grouse habitat.

Other Comments:

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
68	63012068_small-Cut	16.0	4133 - Aspen, Mixed Pine	High Density Pole	51	Harvest	Clearcut with Reserves	4136 - Aspen, Mixed Conifer	Cmpt. Review Proposal

Prescription Specs: Expand aspen clones where applicable. In pine/oak areas, reduce BA by approximately 50%, but leave a representative mix of species. Create regeneration openings throughout. Apply dead and down creation spec for grouse habitat.

Other Comments:

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
79	63012079-Cut	86.3	42100 - Planted White Pine	High Density Pole	33	Harvest	Systematic Thinning	42100 - Planted White Pine	Cmpt. Review Proposal

Prescription Specs: Reduce white pine volume to 100 to 120 BA (approximately 50% volume reduction). Do not cut any oak.

Other Comments: Retention: Residual stand BA.

Next Steps:

12	NF_63012012-Plant	25.0	Non-Forested		0	Tree Planting	Hand Plant	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Plant to red pine.

Other Comments: Oak wilt / oak decline area. May want to roller chop or Rx burn to set back cherry brush and other undesirable species.

Next Steps:

16	NF_63012016-Plant	27.8	Non-Forested		0	Tree Planting	Hand Plant	42211 - Natural Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Plant to red pine.

Other Comments: Oak wilt / oak decline area. May want to consider roller chopping or Rx burning to set back cherry brush or other undesirable species.

Next Steps:

Total Treatment Acreage Proposed: 303.6

Table 4 -- Treatments Prescribed with a Limiting Factor

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
			#Error						

Prescription Specs:

Other Comment:

Next 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: 2013

Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
63102_OutOfYOE_1-Cut	7.2				Harvest	Clearcut	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest plant to red pine

Other Comments:

