Compartment Review Presentation

Cadillac Forest Management Unit

Compartment 89
Entry Year 2015
Acreage: 3,034
County Missaukee
Management Area: Houghton Lake Wetlands

Revision Date: 08/16/2013

Stand Examiner: Derek Cross

Legal Description:

T23N R6W, Sections 1-3,10,11,15,22
T24N R6W, Sections 35,36

Identified Planning Goals:

Maintain a variety of cover types while promoting age class diversity to provide favorable habitat to a variety of game and non-game species.

Soil and topography:

The soil series present in this Compartment are:
Lupton Muck – very poorly drained; Roscommon Mucky Sand – poorly drained; Montcalm/Graycalm Complex – well drained sand/loamy sand; Croswell Sand – moderately well drained.
The dominant topographical feature is the flat, poorly drained area of swamp that surrounds the Haymarsh Creek which bisects this Compartment. The ground is only marginally more drained in Section 15, and the southern portion of Section 10. In these areas, pine is mixed with the predominant aspen cover type. The northern portion of Section 1 and the northern most 40 acres in Section 35 are both well drained sand/loamy sand ridges, and consequently where the only northern hardwoods are located. The southern portion of Section 22 falls away topographically into the West Branch of the Muskegon River (located just south of the compartment boundary.

Ownership Patterns, Development, and Land Use in and Around the Compartment:

The compartment and surrounding area have mixed ownerships of state and private land. Farming is the major land use around the area. Hunting and trapping are quite popular in the area. There is a large parcel of land known as the Haymarsh Hunt Club that is for sale on the northern border and has been on the market for several years. The proximity to the Haymarsh Deeryard and the undeveloped nature of these parcels make them desirable for acquisition.

Unique Natural Features:

Haymarsh Creek and the surrounding area provide some unique and isolated natural wetlands for the area's wildlife, especially deer. Potamogeton Lilli and Hills Pondweed (threatened) occur in Haymarsh Creek. The proposed treatments will not negatively impact these species.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

Haymarsh Creek Deeryard is in this compartment. Numerous habitat cuts have been conducted in inaccessible (high water table) areas. Any new roads built for timber sales in the compartment should be closed upon completion of harvests.

Watershed and Fisheries Considerations:

Haymarsh Creek Flows through Compartment 89. Haymarsh Creek is a Designated Trout Stream. Appropriate buffers to discourage beaver dams in trout streams are recommended. (R. O'Neal, 8/24/2013).

Wildlife Habitat Considerations:

This compartment is located in the Highplains Ecosystem, Grayling Outwash Plains Subsection, LTA 5149, 5111, and 5549. Most of the compartment is represented by LTA 5149 and 5549, containing very poorly drained peat or muck soils. Historically, these areas were conifer dominated wetlands. In the other quarter of the compartment, within LTA 5111, the predominate soil is Grayling sand, a deep, excessively drained acidic soil with low natural fertility. Pre-settlement vegetation was variable but dominated by fire dependent conifer forest, e.g., jack pine, red pine/white pine, and pine or oak/pine barrens. Wildlife habitat objectives are to maintain a variety of cover types and age class diversity. Featured species of special interest are deer, golden-winged warbler, woodcock, and ruffed grouse. (E. Victory, 8/21/13)

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium and coarse-textured

glacial till. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift are the Pennsylvanian Saginaw and Grand River Formations and the Mississippian Michigan Formation and Bayport Limestone. The Saginaw is quarried for clay/shale, the Michigan Formation for gypsum and the Bayport for limestone in other areas of the State. A gravel pit is located in Section 36 and potential is thought to be good on the uplands. East Norwich Field is located three miles to the northeast. The field has produced over 15.9 million BO and 15.7 Bcf gas from the Devonian Richfield Formation. It is in secondary recovery operations currently. There are a few oil and gas leases in the compartment. (T. Hoane, 3/6/2013).

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 closure. 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:

The current survey data for this compartment is sufficient for current timber management needs.

Recreational Facilities and Opportunities:

There are no developed recreational faculties within this compartment, although hunting and fishing opportunities are prevalent with relatively easy access to Haymarsh Creek. (T.M/N/ 7/8/13)

Fire Protection:

Being that the area is of low swampy areas, fire access would be limited with larger suppression units. Road access on the south side of the unit is good. During dry period, mop-up of a wildfire would be a concern. Ignition causes by human influence would be limited. (B. Tower, 2013).

