CADILLAC FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 133 ENTRY YEAR: 2012

GIS Compartment Acreage: 2664 County: Wexford

Revision Date: 4/20/2010

Stand Examiner: Patrick Cotant

Legal Description: T24N R11W Sections: 13, 23, 24, 25, 26 & 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: The predominant soils in the area of this compartment are Montcalm-Graycalm complex, Rubicon sand and the Tawas-Roscommon association. Montcalm-Graycalm complex is classified as being well drained and is typical of moraines and till plains. Probability of erosion and wind-throw is slight. Rubicon sand is classified as being excessively drained and is common on moraines, outwash plains and till plains. Probability of erosion and wind-throw are slight. Variable percent slopes of this soil exist throughout the compartment. The greater the slope, the more erosion and wind-throw probability will be affected. The Tawas-Roscommon association is classified as being very poorly drained and is common on moraine and outwash depressions. Erosion hazard is slight however wind-throw probability is severe.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Consumers' Energy owns timber rights to two of the largest red pine plantations in the compartment. South end of section 36 is private but the remainder of the sections are solid state ownership.

Unique, Natural Features (include only non-site specific and non-sensitive information): The Manistee river constitutes the northern border of the compartment. Two tributaries flow through the compartment in steep, narrow valleys. These areas along with the main Manistee River corridor are unique areas and are under Natural River restrictions. A large portion of acreage in this compartment is composed of natural jack, white and red pine stands.

MNFI Comments:

Wood turtle* recorded in NE 1/4 of section 23 on the Manistee River; additional records to W and NE. Northern goshawk documented to N and SE. Red-shouldered hawk occurrence to SE. Historical great blue heron rookery immediately E in NW 1/4 of section 30. Bigmouth shiner to W.

Bog documented to NE.

Potential for wood turtle and Blanding's turtle. Potential for pine barrens insects: dusted skipper, Great Plains spittlebug, and red-legged spittlebug. Potential for red-shouldered hawk and northern goshawk. Potential for eagle, osprey, and great blue heron rookery.

Potential for dry prairie plants in grassy openings: Hill's thistle, rough fescue, Alleghany plum, and pale agoseris.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): The Manistee River was used extensively during the logging era of the 1800's. Evidence of this can be seen throughout the river corridor. The locally known historic Indian Trail is near this area. Historic trail markers can be seen along road corridors.

Special Management Designations or Considerations: The Manistee River is designated as a Natural River and is therefore an HCVA.

Watershed and Fisheries Considerations: The Manistee River is designated as a Natural River along with the two tributaries within the compartment; Soper and Filer creeks. Fisheries considerations in this area are of great concern. Watershed quality is also of great concern. Therefore, forest management activities are strictly regulated and need to follow the Natural River guidelines for forest management within this Natural River management zone. Shade, limiting sediment input, and woody debris recruitment are crucial to trout streams. Restricting cutting to outside the appropriate buffers will help to maintain the temperatures and habitat required to maintain the health of these streams, and the watershed in general. Also, active management for aspen regeneration in riparian zones adjacent to Soper and Filer Creeks and other tributaries should be avoided. Young aspen is a prime source of food for beavers, and beavers have the potential to negatively impact trout streams.

Wildlife Habitat Considerations: Featured wildlife species are deer, turkey, and bear. The Manistee River runs along the north edge of the compartment. The river valley is utilized as a travel corridor for numerous wildlife species and is an important white-tailed deer wintering area. Wildlife habitat objectives are to continue to maintain species and age-class diversity across the compartment. (L. Smith, 9/24/10)

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and coarse-textured glacial till to the south. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift are the Mississippian Michigan Formation and the Marshall Sandstone. The Michigan Formation is quarried for gypsum in other areas of the State and the Marshall was previously used as a building stone. A gravel pit is located within one mile to the south and gravel potential is considered good on the south end of the compartment. This area lies four miles south of the prolific Silurian Niagaran reef trend. There does not appear to be any potential for Niagaran reefs in this area. This area is not currently leased for oil and gas.

Vehicle Access: Access to the compartment is from 14 rd, 23 rd and Kolarvic rd with 2-tracks and forest roads providing further access to all areas of the compartment. At the time of inventory, the Filer Creek bridge on Kolarvic Rd. was out. Plans for repair of this bridge are yet to be determined.

Survey Needs: There is a need for survey work to be done along the private land interface in the southern areas of section 36.

Recreational Facilities and Opportunities: No formal state managed facilities exist within this compartment however recreational activity and opportunities are abundant. Many backcountry campsites exist along the river and creek corridors. There is also a great deal of hunting and fishing that occurs year round throughout the compartment. The MCCT Trail runs through the compartment as well.