Next Steps: Write FTP

Total Treatment Acreage Proposed: **7.2**

Data updated yesterday after 6:00 PM

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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6119 - Mixed Lowland Deciduous Forest	Medium Density Pole	43.7	61	51-80	Upland / Lowland mix. Scattered tag alder openings.
2	4130 - Aspen	High Density Sapling	17.4	11		Aspen and Jack Pine mix.
4	4199 - Other Mixed Upland Deciduous	High Density Pole	31.5	37	1-50	Several openings in stand. Low volume of merchantable timber.
5	4125 - Black, N. Pin Oak	Medium Density Pole	25.7	73	51-80	Mixed oak stand. No treatment needed.
6	42121 - Planted Jack Pine, Mixed Deciduous	High Density Pole	28.3	32	81-110	
7	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	37.6	48	81-110	Mix of high and low ground. Some tag alder openings. Oak and jack pine scattered around edges, with a mix of red maple and white pine interior.
10	4130 - Aspen	High Density Pole	24.9	35	81-110	Borderline on harvest. Will be able to hold 10 more years.
13	4125 - Black, N. Pin Oak	High Density Pole	32.8	47	51-80	Low quality oak with some aspen.
14	6112 - Lowland Aspen	High Density Pole	21.5	42	51-80	Lowland aspen/tag mix.
17	6112 - Lowland Aspen	Medium Density Pole	28.3	41	1-50	Lowland aspen/tag mix. Stream runs through stand.
20	42221 - Natural Jack Pine, Mixed Deciduous	Medium Density Pole	29.2	19	1-50	19 y.o. JP and hardwood mix. Previous seed tree. Open areas filled with jack pine and cherry brush.
21	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	73.8	13	1-50	
22	4126 - White, Black, N. Pin Oak	High Density Log	59.9	74	51-80	Approximately 75% canopy closure. Stand was thinned last YOE. Large areas are heavy with white oak seedlings. Consider removing overstory to allow white oak regeneration.
23	4132 - Aspen, Jack Pine	High Density Pole	82.6	22	51-80	Small diameter aspen mixed with patches of jack pine.
27	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	23.6	54	51-80	Lowland with some tag in pockets. Some areas in stand are very open.
28	4119 - Mixed Northern Hardwoods	Low Density Sapling	48.1	6		6 year old regen.
29	4131 - Aspen, Oak	High Density Pole	138.5	44	111-140	Patchy aspen stand. Some areas need treatment while some can wait. Areas heavy to oak logs.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
30	6129 - Mixed Coniferous Lowland Forest	High Density Pole	25.2	51	111-140	Mixed lowland conifer stand.
31	42120 - Planted Jack Pine	High Density Pole	12.9	37	51-80	Some open areas in stand.
33	4126 - White, Black, N. Pin Oak	Medium Density Log	50.6	79	51-80	Previous shelterwood. Not ready for release.
35	4130 - Aspen	High Density Sapling	7.0	14		
36	4132 - Aspen, Jack Pine	Medium Density Pole	37.4	38	51-80	Mixed aspen/pine stand. Several openings in stand.
37	4126 - White, Black, N. Pin Oak	High Density Log	18.4	76	51-80	Previously thinned.
38	4131 - Aspen, Oak	High Density Pole	39.5	38		Mixed aspen/oak stand. Not ready for harvest.
39	4122 - Oak, Pine	Medium Density Log	74.7	59	81-110	Multiple canopy openings throughout stand.
40	6132 - Mixed Lowland Forest with Cedar	Low Density Pole	93.0	82	1-50	Twin creek river corridor. Mix of deciduous and conifer species. Some areas heavy to tag alder.
41	4126 - White, Black, N. Pin Oak	High Density Log	32.2	65	51-80	Poorer quality oak site. Previously thinned. Decent amount of oak seedlings in understory.
42	4119 - Mixed Northern Hardwoods	Low Density Sapling	56.4	9		9 year old regeneration.
43	42250 - Pine, Oak	High Density Pole	45.6	46	51-80	Mixed pine and oak stand. Some large canopy openings.
44	4122 - Oak, Pine	Medium Density Log	104.0	78	51-80	Stand previously thinned. Not ready for further treatment.
46	4122 - Oak, Pine	Medium Density Pole	13.6	68	1-50	Previous shelterwood harvest. Stand gets low towards east edge as it moves down to Twin Creek.
48	42100 - Planted White Pine	High Density Pole	40.0	51	81-110	Stand previously thinned.
49	4126 - White, Black, N. Pin Oak	High Density Log	22.7	71	81-110	Not ready for treatment.
50	4310 - Pine, Oak Mix	Medium Density Pole	69.9	45	1-50	Stand had shelterwood treatment completed approximately 8 years ago.
51	4117 - Mixed N. Hardwood - Pine	Low Density Sapling	35.7	6		6 year old regen.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
53	4125 - Black, N. Pin Oak	Low Density Sapling	29.0	6		6 year old regen.
54	4125 - Black, N. Pin Oak	Low Density Sapling	38.9	6		6 year old regen.
56	6129 - Mixed Coniferous Lowland Forest	High Density Pole	18.9	69	111-140	Back side of wide waters flooding.
57	4122 - Oak, Pine	High Density Pole	19.2	29	81-110	Small diameter mixed oak and pine.
58	4126 - White, Black, N. Pin Oak	Low Density Log	95.8	78	1-50	8 years post shelterwood harvest. Openings starting to fill in.
60	4122 - Oak, Pine	Medium Density Pole	113.2	75	1-50	Shelterwood harvested approximately 15 years ago. Understory filling in well with oak regen.
62	42100 - Planted White Pine	High Density Pole	20.8	28	111-140	Planted white pine. Not large enough for commercial thinning.
63	4126 - White, Black, N. Pin Oak	High Density Pole	74.0	44	81-110	Borderline on harvestabilty.
64	4126 - White, Black, N. Pin Oak	Medium Density Log	71.7	68	51-80	Stand previously thinned. Gaps filling in with a mix of oak and cherry.
65	4126 - White, Black, N. Pin Oak	Medium Density Log	14.5	72	1-50	Previous shelterwood harvest.
68	4133 - Aspen, Mixed Pine	High Density Pole	64.2	51	111-140	Mix of high and low ground. Some areas heavy to aspen.
69	42221 - Natural Jack Pine, Mixed Deciduous	Medium Density	26.5	9		9 year old seed tree harvest regenerating to jack pine.
71	42100 - Planted White Pine	High Density Pole	10.3	49	111-140	Small white pine plantation. Not ready for harvest.
72	4122 - Oak, Pine	Medium Density Pole	32.9	68	51-80	Stand previously thinned.
73	4125 - Black, N. Pin Oak	Medium Density	38.8	16		Previous seedtree. Regen doing well.
74	42110 - Planted Red Pine	High Density Pole	25.5	32	111-140	Planted red pine. Not ready for thinning.
75	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	150.6	49	81-110	Highly variable stand. Higher areas heavy to aspe/red maple, while low areas are cedar and hemlock. Stand adjoins Little Manistee River to the south.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
77	4125 - Black, N. Pin Oak	Low Density Sapling	54.7	17		Previous seed tree harvest. Stand regenerating well.
78	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	36.3	14		14 year old oak regen.
79	42100 - Planted White Pine	High Density Pole	86.3	33	200+	Pole sized white pine plantation.
80	42220 - Natural Jack Pine	High Density Pole	74.9	24	111-140	Jack pine plantation. Not ready for treatment.
81	4191 - Mixed Upland Deciduous with Conifer	Low Density Pole	34.8	14	1-50	Previous oak shelterwood. Many areas heavy to aspen regen.
82	4199 - Other Mixed Upland Deciduous	Medium Density	32.8	6		6 year old regen.
83	4122 - Oak, Pine	Medium Density Pole	34.8	74	51-80	Stand previously thinned. Openings filling in with a mix of pine and hardwood.
84	42200 - Natural White Pine	High Density Pole	30.8	36	141-170	Planted white pine. Some open areas in stand.
85	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	41.6	76	51-80	Stand previously thinned. Some larger openings that are filling in well with mixed oak.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
3	6229 - Mixed lowland shrub	44.8	No	Unspecified	
8	3102 - Grass	1.1	No	Unspecified	Grass opening along ORV trail.
9	6223 - Inundated Shrub Swamp	3.6	No	Unspecified	
11	3301 - Low Density Deciduous Tree	1.8	No	Unspecified	
12	3301 - Low Density Deciduous Tree	28.3	Yes	Oak	Stand harvested by Doyle in winter 2010/2011.
15	6229 - Mixed lowland shrub	1.7	No	Unspecified	
16	3301 - Low Density Deciduous Tree	42.0	Yes	Oak	Harvested by Doyle in winter of 2010/2011.
18	3301 - Low Density Deciduous Tree	4.9	No	Unspecified	Small aspen stand. Several large openings.
19	6229 - Mixed lowland shrub	8.2	No	Unspecified	
24	6223 - Inundated Shrub Swamp	3.5	No	Unspecified	
25	6229 - Mixed lowland shrub	76.6	No	Unspecified	Little Manistee River Corridor.
26	2113 - Forage Crops	9.4	Yes	Low (NonForested)	
32	3301 - Low Density Deciduous Tree	36.6	Natural Regen	Oak	
34	2113 - Forage Crops	9.3	Yes	Low (NonForested)	
45	6239 - Mixed Emergent Wetland	3.9	No	Unspecified	
47	2113 - Forage Crops	1.9	Yes	Low (NonForested)	
52	6223 - Inundated Shrub Swamp	82.2	No	Unspecified	
55	2113 - Forage Crops	4.3	Yes	Low (NonForested)	