Additional Compartment Information:

The following reports from the Inventory are attached:

- **Total Acres by Cover Type and Age Class**
- **Cover Type by Harvest Method**
- **Proposed Treatments – No Limiting Factors**
- **Proposed Treatments – With Limiting Factors**
- **Stand Details (Forested and Nonforested)**
- **Dedicated and Proposed Special Conservation Areas**
- **Site Condition Details**

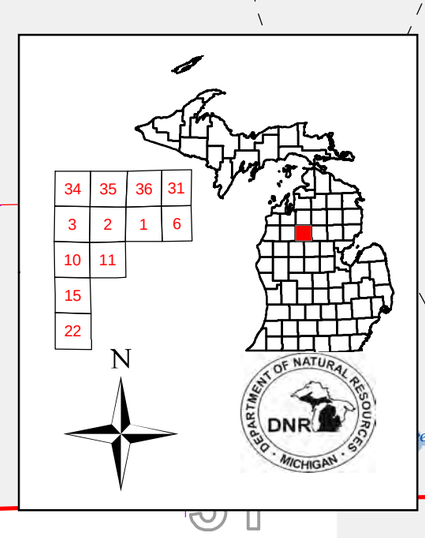
The following information is displayed, where pertinent, on the attached compartment maps:

- **Base feature information, stand boundaries, cover types, and numbers**
- **Proposed treatments**
- **Site condition boundaries**
- **Details on the road access system**

Cover Type & Treatment Map

Compartment: 089
T23N R05W
06
T23N R06W
01 02 03 10 11 15 22
T24N R05W
31
T24N R06W
34 35 36
County: Missaukee
Unit: Cadillac
YOE: 2015
Acres: 3,034 GIS Calculated
Examiner: Derek Cross
Map Revised: 10/04/2013
Map Phase: Pre-Review

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



Legend

- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Stream
- Intermittent Stream
- Lakes and Rivers
- State Forest Land

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Selection (Group, Single Tree)

Forest Stands

Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

- 110 - Low Intensity Urban
- 330 - Low-Density Trees
- 622 - Lowland Shrub

Stand Boundary Map

Compartment: 089
T23N R05W
06
T23N R06W
01 02 03 10 11 15 22
T24N R05W
31
T24N R06W
34 35 36
County: Missaukee
Unit: Cadillac
YOE: 2015
Acres: 3,034 GIS Calculated
Examiner: Derek Cross
Map Revised: 10/04/2013
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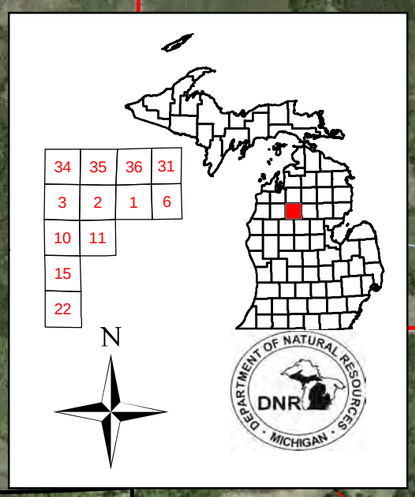
Stand # 23 — Stocking Density
Cover Type Code: (412)0) - A7
Level 3 / Level 4 / OI Code



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Non-Forest Stands

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1 0.5 0 1 Miles

Special Conservation Areas & Site Conditions Map

Compartment: 089
T23N R05W
06
T23N R06W
01 02 03 10 11 15 22
T24N R05W
31
T24N R06W
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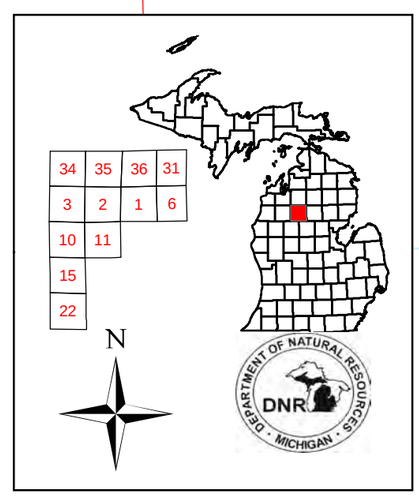
Stand # 23
Stocking Density
(412)0) - A7
Level 3 OI
Level 4 Code
Cover Type Code