Fire Protection: Fire protection is of concern in this area because of the amount of camping that occurs in this compartment. Suppression activities are carried out by the DNRE wildland fire program.

Additional Compartment Information:

LOTS Compartment Acreage:_____

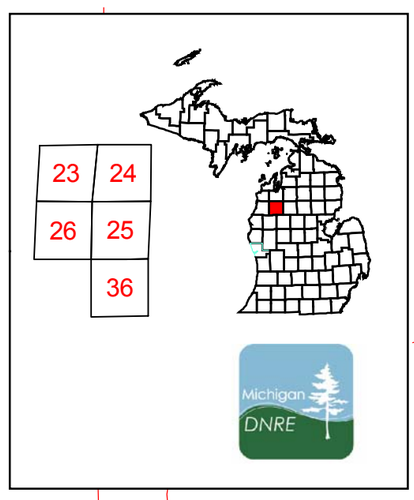
- **The following 5 reports from the Operations Inventory System (OIPC) are attached:**
  - **Cover Type by Age Class**
  - **Cover Type by Management Objective**
  - **Compartment Volume Summary**
  - **Proposed Treatments – No Limiting Factors**
  - **Proposed Treatments – With Limiting Factors**

- **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 133
T24N, R11W, Sec. 24-26, 36
County: Wexford
Unit: Cadillac
YOE: 2012
Acres: 2647 acres GIS Calculated
Stand Examiner: Patrick Cotant
Map Revised: 8/25/2010
Map Phase: Pre-Review

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



Legend

- Miris Corners
- Remonumented Section Corners
- County Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trails
- Hiking Trails

Utility Lines
- Power

- Intermittent Stream/Drain
- Stream
- Lakes and Rivers

Treatments
- Clearcut (w/Reserves, Patch/Strip)
- 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
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub

1 0.5 0 1 Miles

Stand Boundary Map

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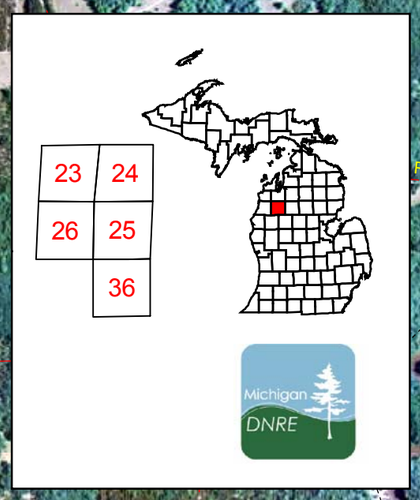

Legend
- Miris Corners
- Remonumented Section Corners
- County Paved Roads
- County Gravel Roads
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- County Poor Dirt Roads

Utility Lines
- Power
- Trails
- Hiking Trails
- Intermittent Stream/Drain
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- Stand Boundaries

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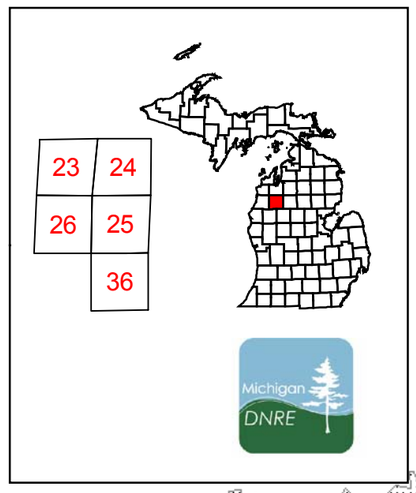
0 0.5 1 Miles

Dedicated & Proposed Special Conservation Area Map

Compartment 133
T24N, R11W, Sec. 24-26, 36
County: Wexford
Unit: Cadillac
YOE: 2012
Acres: 2647 acres GIS Calculated
Stand Examiner: Patrick Cotant
Map Revised: 8/25/2010
Map Phase: Pre-Review

Stand # 23 — Stocking Density
(412)0) - A7
Level 3 Level 4 — OI 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
- Boat Access Sites
- Stand Boundaries