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
59	6223 - Inundated Shrub Swamp	12.8	No	Unspecified	
61	6223 - Inundated Shrub Swamp	9.6	No	Unspecified	
66	2113 - Forage Crops	5.4	Yes	Low (NonForested)	
67	6223 - Inundated Shrub Swamp	2.4	No	Unspecified	
70	6223 - Inundated Shrub Swamp	13.4	No	Unspecified	
76	2113 - Forage Crops	1.2	Yes	Low (NonForested)	

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	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Habitat Area	An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies.

Cover Type & Treatment Map

Compartment 12
T19N, R12W, Sec. 7-9, 16-18
T19N, R13W, Sec. 11-13
County: Lake
Unit: Cadillac
YOE: 2013
Acres: 3,207 GIS Calculated
Stand Examiner: Mike Lesinski
Map Revised: 10/4/2011
Map Phase: Pre-Review

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

Legend

- Miris Corners
- Remonumented Section Corners
- Highway
- Paved Roads
- Poor Dirt Roads
- MCCCT Trails
- Motorcycle Trails
- ORV Trails
- ORV Routes
- Snowmobile Trails
- MCCCT Trail
- Snowmobile Trail
- Motorcycle (DNR Sticker)
- Motorcycle (SOS License)
- ORV Trail
- ORV Route
- Intermittent Stream
- Perennial Stream or River
- Lakes and Rivers
- State Forestland
- Non-Forest Regeneration
- Planned Regeneration
- Natural
- Treatments
- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)
- Thinning (Crown, Low, Systematic)

Forest Stands
Level 3
- 411 - Northern Hardwood
- 412 - Oak Types
- 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
- 211 - Cropland
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 622 - Lowland Shrub
- 623 - Emergent Wetland

1 Miles
1 0.5 0

Stand Boundary Map

Compartment 12
T19N, R12W, Sec. 7-9, 16-18
T19N, R13W, Sec. 11-13
County: Lake
Unit: Cadillac
YOE: 2013
Acres: 3,207 GIS Calculated
Stand Examiner: Mike Lesinski
Map Revised: 10/4/2011
Map Phase: Pre-Review