85°2'0"W 85°1'0"W 85°0'0"W 84°59'0"W 84°58'0"W
44°26'0"N 44°25'0"N 44°24'0"N 44°23'0"N 44°22'0"N

34 35 36 3 2 1 6 10 11 15 22

30 **4130**-A3
42 **110**-X0
35 **4110**-M9
21 **622**-L0
32 **6122**-S4
41 **4130**-A3
54 **330**-U0
51 **4130**-A3
20 **4134**-A9
13 **330**-U0
2G - 008
2 **330**-U0
1 **622**-L0
10 **4134**-A6
5 **4130**-A3
17 **4319**-UM6
38 **6115**-E8
2G - 010
3 **622**-L0
14 **622**-L0
27 **6132**-LM6
4 **6115**-E6
2G - 012
22 **330**-U0
9 **4134**-A6
6 **6112**-P6
15 **6115**-E6
7 **4130**-A3
2G - 007
23 **6120**-C6
16 **6115**-E6
19 **6118**-E6
2G - 003
8 **622**-L0
18 **6128**-Q5
2G - 004
12 **4130**-A6
11 **4130**-A3
2G - 009
28 **622**-L0
2G - 011
26 **6124**-Q2
25 **4233**-F6
29 **4134**-A3
43 **6118**-E7
34 **330**-U0
36 **6120**-C5
33 **6120**-C4
48 **6124**-Q2
31 **6122**-S1
37 **622**-L0
40 **6124**-Q4
47 **6122**-S9
39 **4319**-UM6
44 **6112**-P3
55 **330**-U0
46 **330**-U0
50 **6129**-Q4
52 **6121**-T2
49 **4311**-UM9
53 **4210**-W9
56 **4130**-A6
58 **622**-L0
64 **4220**-W9
62 **4211**-R9
66 **4212**-J6
67 **4130**-A5
69 **4130**-A2
70 **4130**-A3
75 **4212**-J6
74 **4130**-A6
78 **4130**-A6
80 **4211**-R9
81 **4211**-R3
84 **4130**-A3
86 **4130**-A3
87 **622**-L0
85 **4133**-A9
88 **4130**-A3
89 **4311**-UM3
90 **4319**-UM6
91 **6112**-P3
92 **6124**-Q6
93 **6121**-T5
2G - 005
94 **6121**-T3
61 **4130**-A6
63 **4130**-A6
68 **4112**-M9
76 **4134**-A6
79 **4130**-A6
60 **6120**-C6
73 **6120**-C5
65 **6123**-Q3
57 **6120**-C6
2G - 006
6121-T6
45 **622**-L0
72 **622**-L0
77 **330**-U0
71 **4134**-A9
2B - 013
82 **4134**-A9
2B - 014
83 **330**-U0

Legend
- Miris Corners
- Stand Boundaries

Site Condition Available
- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)

Site Condition Type

Unavailable Factors

2G: Too wet (sensitive soils, does not include access issues)

Dedicated Special Conservation Areas
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer

1 0.5 0 1 Miles

Report 1 – Total Acres by Cover Type and Age Class

Cadillac Mgt. Unit **Compartment 089 Year of Entry 2015**

Derek Cross : Examiner

Age Class

	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +	Uneven Age	Total
Aspen	71	211	44	73	311	179	31	0	0	0	0	0	0	0	**919**
Cedar	0	0	0	0	0	0	0	0	181	29	23	0	0	0	**234**
Jack Pine	0	0	0	0	13	0	0	0	0	0	0	0	0	0	**13**
Low-Density Trees	100	0	0	0	0	0	0	0	0	0	0	0	0	0	**100**
Lowland Aspen/Balsam Poplar	0	28	0	0	6	0	0	0	0	0	0	0	0	0	**34**
Lowland Conifers	0	57	0	50	0	161	20	0	0	0	0	0	0	0	**289**
Lowland Deciduous	0	0	0	0	0	63	33	45	0	3	81	0	0	0	**225**
Lowland Mixed Forest	0	0	0	0	0	0	0	0	99	0	0	0	0	0	**99**
Lowland Shrub	858	0	0	0	0	0	0	0	0	0	0	0	0	0	**858**
Lowland Spruce/Fir	0	13	0	0	0	6	0	6	0	0	0	0	0	0	**25**
Northern Hardwood	0	0	0	0	0	0	0	48	0	0	0	0	0	0	**48**
Red Pine	0	5	0	0	0	0	15	0	0	0	0	0	0	0	**20**
Tamarack	0	9	0	0	0	0	28	0	20	0	0	0	0	0	**58**
Upland Mixed Forest	10	0	0	0	20	15	0	25	0	0	0	0	0	0	**70**
Upland Spruce/Fir	0	0	0	0	0	21	0	0	0	0	0	0	0	0	**21**
Urban	2	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
White Pine	0	0	0	0	0	0	0	14	0	0	0	0	0	7	**21**
Total	**1041**	**324**	**44**	**123**	**350**	**444**	**127**	**138**	**300**	**32**	**104**	**0**	**0**	**7**	**3034**