Forest Stands
- Level 3
  - 411 - Northern Hardwood
  - 413 - Aspen Types
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13
23
24
26
25
36
1 4220-W6
2 4212-J3
3 4135-A6
4 500-Z0
5 4110-M9
6 4311-UM9
7 4222-J6
8 4226-MC8
9 6117-E6
10 4221-R9
11 6129-Q9
12 4221-R9
13 4211-R6
14 4212-J3
15 4222-J3
16 4110-M9
17 4212-J3
18 6119-E5
19 4220-W5
20 4226-MC9
21 4319-UM3
22 4222-J6
23 4212-J3
24 4211-R6
25 4222-J6
26 6118-E6
27 4130-A6
28 4229-MC6
29 4226-MC3
30 4229-MC6
31 4211-R9
32 4191-MD4
33 6129-Q9
34 4222-J6
35 4211-R6
36 4229-MC8
37 4211-R6
38 6128-Q9
39 4211-R5
40 4211-R6
41 4229-MC4
42 4130-A6
43 4221-R9
44 4211-R6
45 4199-MD2
46 4132-A3
47 4112-M4
48 4222-J3
49 4212-J3
50 4212-J3
51 4211-R9
52 4222-J6
53 4212-J3
54 4222-J6
55 4222-J6
56 4133-A3
57 4210-W6
58 4212-J3
59 6112-P4
60 4229-MC9
61 4211-R6
62 4222-J6
63 622-D0
64 4130-A6
65 4210-W6
66 4222-J6
67 4221-R8
68 4130-A6
69 4226-MC9
70 6127-LM9
71 6113-E6
72 4130-A6
73 4222-J6
74 4311-UM6
75 4311-UM3
76 4229-MC9
77 4130-A6
78 4110-M9
79 310-G0
80 6119-E6
81 4130-A3
82 4110-M9
83 330-U0

1 0.5 0 1 Miles

85°38'0"W 85°37'0"W 85°36'0"W 85°35'0"W 85°34'0"W
44°29'0"N 44°28'0"N 44°27'0"N 44°26'0"N 44°25'0"N

Table 1 – Total Acres by Cover Type and Age Class

Cadillac Mgt. Unit **Compartment 133 Year of Entry 2012**

Data updated yesterday after 6:00 PM

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	23	10	18	0	305	67	20	0	0	0	0	0	0	0	**443**
Herbaceous Openland	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Jack Pine	0	67	211	36	0	150	283	0	0	0	0	0	0	0	0	**747**
Low-Density Trees	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Lowland Aspen/Balsam Poplar	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	**13**
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	5	93	37	0	0	**136**
Lowland Deciduous	0	0	0	0	0	3	14	0	13	21	0	0	0	0	0	**51**
Mixed Upland Deciduous	0	0	5	0	0	23	0	0	0	0	0	0	0	0	0	**28**
Natural Mixed Pines	0	26	0	0	0	0	546	45	56	81	4	17	0	0	0	**775**
Northern Hardwood	0	0	0	0	0	0	0	8	0	4	55	0	0	0	0	**66**
Red Pine	0	0	0	0	0	0	12	159	0	21	0	15	0	0	0	**208**
Treed Bog	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**3**
Upland Mixed Forest	0	0	3	19	0	12	4	0	0	0	0	0	0	0	0	**38**
Water	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**45**
White Pine	0	0	0	0	0	59	0	10	37	0	0	0	0	0	0	**107**
Total	**52**	**115**	**229**	**72**	**0**	**553**	**927**	**256**	**106**	**126**	**64**	**126**	**37**	**0**	**0**	**2664**

Table 2 – Proposed Treatment Summaries

Data updated yesterday after 6:00 PM

Cadillac Mgt. Unit
Year of Entry 2012

Compartment 133
Total Compartment Acres: 2664

Acres by Treatment Type

Commercial Harvest - 393	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	149	0	0	0	0	0	**149**
Jack Pine	151	0	0	0	0	0	**151**
Northern Hardwood	0	0	0	0	41	0	**41**
Red Pine	25	0	0	0	27	0	**52**
Total	**326**	**0**	**0**	**0**	**67**	**0**	**393**

Table 3 -- Treatments Prescribed with No Limiting Factor

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
13	63133013-Cut	1.8	42110 - Planted Red Pine	High Density Pole	65	Harvest	Systematic Thinning	Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Row thin red pine taking every third row. Rows are very straight, running E/W.

Other Comments: Small, secluded stand. May need some road work to access stand.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
24	63133024-Cut	4.7	42110 - Planted Red Pine	High Density Pole	66	Harvest	Low Thinning	Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Thin stand from below removing suppressed and defected individuals. Focus on removing 1/3 of overall volume, however some areas may need to be thinned slightly heavier.

Other Comments: Stand has been row thinned.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
25	63133025-Cut	22.2	42220 - Natural Jack Pine	High Density Pole	59	Harvest	Clearcut with Reserves	Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest jack pine, leave larger oak for mast/seed soruce along with red pine in order to maintain diversity and a seed source for red pine regen.

Other Comments: Lots of snags throughout stand, also quite a bit of large DWD.