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

Legend

- Miris Corners
- Remonumented Section Corners
- Highway
- Paved Roads
- Poor Dirt Roads
- Intermittent Stream/Drain
- Stream
- MCCCT Trails
- Motorcycle Trails
- ORV Trails
- ORV Routes
- Snowmobile Trails
- MCCCT Trail
- Motorcycle (DNR Sticker)
- Motorcycle (SOS License)
- ORV Trail
- ORV Route
- Snowmobile Trail
- Stand Boundaries

Forest Stands
Level 3
- 411 - Northern Hardwood
- 412 - Oak Types
- 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

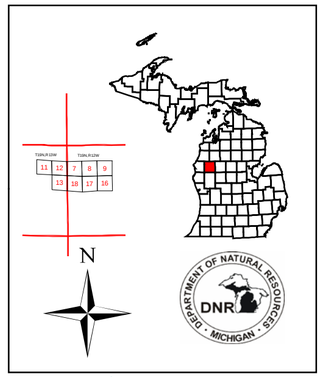
Non-Forest Stands
Level 3
- 211 - Cropland
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 622 - Lowland Shrub
- 623 - Emergent Wetland

1 0.5 0 1 Miles

Dedicated & Proposed Special Conservation Area Map

Compartment 12
T19N, R12W, Sec. 7-9, 16-18
T19N, R13W, Sec. 11-13
County: Lake
Unit: Cadillac
YOE: 2013
Acres: 3,207 GIS Calculated
Stand Examiner: Mike Lesinski
Map Revised: 10/4/2011
Map Phase: Pre-Review

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



Legend

- Miris Corners
- Remonumented Section Corners

Proposed Special Conservation Areas
- SCA - Special Conservation Area
- SCA Removal

Dedicated Special Conservation Areas
- Cold Water Streams
- Wildlife Management Areas
- Stand Boundaries

Forest Stands
Level 3
- 411 - Northern Hardwood
- 412 - Oak Types
- 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
- 211 - Cropland
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 622 - Lowland Shrub
- 623 - Emergent Wetland

11: 1 **6119**-E5; 2 **4130**-A3; 3 **622**-L0; 4 **4199**-MD6; 5 **4125**-O5; 6 **4212**-J6; 7 **6117**-E5; 8 **310**-G0; 9 **622**-L0; 10 **4130**-A6; 11 **330**-U0; 12 **330**-U0; 13 **4125**-O6; 14 **6112**-P6; 15 **622**-L0; 16 **330**-U0; 17 **6112**-P5

12: 18 **330**-U0; 19 **622**-L0; 20 **4222**-J5; 21 **4191**-MD3; 22 **4126**-O9; 23 **4132**-A6; 24 **622**-L0; 25 **622**-L0; 26 **211**-G0; 27 **6117**-E5; 28 **4119**-M1

7: 29 **4131**-A6; 30 **6129**-Q6; 31 **4212**-J6; 32 **330**-U0; 33 **4126**-O8; 34 **211**-G0; 35 **4130**-A3; 36 **4132**-A5; 37 **4126**-O9; 38 **4131**-A6

18: 39 **4122**-O8; 40 **6132**-LM4; 41 **4126**-O9; 42 **4119**-M1; 43 **4225**-MC6; 44 **4122**-O8; 45 **623**-W0; 46 **4122**-O5; 47 **211**-G0; 48 **4210**-W6; 49 **4126**-O9; 50 **4310**-UM5; 51 **4117**-M1; 52 **622**-L0; 53 **4125**-O1; 54 **4125**-O1; 55 **211**-G0; 56 **6129**-Q6; 57 **4122**-O6

8: 58 **4126**-O7; 59 **622**-L0; 60 **4122**-O5; 61 **622**-L0; 62 **4210**-W6; 63 **4126**-O6; 64 **4126**-O8; 65 **4126**-O8; 66 **211**-G0; 67 **622**-L0; 68 **4133**-A6; 69 **4222**-J2; 70 **622**-L0; 71 **4210**-W6

9: 72 **4122**-O5; 73 **4125**-O2; 74 **4211**-R6; 75 **6128**-Q6; 76 **211**-G0; 77 **4125**-O1; 78 **4191**-MD1; 79 **4210**-W6; 80 **4222**-J6; 81 **4191**-MD4; 82 **4199**-MD2; 83 **4122**-O5; 84 **4220**-W6; 85 **4191**-MD8

16: 17

1 0.5 0 1 Miles

85°50'0"W 85°49'0"W 85°48'0"W 85°47'0"W 85°46'0"W 85°45'0"W
44°5'0"N 44°4'0"N 44°3'0"N 44°2'0"N