Report 2 – Proposed Treatment Summaries

Cadillac Mgt. Unit
Year of Entry 2015

Compartment 089
Total Compartment Acres: 3,034

Acres by Treatment Type

Commercial Harvest - 358	Tree Planting - 20	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen Types	232	0	0	0	0	0	**232**
Lowland Coniferous Forest	9	0	0	0	0	0	**9**
Lowland Deciduous Forest	6	0	0	0	0	0	**6**
Northern Hardwood	0	21	0	0	0	0	**21**
Other Upland Conifers	21	0	0	0	0	0	**21**
Planted Pines	20	0	0	0	0	0	**20**
Upland Mixed Forest	49	0	0	0	0	0	**49**
Total	**337**	**21**	**0**	**0**	**0**	**0**	**358**

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
6	63089006-Cut	5.9	6112 - Lowland Aspen	High Density Pole	48		Harvest	Clearcut with Reserves	6112 - Lowland Aspen	Cmpt. Review Proposal

Prescription Specs: Final Harvest. Frozen winter only. Grouse and Hare specs.

Other Comments: Access may heve to be through private land from the north. Haymarsh hnt club

Next Steps: Regen check

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
9	63089009-Cut	20.9	4134 - Aspen, Spruce/Fir	High Density Pole	59		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

Prescription Specs: Leave retention along the southern edge in low areas. Inculde grouse and hare specs.

Other Comments:

Next Steps: Regen Check

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
10	63089010-Cut	19.7	4134 - Aspen, Spruce/Fir	High Density Pole	54		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

Prescription Specs: Final harvest 2 inch spec. Buffer low pockets. Winter harvest only include grouse and hare spec.

Other Comments: Do not cut cedar

Next Steps:

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
12	63089012-Cut	9.1	4130 - Aspen	High Density Pole	53		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

Prescription Specs: Final harvest 2 inch spec and grouse and hare spec. Winter frozen access only.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
17	63089017-Cut	14.8	4319 - Mixed Upland Forest	High Density Pole	57		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

Prescription Specs: Final harvest 2 inch spec and grouse and hare spec. Winter harvest only.

Other Comments: Access will have to be thru haymarsh hunt club from the north.

Next Steps: Regen check

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
20	63089020-Cut	30.9	4134 - Aspen, Spruce/Fir	High Density Log	67		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

Prescription Specs: Final harvest 2 inch spec and grouse and hare spec.

Other Comments: Interior black ash pocket should be buffered.

Next Steps: Regen check

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
25	63089025-Cut	20.7	42330 - Upland Fir	High Density Pole	56	81-110	Harvest	Clearcut with Reserves	42340 - Upland Spruce/Fir	Cmpt. Review Proposal

Prescription Specs: Final harvest 2 inch spec frozen winter only. Do not cut Cedar add grouse and hare spec.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
39	63089039-Cut	9.2	4319 - Mixed Upland Forest	High Density Pole	44		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

Prescription Specs: Final Harvest 2 inch spec and grouse and hare spec.

Other Comments:

Next Steps: regen check

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
49	63089049-Cut	25.1	4311 - Pine, Aspen Mix	High Density Log	72		Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest 2 inch spec include grouse and hare spec. Leave some large wolfy white pines.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
53	63089053-Cut	13.9	42100 - Planted White Pine	High Density Log	73	111-140	Harvest	Clearcut	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest retaining super canopy white pine component.

Other Comments:

Next Steps: Replant to red pine

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
62	63089062-Cut	6.0	42111 - Planted Red Pine, Mixed Deciduous	High Density Log	65	81-110	Harvest	Clearcut	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Final Harvest

Other Comments:

Next Steps: Replant to red pine

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
68	63089068-Cut	21.4	4112 - Maple, Beech, Cherry Association	High Density Log	74	111-140	Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal

Prescription Specs: Focus on removing Beech and ash.

Other Comments: Treat with stand 35 2013 yoe if possible.