Next Steps: Evaluate natural regeneration of jack pine, oak and red pine within 2 years following harvest. If regeneration is inadequate then plant to jack pine.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
34	63133034-Cut	49.9	42220 - Natural Jack Pine	High Density Pole	56	Harvest	Clearcut with Reserves	Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest stand, leave all red pine throughout. Also leave oak and protect any advanced oak regeneration.

Other Comments:

Next Steps: Evaluate in 2 years to determine success of natural jack pine regeneration. If regen is not sufficient, hand planting may need to occur.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
35	63133035-Cut	25.1	42110 - Planted Red Pine	High Density Pole	61	Harvest	Clearcut	Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest stand and replant to red pine.

Other Comments:

Next Steps: Trench and replant to red pine and standard plantation density.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
42	63133042-Cut	31.0	4130 - Aspen	High Density Pole	50	Harvest	Clearcut	Aspen, Mixed Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest stand removing all aspen, rm and wp. Mark to leave a few larger rp for structure and visual. Leave oak for mast and diversity. Stand boundary along western edge may vary due to steep topo leading towards creek. Natural river restrictions apply to creek as well.

Other Comments:

Next Steps:

Table 3 -- Treatments Prescribed with No Limiting Factor

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
44	63133044-Cut	5.5	42110 - Planted Red Pine	High Density Pole	52	Harvest	Low Thinning	Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Thin stand removing suppressed, defected individuals. Remove all jp and leave oak, opening up canopy around oak trees to try and get a small amount of natural regen.

Other Comments:

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
51	63133051-Cut	9.0	42110 - Planted Red Pine	High Density Log	65	Harvest	Low Thinning	Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Thin stand from below removing suppressed and defected individuals. BA throughout stand is slightly variable so some areas may be thinned less heavily than others.

Other Comments:

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
55	63133055-Cut	20.5	42220 - Natural Jack Pine	High Density Pole	54	Harvest	Clearcut	Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest stand leaving all rp along w/ jp 4" and less in dbh. All other species are to be harvested regardless of size. Stand is expected to have mixed regen following harvest w/ jp and aspen most numerous. Stand has definitive edge on east and west side.

Other Comments:

Next Steps: If regeneration is found to be inadequate then stand should/could be planted to jack pine.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
61	63133061-Cut	5.5	42110 - Planted Red Pine	High Density Pole	60	Harvest	Low Thinning	Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Thin stand from below by removing defected and suppressed individuals throughout.

Other Comments:

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
62	63133062-Cut	4.5	42220 - Natural Jack Pine	High Density Pole	55	Harvest	Clearcut with Reserves	Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest stand, removing all jp, asp and rm. Leave the few rp on site. Treat with stand 62. Avoid wet soils on western side of stand.

Other Comments: Red pine are few and far between within stand.

Next Steps: If regeneration is found to be inadequate, evaluate for planting of red pine.

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
66	63133066-Cut	49.1	42220 - Natural Jack Pine	High Density Pole	50	Harvest	Clearcut with Reserves	Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Treat by removing jp, rm and aspen. Leave rp and oak. Existing regen should respond well, jp should regenerate well in areas with less rp component.

Other Comments: Red pine numerous in pockets, not uniformly dispersed throughout stand.

Next Steps: Evaluate in 2 years to determine if natural regen is adequate. If not, hand planting may need to occur.

Table 3 -- Treatments Prescribed with No Limiting Factor

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
68	63133068-Cut	82.5	4130 - Aspen	High Density Pole	40	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal

Prescription Specs: Final harvest portions of stand, specifically area adjacent to lowland rm/asp-stand 71 and area north of Kolarvic road. Aside from these two areas, aim for an acreage total, focusing on areas with highest stocking. Do not cut Hemlock along edges of stand. Mark to leave some RP on north side of Kolarvic rd.

Other Comments: Stand has some pockets affected by hypoxylon, variable density/size/quality throughout. WP heavier along southern edge.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
73	63133073-Cut	5.0	42220 - Natural Jack Pine	High Density Pole	45	Harvest	Clearcut with Reserves	Natural Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest jp, aspen and wp, leave rp. Expand small areas of cut into 71b where aspen are of higher quality, no more than a few acres. Whole tree skidding would be ideal for cone dispersal. Aspen and jp should regenerate densely w/ some rp as well.

Other Comments: RP is more numerous in northern areas of stand.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
77	63133077-Cut	35.8	4130 - Aspen	High Density Pole	50	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest aspen, mark to leave a few hdwd spp for diversity. Harvest could help to divert browse pressure from hdwd regen in st 78. Leave larger oak throughout stand.

Other Comments: Harvest will hopefully help to divert browse pressure on hardwood stand to the south. regeneration is lacking in this stand, possibly due to close proximity to ag land.