Next Steps: check regen and treat beech sprouts accordingly.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
76	63089076-Cut	32.2	4134 - Aspen, Spruce/Fir	High Density Pole	59		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

Prescription Specs: Final Harvest. Winter frozen ground only with 2 inch spec. Do not cut oak, hemlock and cedar. Grouse and Hare spec.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
78	63089078-Cut	19.6	4130 - Aspen	High Density Pole	57		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Final harvest. 2 inch spec. Retain scattered pine.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
79	63089079-Cut	22.9	4130 - Aspen	High Density Pole	47		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

Prescription Specs: Final harvest. Winter forzen ground only with a 2 inch spec. Avoid operations in low alder areas. Grouse and Hare spec.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
92	63089092-Cut	8.9	6124 - Lowland Spruce-Fir	High Density Pole	55	51-80	Harvest	Clearcut with Reserves	6124 - Lowland Spruce-Fir	Cmpt. Review Proposal

Prescription Specs: Final harvest stand. Do not cut cedar. Winter frozen ground only.

Other Comments: May leave scattered multiple clups of black spruce for a seed source and to help control water table.

Next Steps: regeneration check.

Proposed Start Date: 10/01/2014

Total Treatment Acreage Proposed: 281.2

Report 4 -- Treatments Prescribed with a Limiting Factor

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
71	63089071-Cut	45.5	4134 - Aspen, Spruce/Fir	High Density Pole	53		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

Prescription Specs: Final harvest. Winter Frozen only with 2 inch spec. Access may have to be accross private to the south due to large drainage ditch along Nelson Rd.. Avoid cedar pockets. Do not cut cedar. Grouse and hare spec.

Other Comment:

Next Steps:

Proposed Start Date: 10/01/2014

Limiting Factor: 2B: Unknown if access through adjacent landowner(s) is possible

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
82	63089082-Cut	31.5	4134 - Aspen, Spruce/Fir	High Density Log	59		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal

Prescription Specs: Final harvest. Winter frozen only with 2 inch spec. Access may need to be from the south and west due to drainage ditch on Nelson Rd. Grouse and Hare spec.

Other Comment:

Next Steps:

Proposed Start Date: 10/01/2014

Limiting Factor: 2B: Unknown if access through adjacent landowner(s) is possible

Total Treatment Acreage Proposed: 77.0

Report 5 – Site Conditions

Cadillac Mgt. Unit | **Compartment 089**

Derek Cross : Examiner | **Year of Entry 2015**

Availability for Management

Total Acres	Acres Available	Acres Not Available		Dominant Site Conditions No	2G	2B
919	919	0	**Aspen**	842	0	77
234	205	29	**Cedar**	205	29	
13	13		**Jack Pine**	13		
34	34		**Lowland Aspen/Balsam Poplar**	34		
289	201	88	**Lowland Conifers**	201	88	
225	66	159	**Lowland Deciduous**	66	159	
99		99	**Lowland Mixed Forest**		99	
25	25		**Lowland Spruce/Fir**	25		
48	48		**Northern Hardwood**	48		
20	20		**Red Pine**	20		
58	9	48	**Tamarack**	9	48	
70	70		**Upland Mixed Forest**	70		
21	21		**Upland Spruce/Fir**	21		
21	21		**White Pine**	21		
2,074	1,650	424	Total Forested Acres	1,573	424	77
	80%	20%	Relative Percent			

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
003	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	81				
	Comments:						
004	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	35				
	Comments:						

005	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	28	
Comments:				
006	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	20	
Comments:				
007	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	29	
Comments:				
008	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	40	
Comments:				
009	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	50	
Comments:				
010	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	99	
Comments:				

011	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	39

Comments:

012	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	3

Comments:

013	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	46

Comments:

Looking for access through private

014	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	32

Comments:

Report 6 – 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.