Next Steps:

Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
78	63133078-Cut	40.8	4110 - Sugar Maple Association	High Density Log	90	Harvest	Crown Thinning	Sugar Maple Association	Cmpt. Review Proposal

Prescription Specs: Group selection, focus on harvesting large logs and creation of 120' diameter gaps; 1 or 2 every 1-2 acres. Mark the rest of the stand to cut, targeting approximately 75 sq ft/ac for BA following harvest.

Other Comments: Regeneration is lacking throughout stand.

Next Steps: Evaluate success of regen gaps following harvest to determine success of treatment in conjunction with harvest of adjacent aspen stand.

Total Treatment Acreage Proposed: 393.0

Table 4 -- Treatments Prescribed with a Limiting Factor

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
			#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: 2012

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

Prescription Specs:

Other Comments:

Next Steps:

Total Treatment Acreage Proposed: **0**

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42200 - Natural White Pine	High Density Pole	37.1	70		wp/asp stand with jp at edges. each species is numerous in areas however wp is dominant overall.
2	42120 - Planted Jack Pine	High Density Sapling	15.4	12		
3	4135 - Aspen, Cedar	High Density Pole	20.0	65		new stand added. lowland stands along river, adjacent to stands 1 and 5. was not able to get all the way into some parts of this multi-part stand due to high water at time of inventory. some portions may be heavier to sugar maple association similar to other stands in these lowland spots however could not reach many pockets close to river.
5	4110 - Sugar Maple Association	High Density Log	10.8	95	111-140	northern hdwd stand on peninsula of river. possibly seasonally wet. cedar/ash more prevalent around edges. hdwds are fair to good quality-nice secluded stand.
6	4311 - Pine, Aspen Mix	High Density Log	12.1	40		mixed stand, shifting topo down to river, some beaver activity causing aspen size diversity in northern part.
7	42220 - Natural Jack Pine	High Density Pole	137.2	50	81-110	jp stand w/ significant rp component. areas of pure jp poles and some small pockets where rp is most numerous, mostly in central/southern parts of stand. oak, wp and trace rm present as well. oak heavier along western edge.
8	42260 - Natural Pine, Mixed Deciduous	Medium Density Log	38.6	62	1-50	mixed stand of rp/wp and asp/rm in openings, resulting from harvest last yoe. regen responding well.
9	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	10.4	80		New stand added. lowland floodplain stands on northern edge of stand 6, along river. mix of hdwd association, cedar and lowland shrubs. stand has some areas where alder/lowland shrubs are dominant.
10	42290 - Natural Mixed Pine	High Density Pole	29.7	59	141-170	mixed pine stand along river. uniform density for the most part, composition and size is variable however. oak, asp and rm throughout. cedar along immediate river bank along with a few hemlock.
11	6129 - Mixed Coniferous Lowland Forest	High Density Log	5.3	90	111-140	steep bank from stand 10 facing north towards river. hemlock, cedar, white pine, red maple common. some aspen throughout. red pine on upper reaches of bank. small seep within stand.
12	42210 - Natural Red Pine	High Density Log	17.1	86	111-140	New stand added. natural rp stand w/ some oak/jp component in places. variable ba in spots. quite a bit of size varation throughout stand.
13	42110 - Planted Red Pine	High Density Pole	1.8	65	200+	red pine stand, has not been 3rd row thinned. tight crowns, trees are growing well. Good form and height.
14	42120 - Planted Jack Pine	High Density Sapling	16.1	15		jack pine plantion growing well. densely planted/seeded. aspen present in pockets throughout stand.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
15	42220 - Natural Jack Pine	High Density Sapling	35.9	23		New stand added. jp stand, east of 23 road and stand 7b. sap size with some pockets of small poles. rp/wp component throughout stand, not high numbers tho.
16	4110 - Sugar Maple Association	High Density Log	3.2	90	141-170	upland/lowland hardwood stand on peninsula in river. large hdwds present, growing fairly well. seasonal high water.
17	42120 - Planted Jack Pine	High Density Sapling	135.8	15		jp plantation, seeded/planted densely, growing well.
18	6119 - Mixed Lowland Deciduous Forest	Medium Density Pole	3.1	40		lowland stand of aspen/rm with cedar throughout. occasional wp. more cedar on western side of stand. steep slope on southern side of stand, gradual rise on north side.
19	42200 - Natural White Pine	Medium Density Pole	10.5	61	1-50	new stand added. treated last yoe by removing asp/rm. wp/rp left as residual and is growing well.
20	42260 - Natural Pine, Mixed Deciduous	High Density Log	4.0	90	111-140	nice upland stand adjacent to stand 22. stand slopes toward lowland/river on eastern side. trace hemlock/spruce along edge.
21	4319 - Mixed Upland Forest	High Density Sapling	3.1	14		RDR-erosion into river just north of stand. JP about 15' tall. Stand looks like it was furrowed so not a positive ID on whether or not the stand is a plantation.
22	42220 - Natural Jack Pine	High Density Pole	58.7	45		
23	42120 - Planted Jack Pine	High Density Sapling	7.2	15		jp plantation, planted/seeded densely, growing well.
24	42110 - Planted Red Pine	High Density Pole	4.7	66	171-200	Stand was thinned last YOE, has responded well and is 7-8 sticks tall of merchantable height. Higher stocking in northern portion rather than south.
25	42220 - Natural Jack Pine	High Density Pole	22.2	59		mixed stand dominated by jp. asp and oaks present. more uniform in terms of size/stocking than stand 7. breaking up in spots.
26	6118 - Lowland Deciduous with Cedar	High Density Pole	10.2	80		mixed stand of cedar, black ash and red maple w/ some hdwd spp present in low numbers
27	4130 - Aspen	High Density Pole	23.4	46		aspen stand with red maple and some oak. rp, jp and wp present in fair numbers as well. aspen beginning to decline, fair quality.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
28	42290 - Natural Mixed Pine	High Density Pole	315.6	51		very mixed stand of white pine, jack pine, red pine, aspen, red maple and trace other species. oak present in descent numbers in places. usually large individuals. stand has varying ages, many areas of sapling/pole sized trees. other pockets have larger dbh trees mixed in. red pine is patchy with some dense pockets more uniform to red pine. white pine averages pole size however some larger individuals are found throughout stand. Other areas are very dense sapling size trees with minimal overstory.
29	42260 - Natural Pine, Mixed Deciduous	High Density Sapling	25.8	6		natural pine stand treated last yoe by removing jack pine, aspen and red maple. some jp left. stand is classified as sapling stand however there is a fair amount of overstory present. jp regen filling in nicely throughout in open areas.
30	42290 - Natural Mixed Pine	High Density Pole	6.3	60		jp/wp stand that remains after treatment of stand 7 and 8. small stand, growing fairly well.
31	42110 - Planted Red Pine	High Density Log	74.8	66	141-170	Consumers Power managed plantation. Minimal inventory done throughout stand.
32	4191 - Mixed Upland Deciduous with Conifer	Low Density Pole	22.9	40	1-50	mixdd stand of rp/jp w/ cherry, asp and oak present. low qual, treated last yoe.
33	6129 - Mixed Coniferous Lowland Forest	High Density Log	24.7	100	111-140	mixed stand with major topo influence. cedar, hemlock and white pine in lowland with white pine, aspen and some oak on slopes. creek flowing through center of stand into Manistee river. Natural rivers restrictions apply to these water courses.
34	42220 - Natural Jack Pine	High Density Pole	49.9	56		narrow stand adjacent to 36. descent jp stand, growing fairly well. small amount of deciduous throughout. trace rp. includes small island off western edge which is an island within stand 25.
35	42110 - Planted Red Pine	High Density Pole	25.1	61	141-170	descent rp stand, row thinned last yoe and responding well. ba variable in places, hovering around 160 overall. lots of small dbh/small crown trees competinng with dominants, fair amount of defect to remove.
36	42290 - Natural Mixed Pine	Medium Density Log	17.1	105		Stand thinned heavily last yoe and is responding well. mix of rp/wp with rm, asp and a small amount of jp regen.
37	42110 - Planted Red Pine	High Density Pole	6.5	51	111-140	rp plantation thinned last yoe. rp responding well, some variability throughout in terms of stocking and dbh compared to stand 42 to the east.
38	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	68.4	100	111-140	mixed stand along creek with major topo influence. coniferous species dominate lower/shaded areas while aspen, red maple and some oak are on upper reaches of slopes. Natural river restrictions apply to this stand.
39	42110 - Planted Red Pine	Medium Density Pole	4.3	61	81-110	small red pine stand with some open areas left from removing jp/asp. thinned last yoe, wait til next to thin again.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
40	42110 - Planted Red Pine	High Density Pole	33.9	65	171-200	red pine plantation managed by consumers power. currently marked to cut. did not spend a great deal of time inventorying this stand.
41	42290 - Natural Mixed Pine	Low Density Pole	201.0	59	1-50	mixed rp/jp. treated recently by removing rm/asp and some pine. variable stocking/size. regen is spotty.