SCA Name	SCA Category	Detail Type	Recommendation	Acres

Comments

Report 7 – 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 Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
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	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4	6115 - Lowland Ash	High Density Pole	3.0	92		Low wet black ash stand.
5	4130 - Aspen	High Density Sapling	58.8	8		Well stocked aspen regeneration stand.
6	6112 - Lowland Aspen	High Density Pole	5.9	48		Aspen dominated stand with wet pockets. Stand is slightly above water table. Balsam fir found in clumps in the overstory.
7	4130 - Aspen	High Density Sapling	23.3	16		Aspen sapling stand. Some lower/wetter areas present.
9	4134 - Aspen, Spruce/Fir	High Density Pole	20.9	59		Mixed stnad dominated by aspen and balsam fir. Southern edge of stand is somewhat wetter. Scattered large/overmature aspen throughout stand.
10	4134 - Aspen, Spruce/Fir	High Density Pole	19.7	54		Mature aspen stand with low wet pockets. Trace of black spruce.
11	4130 - Aspen	High Density Sapling	65.1	16		Young aspen stand with traces of balsam fir, paper birch, red maple, and black cherry.
12	4130 - Aspen	High Density Pole	9.1	53		Aspen stand with low density balsam fir.
15	6115 - Lowland Ash	High Density Pole	32.8	61	51-80	Low wet mixed deciduous stand. EAB present. POckets dominated by advanced regeneration.
16	6115 - Lowland Ash	High Density Pole	34.9	79	51-80	Black ash dominated stand. EAB present. Extremely wet. To wet to operate.
17	4319 - Mixed Upland Forest	High Density Pole	14.8	57		Mature aspen and balsam fir stand. Some of the larger diameter trees are breaking off. Regeneration is focused in open pockets in stand.
18	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	152.1	56	51-80	Low density trees scattered throughout. Ash found in pockets. Tag alder is thick. Slight variation in water table stand, creating variable species composition. Dominate tree species varies in some pockets.
19	6118 - Lowland Deciduous with Cedar	High Density Pole	80.7	107		Black ash and cedar dominated stand. Trees are mostly pole size with log trees scattered. Stand includes pockets that are dominated by cedar. Cedar is also evenly distributed throughout stand.
20	4134 - Aspen, Spruce/Fir	High Density Log	30.9	67		Wind event on southern end of stand, which blew over large balsam. Low wet ash in center of stand.
23	6120 - Lowland Cedar	High Density Pole	29.1	91		Cedar dominated stand. High water table, with soft organic soils. Nice tamarack present, with poor formed cedar.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
24	6115 - Lowland Ash	Low Density Pole	40.1	56		Ash dominated low wet area. Stand barely makes the 25% canopy cover.
25	42330 - Upland Fir	High Density Pole	20.7	56	81-110	Balsam fir dominated stand. Larger overmature balsam falling out of stand. Access is challenging, but feasible.
26	6124 - Lowland Spruce-Fir	Medium Density	12.7	14		Lowland pocket of tamarack that was cc and is regenerating. There are approximately 800-1100 stems per acre of black spruce and tamarack about 10-15 feet tall. There is a small pocket of more mature trees bordering the west edge of the harvested portion these trees represent the 2nd age noted for the stand.
27	6132 - Mixed Lowland Forest with Cedar	High Density Pole	98.9	84		Cedar stand with high component of black ash present. EAB present.
29	4134 - Aspen, Spruce/Fir	High Density Sapling	43.5	26		Variable water table. Stand is fairly well stocked to well stocked. Alder is heavy in areas. Size and diameter of trees varies with water table.
30	4130 - Aspen	High Density Sapling	3.9	14		Young aspen stand.
31	6122 - Black Spruce	Low Density Sapling	12.9	19		Low wet mixed conifer type with scattered aspen. Small diameter due to high water table. Low density trees. Stocking on lower end of 25-50%.
32	6122 - Black Spruce	Low Density Pole	6.4	54		Small black spruce pocket with majority of the stand composed of tag alder and willow.
33	6120 - Lowland Cedar	Low Density Pole	29.9	82		There is a high component of tag alder in this stand with pockets of scrubby cedar and ash scattered throughout. The ash appears to be mostly dead and dying and is small and of no economic value.There is also a trace amount of balsam fir.
35	4110 - Sugar Maple Association	High Density Log	26.1	74	81-110	Sugar maple dominated stand.
36	6120 - Lowland Cedar	Medium Density Pole	40.6	83		Nice cedar stand with some pockets that are fairly open. there is heavy regen of balsam fir and red maple in these areas.
38	6115 - Lowland Ash	Medium Density Log	10.5	77		Ash and alder stand. EAB present.
39	4319 - Mixed Upland Forest	High Density Pole	9.2	44		Well stocked aspen and blasam fir stand. Scattered White Pine found throughout.
40	6124 - Lowland Spruce-Fir	Low Density Pole	50.4	37		Heavy alder stand with scattered trees throughout. Stand canopy closure on lower end of 25-50%.
41	4130 - Aspen	High Density Sapling	65.0	18		Young aspen stand.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
43	6118 - Lowland Deciduous with Cedar	Low Density Log	22.7	57		Fairly open grown stand with alder scattered throughout open areas. Pockets where cedar is located are more dense and rest on small rises in elevation. There is a decent amount of younger red maple filling in some of more open areas.
44	6112 - Lowland Aspen	High Density Sapling	18.7	14		
47	6122 - Black Spruce	High Density Log	5.6	71		Stand is a small pocket of mature black spruce. It appears that this area was once covered with large white pines there are multiple burnec out large stumps in this stand.