42	4130 - Aspen	High Density Pole	31.0	50		fair quality aspe, some hypox. rm, rp and some wp mixed in in low numbers. trace oak. more variability along westeern edge, also more oak in this area as well with pine heavier.
43	42210 - Natural Red Pine	High Density Log	15.4	105	141-170	nice rp/wp stand that has been thinned somewhat recently. stand boundaries blend into surrounding stand 10 and composition in these areas may be somewhat variable.
44	42110 - Planted Red Pine	High Density Pole	5.5	52	141-170	rp plantation, thinned last yoe, responding fairly well. slightly better quality, uniformity than 42b. overall higher ba and less variability in size.
45	4199 - Other Mixed Upland Deciduous	Medium Density	4.8	10	1-50	stand treated last yoe, removed rm/asp. no oak regen to speak of. canopy includes oak overstory and rm sprouts.
46	4132 - Aspen, Jack Pine	High Density Sapling	10.0	16		mix of aspen and jack pine with trace amounts of other species.
47	4112 - Maple, Beech, Cherry Association	Low Density Pole	7.7	60	1-50	rm stand, sparse. poor quality. rp, wp mixed throughout in low numbers, varied sizes.
48	42220 - Natural Jack Pine	High Density Sapling	66.5	6		Stand was treated last YOE and by removing jack pine and aspen and leaving red pine and some overstory oak. Stand responded with a great deal of jack pine regen. Minimal aspen, red maple and some oak are also present in regen as well. Regen from harvest and overstory are each considered as components of overstory within this stand.
49	42120 - Planted Jack Pine	High Density Sapling	6.3	16		jp plantation w/ pocket of asp/wp along southern edge. dense planting/seeding, growing well.
50	42120 - Planted Jack Pine	High Density Sapling	11.7	15		jp plantion densely planted/seeded, growing well
51	42110 - Planted Red Pine	High Density Log	9.0	65	111-140	Red pine stand that was row thinned last YOE. BA is variable but amount of suppressed and poor quality stems may make a thinned a viable option. Small stand however access is readily available which could make harvest more feasible.
52	42220 - Natural Jack Pine	High Density Pole	4.3	48		small jp stand, probably left as retention from harvest last yoe. oak, rp and rm mixed throughout.
53	42120 - Planted Jack Pine	High Density Sapling	2.3	15		seeded/planted jp plantation growing well. dense planting.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
54	42220 - Natural Jack Pine	High Density Pole	82.2	40		variable size/density jack pine stand with aspen, some red maple and occasional wp present as well. aspen clones dispersed throughout. recommend waiting til next yoe and then removing jp/aspen.
55	42220 - Natural Jack Pine	High Density Pole	20.5	54		jp stand w/ more species present in southern portions of stand, most notably aspen. pocket of rp in center of stand and small area of wp/jp mixture along eastern edge. jp beginning to break up in pockets.
56	4133 - Aspen, Mixed Pine	High Density Sapling	23.1	6		Mixed stand of low density overstory red pine with occasional jack and white pine present as well. regeneration qualified as canopy as well and is dominated by quaking aspen throughout. Some small pockets of jack pine present where aspen is less of a component. Stand is a reult of treatment carried out 6 years ago. Stand was harvested and then an Rx burn was done. Burn seems to have stimulated aspen component and lessened jp regen in comparison to surrounding stands where similar treatment was carried out.
57	42100 - Planted White Pine	High Density Pole	51.3	44		wp plantation with aspen, rm and oak. jack pine mixed into plantation in northern portions. no understory.
58	42120 - Planted Jack Pine	High Density Sapling	16.0	15		jp plantation densely planted/seeded, growing well.
59	6112 - Lowland Aspen	Low Density Pole	13.5	60		New stand added. mixed wetland stand between stands 61/63. lots of alder/dogwood with asp/rm and cedar throughout in low/variable stocking. has small creek flowing through stand. creek goes underground at some point to resurface at a different location.
60	42290 - Natural Mixed Pine	High Density Log	55.5	70	81-110	treated last yoe by removing aspen, jp, rm and oak. rp/wp were left and are doing well. high numbers of asp/rm regen throughout more open areas. rp dominant in western part of stand, wp moreso in east.
61	42110 - Planted Red Pine	High Density Pole	5.5	60	141-170	rp plantation growing fairky well. has responded to row thin positively. some openings filling in with aspen/rm where clones were removed.
62	42220 - Natural Jack Pine	High Density Pole	4.5	55		jp stand with aspen, rm and some rp present. variable size/quality. beginning to break up.
64	4130 - Aspen	High Density Pole	77.6	41		aspen stand with jp, wp and rp present. stand is similar to stand 68 however much less of a pine component is present. highly variable in terms of size and stocking, more of a pole/sap stand.