48	6124 - Lowland Spruce-Fir	Medium Density	34.3	14		Average height of trees ranges between 10 and 25 feet tall depending on species and location within the stand.
49	4311 - Pine, Aspen Mix	High Density Log	25.1	72		Mixed stand of pine and aspen.
50	6129 - Mixed Coniferous Lowland Forest	Low Density Pole	20.3	62		The larger balsam Fir have died out and smaller trees are replacing them. Closer to the 25% canopy closer than 50%.
51	4130 - Aspen	High Density Sapling	14.5	18		Young aspen stand.
52	6121 - Tamarack	Medium Density	7.5	14		Young stand dominated by tamarack.
53	42100 - Planted White Pine	High Density Log	13.9	73	111-140	Retain XXL white pine within stand if possible.
56	4130 - Aspen	High Density Pole	149.5	47		Variable stand. Stand is mainly aspen dominated. Pockets of planted jack pine within stand. Small pockets dominated by white pine. Some balsam fir scattered throughout stand.
57	6120 - Lowland Cedar	High Density Pole	48.4	89		Large Cedar dominated stand with a minor component of other species mixed in. Balsam fir extremely thick in understory.
59	6121 - Tamarack	High Density Pole	20.3	88		Difficult access lots of water in the stand and between the stand and dry ground.
60	6120 - Lowland Cedar	High Density Pole	23.3	105		Low wet area dominated by cedar. Evidance of high water table.
61	4130 - Aspen	High Density Pole	40.2	38		Mixed aspen balsam fir stand. Balsam fir dominates the understory.
62	42111 - Planted Red Pine, Mixed Deciduous	High Density Log	6.0	65	81-110	Stand was heavily thinned in the past and there is now a large component of pole size decidous trees.
63	4130 - Aspen	High Density Pole	32.8	39		Aspen dominated stand with sugar maple and white ash advanced regeneration present.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
64	42200 - Natural White Pine	High Density Log	7.0	Uneven Age	51-80	Aspen is located on the fringe bordering Alder. Small lowland pocket located in stand also.
65	6123 - Lowland Fir	High Density Sapling	10.3	19		Wildlife habitat cuts. Mixed regeneration of aspen, balsam fir, tamarack, black ash, and red maple.
66	42120 - Planted Jack Pine	High Density Pole	7.3	42		Stand will hold for 10 years.
67	4130 - Aspen	Medium Density Pole	23.9	17		Pole size aspen stand with a mixture of pine spread throughout. There are also several lowland pockets scattered throughout the stand.
68	4112 - Maple, Beech, Cherry Association	High Density Log	21.4	74	111-140	Nice mixed hardwood stand. Heavy to beech. BBD present. Trace of Hemlock and yellow birch.
69	4130 - Aspen	Medium Density	7.5	4		Aspen regen stand with scattered residual red pines. Stand was treated with an RX burn to prepare a seed bed for red pine. There are some scattered red pine seedlings but the stand has converted to aspen.
70	4130 - Aspen	High Density Sapling	15.2	15		Good looking aspen regen stand trees are 10-25 foot tall and approaching pole size.
71	4134 - Aspen, Spruce/Fir	High Density Pole	45.5	53		Grouse and hare spec
73	6120 - Lowland Cedar	Medium Density Pole	62.3	84		Cedar and ash were more concentrated in homogeneous pockets. Pockets containing ash seemed to have a higher water table.
74	4130 - Aspen	High Density Pole	24.4	47		Good looking aspen stand with pockets of scattered pine.
75	42120 - Planted Jack Pine	High Density Pole	6.1	47		3-4 stick jack pine hold for ten years.
76	4134 - Aspen, Spruce/Fir	High Density Pole	32.2	59		Trace of oak, hemlock and cedar.
78	4130 - Aspen	High Density Pole	19.6	57		Trace of red maple
79	4130 - Aspen	High Density Pole	22.9	47		There is a trace of tamarack and balsm poplar concentrated along the road edge where there is a wet ditch. There is a tag alder pocket located at the north end of the stand bordering the road.
80	42110 - Planted Red Pine	High Density Log	8.7	62	111-140	Part of a red pine/jack pine strip plantation. The jack pine was removed previously and red pine was planted where strips were removed.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
81	42110 - Planted Red Pine	High Density Sapling	5.1	16		Young red pine plantation with jack pine recruits some aspen encroaching on east end.
82	4134 - Aspen, Spruce/Fir	High Density Log	31.5	59		Variable size and density. There may be some low inclusions within the stand boundary.
84	4130 - Aspen	High Density Sapling	2.5	7		Stand has regenerated. 10-20 foot aspen regen looks good at this time.
85	4133 - Aspen, Mixed Pine	High Density Log	114.5	42		Variable quality aspen stand with scattered pine pockets.
86	4130 - Aspen	High Density Sapling	1.1	7		Stand has regenerated. Aspen regen 15-25 foot tall looks good at this time.
88	4130 - Aspen	High Density Sapling	1.3	7		Stand has regenerated. Aspen regen 15-20 foot tall some pine coming in underneath looks good at this time.
89	4311 - Pine, Aspen Mix	High Density Sapling	9.9	7		Stand has regenerated. Regenerateing jack pine with decidous mixed in. Jack pine are 5-10 foot and the aspen are 5-20 foot. Aspen are focused in pockets.
90	4319 - Mixed Upland Forest	High Density Pole	10.7	42	81-110	Mixed stand of aspen and balsam fir, with scattered pine and spruce along the edges.
91	6112 - Lowland Aspen	High Density Sapling	9.5	17		Aspen regeneration stand, with balsam fir and balsam poplar mixed in.
92	6124 - Lowland Spruce-Fir	High Density Pole	8.9	55	51-80	Lowland Spruce fir tamarack stand, with a cedar domiated inclusion. Windthrown balsam fir throughout stand.
93	6121 - Tamarack	Medium Density Pole	28.2	62	51-80	Low wet ground. variable dominate cover type, mainly Tamarack. Where slight elevation changes, larger trees present.
94	6121 - Tamarack	High Density Sapling	1.7	12		Small diameter Tamarack stand. May be small in size due to water table.

Report 9 – Nonforested Stands

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	6220 - Alder/willow	6.0	No	Unspecified	Alder/willow dominated stand. Pocket of black spruce found within stand boudary.
2	3301 - Low Density Deciduous Tree	2.6	Yes	Lowland Spruce/Fir	Black Spruce regeneration site.
3	6220 - Alder/willow	14.1	No	Unspecified	Non-forested low density trees. Willow/alder dominated stand. Pockets of Black Spruce within stand.
8	6220 - Alder/willow	4.3	No	Unspecified	
13	3303 - Mixed Low Density Trees	2.6	No	Unspecified	Flooded black ash stand. Lots of blow down. Cattails and other lowland grasses. EAB present.
14	6220 - Alder/willow	2.2	No	Unspecified	Tag alder stand with standing water.
21	6229 - Mixed lowland shrub	10.4	No	Unspecified	
22	3303 - Mixed Low Density Trees	30.4	No	Unspecified	Standing water throughout stand.
28	6220 - Alder/willow	224.2	No	Unspecified	Stand is mostly alder with scattered trees. Walking on ice most of the time in this stand. Abundant snowshoe hare tracks.
34	3303 - Mixed Low Density Trees	7.6	No	Unspecified	Low density trees
37	6220 - Alder/willow	33.0	No	Unspecified	
42	11 - Low Intensity Urban	2.4	No	Unspecified	Small pocket of sumac with a few trees and grass borders adjoining landowners yard.
45	6220 - Alder/willow	235.9	No	Low	Stand swapped from Forested to Non-Forested.
46	3302 - Low Density Conifer Trees	10.2	No	Unspecified	
54	3303 - Mixed Low Density Trees	6.5	No	Unspecified	Grass dominated opneing with some sumac. Clump of white pine within the opening and a few scattered jack pine.
55	3303 - Mixed Low Density Trees	36.7	No	Unspecified	A mix of low density trees with tag alder dominating the covertype. East end is more dense with trees than the west end,

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
58	6220 - Alder/willow	47.6	No	Unspecified	Stand is mostly alder with scattered decidous and conifer trees.
72	6220 - Alder/willow	276.5	No	Unspecified	Lowland area dominated by alder and willow. scattered trees found throughout and pockets of dense trees.
77	3303 - Mixed Low Density Trees	1.2	No	Low	
83	3303 - Mixed Low Density Trees	2.2	No	Low	
87	6229 - Mixed lowland shrub	3.4	No	Unspecified	Short gage rail borders southern edge. Alder and other mixed wetland shrubs scattered in pockets with marsh grasses.