65	42100 - Planted White Pine	High Density Pole	8.2	41	81-110	New stand added/ multi part stand, wp/jp plantation. wp more numerous. could final harvest or just remove jack pine. recommend waiting til next yoe to treat.
66	42220 - Natural Jack Pine	High Density Pole	49.1	50		jp stand with significant rp component. oak, rm and aspen present in low numbers. rp is good quality, jp beginning to break up slightly.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
67	42210 - Natural Red Pine	Medium Density Log	3.9	80	51-80	Treated last yoe by removing most oak, all jp/asp/rm. some oak regen present, wp regen is doing well. minimal rp/jp regen.
68	4130 - Aspen	High Density Pole	143.9	40	81-110	aspen stand with conifer component throughout. mostly wp, however some spruce, fir, hemlock along edges in spots. overall size and stocking is variable. some jp, rp in northern reaches of stand. scattered large oak.
69	42260 - Natural Pine, Mixed Deciduous	High Density Log	65.1	80	111-140	Mixed stand with rp, oak, wp and jp making up canopy. each species dominates canopy in spots however overall rp/oak dominate. wp throughout understory.
70	6127 - Lowland Pine	High Density Log	37.3	116	141-170	mixed conifer stand w/ wp, cedar, hemlock and mixed deciduous present. stand is corridor for small creek flowing through center. stand transitions to slightly higher topo along edges however it still retains high water/lowland influence.
71	6113 - Lowland Maple	High Density Pole	13.3	70	111-140	rm/aspen stand w/ cedar, birch, hemlock and trace ash present. lots of wildlife activity throughout. plenty of dwd and snags.
72	4130 - Aspen	High Density Pole	60.6	45		New stand added. less quality than stand 71, much more wp in both the over and understory, especially in the eastern 1/2 of the stand. More prevalent in understory/intermediate in western 1/2. asp clones are clumped together with areas of lower stocking in places. overall more variability in terms of size and stocking. fh next yoe?
73	42220 - Natural Jack Pine	High Density Pole	5.0	45		New stand added. jp stand with rp in descent numbers as well. aspen pockets and occassional wp. fair quality jp, minimal understory.
74	4311 - Pine, Aspen Mix	High Density Pole	4.5	51	81-110	mixed stand of aspen and white pine with trace other spp present. each species is dominant in areas of stand however it seems as though overall aspen wins out.
75	4311 - Pine, Aspen Mix	High Density Sapling	18.6	20		evenly mixed wp/aspen stand regenerating well from previous harvest. high water table influence, mainly along edges.
76	42290 - Natural Mixed Pine	High Density Log	15.7	80	111-140	rp/wp stand with oak, aspen and red maple present. some oak regen however understory is made up mostly of wp.
77	4130 - Aspen	High Density Pole	35.8	50		nice aspen stand with fairly uniform dbh. transition zone between hdwd to the south and lesser quality aspen/wp to the north (new stand 71b). trace hdwd spp present, along w/ oak. Some areas of aspen have variable DBH.
78	4110 - Sugar Maple Association	High Density Log	40.8	90	111-140	Trace of red maple, elm and hemlock in canopy and trace of beech, ash and sugar maple in sub canopy. Lots of browse throughout limiting density of regeneration. Raspberry present in existing gaps that are remaining from previous harvest and the few natural canopy gaps that have happened since.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
80	6119 - Mixed Lowland Deciduous Forest	High Density Pole	14.2	50		lowland stand of asp/rm and birch w/ cedar, hemlock and wp present. lots of deadfalls and snags creating habitat and canopy gaps for regen/food source for wildlife.
81	4130 - Aspen	High Density Sapling	18.0	25		aspen stand growing well. occasional hdwd species near edges. wp is a small component in overstory, developing as regen in places.
82	4110 - Sugar Maple Association	High Density Log	3.7	80	111-140	Small hdwd stand, fair quality. slopes to the north, at base of slope wet soils dominate and transition stand to more of a swamp hdwd stand. Recent timber trespass from producer on private land to the south removed several trees apparently on accident. Issue is being resolved with invlolvement from C.O. as of 4/14/10.

6 – Nonforested Stands

Data updated yesterday after 6:00 PM

Stand	Cover Type	Acres	Gen Cmts:
4	50 - Water	44.9	Manistee River.
63	6224 - Treed Bog	3.4	water in eastern portion of stand. treed bog in western part.
79	3102 - Grass	1.7	Small grass stand with some aspen/white pine within stand. occasional hawthorn along edges providing some nice cover.
83	3301 - Low Density Deciduous Tree	2.2	opening with wp and oaks scattered. sumac clumps present.

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

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.