Compartment Review Presentation

Escanaba Forest Management Unit

Compartment 51
Entry Year 2016
Acreage: 1,268
County Menominee
Management Area: Green Bay Lake Plain

Revision Date: 06/20/2014

Stand Examiner: Dustin Salter

Legal Description:

T35N R25W Section's 4 and 9

Identified Planning Goals:

The northern half of this compartment is comprised primarily of pine and aspen on ridges within a large complex of lowland forest types and the southern half is comprised of low quality hardwood stands. Last entry period there were many of the lowland conifer stands that were harvested to regenerate them, they are successfully regenerating. This entry period there are a number of low quality hardwood stands that are prescribed for a regeneration harvest. These stands are comprised of mainly red maple and green and black ash. These stands will be regenerated primarily via stump sprouting. Some of the stands heavier to ash will be harvested with the intention of moving them towards other species, such as aspen, balm, balsam fir, and white pine. A couple of the hardwood stands were harvested in the last twenty years, opening them up to allow regeneration to get started. The advanced conifer regeneration needs to be released before it becomes stunted. There are two lowland conifer stands precribed for harvest as well. The Eastern Larch Beetle has already caused mortality in some of the tamarack.

Soil and topography:

This compartment contains Wainola Fine Sand; Deford-Wainola-Rousseau Complex; Tawas-Deford Association; Loxley-Dawson Association; and Deford Mucky Fine Sand among others. This compartment primarily is composed of black muck, which is poorly drained and fine sand, which is well drained. Terrain is nearly level, with a few rolling hills.

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

This compartment is on the southern end of a block of state land that is approximately 8 miles wide and 20 miles long, that extends into Delta County. This compartment is primarily blocked in with state land. There are only 4 private forties in and around this compartment, with each of them having a hunting camp. Hunting and ORV riding are the primary uses of this area.

Unique Natural Features:

Elwood Creek flows through the southern third of the compartment.

Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

Special Management Designations or Considerations:

No

Watershed and Fisheries Considerations:

Elwood Creek flows through the southern third of the compartment.

Wildlife Habitat Considerations:

The north half of this compartment is wet and covered with lowland forest types such as cedar, spruce, bog, swamp conifer, and lowland brush. These forest types are best suited for the wet soil conditions. The south half of the compartment demonstrates a natural tendency to produce pine, and several upland and mixed hardwoods stands will be managed to encourage white pine in the understory. In addition, several swamp hardwood stands containing good quality ash will be cut and regenerated. One large (49 acre) aspen stand will be clearcut and will provide good early successional wildlife habitat. Overall, game species including white-tailed deer, wild turkey, ruffed grouse, and woodcock will benefit from the creation of early successional habitat. Other species such as blackburnian warbler and red shoulder hawk will benefit from the retention of some hemlock and mixed conifer stands.

Mineral Resource and Development Concerns and/or Restrictions

Vehicle Access:

The Camp “O” Road and Elwood Creek Road provide the main access into the compartment. There are a number of two-track roads that branch off of the two main roads. The Camp "O" Road runs along the southern edge of the compartment and the Elwood Creek Road runs through the northern half.

Survey Needs:

Two registered corners may need to be set.

Recreational Facilities and Opportunities:

A portion of the Forest Island Orv Trail runs throught the northeastern corner of the compartment. There are no other developed facilities within the compartment.

Fire Protection:

There is a very low probability of a large wildfire in this compartment due to the forested landscape. In the northern portion there are some pine ridges, but they are surrounded by lowland forest types. And in the south, most of the forest contains hardwood. The Elwood Creek provides a water source. The upland areas of the compartment have good vehicle access.

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: 51
T35N R25W Sec. 4, 9
County: Menominee
Unit: Escanaba
YOE: 2016
Acres: 1,268 GIS Calculated
Examiner: Dustin Salter
Map Revised: 05/16/2014
Map Phase: Pre-Review

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

4
9

DEPARTMENT OF NATURAL RESOURCES · MICHIGAN · DNR

Legend

- Survey Grade
- Remonumented Section Corners
- Miris Corners
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- ORV Trails
- ORV Routes
- ORV Trail
- ORV Route
- Stream
- Intermittent Stream
- Lakes and Rivers

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Planting (tree species)
- Treatments w/ Site Condition

Planned Regeneration

- Natural

Forest Stands

Level 3

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

Non-Forest Stands

Level 3

- 330 - Low-Density Trees
- 622 - Lowland Shrub
- 629 - Mixed non-forested wetland
- State Forest Land

1 4319-UM5 · 2 6118-E5 · 3 4134-A6 · 4 622-D0 · 5 4220-W5 · 6 330-U0 · 7 6132-LM5 · 8 330 8J0 · 9 4112-M5 · 10 330-U0 · 11 6122-S6 · 12 622-L0 · 13 4112-M4 · 14 4112-M4 · 15 622-D0 · 16 4221-R8 · 17 4220-W5 · 18 6121-T6 · 19 6129-Q6 · 20 4221-R5 · 21 4221-R6 · 22 6118-E5 · 23 622-D0 · 24 4226-MC2 · 25 4229-MC6 · 26 6122-S6 · 27 4130-A6 · 28 6120-C5 · 29 622-L0 · 30 6127-Q7 · 31 4235-H9 · 32 330-U0 · 33 6121-T1 · 34 4319-UM6 · 35 629-L0 · 36 4133-A3 · 37 330-U0 · 38 4319-UM6 · 39 6115-E6 · 40 4191-MD6 · 41 4235-H9 · 42 6120-C6 · 43 4311-UM6 · 44 629-L0 · 45 4112-M5 · 46 4191-MD6 · 47 4235-H9 · 48 4191-MD6 · 49 6117-E3 · 50 4235-H9 · 51 4113-M9 · 52 6117-E5 · 53 6115-E6 · 54 4136-A2 · 55 429 -MC5 · 56 6115-E6 · 57 4235-H9 · 58 4112-M6 · 59 6119-E4 · 60 6119-E6 · 61 4199-MD3

Schuster

Camp "O" Rd

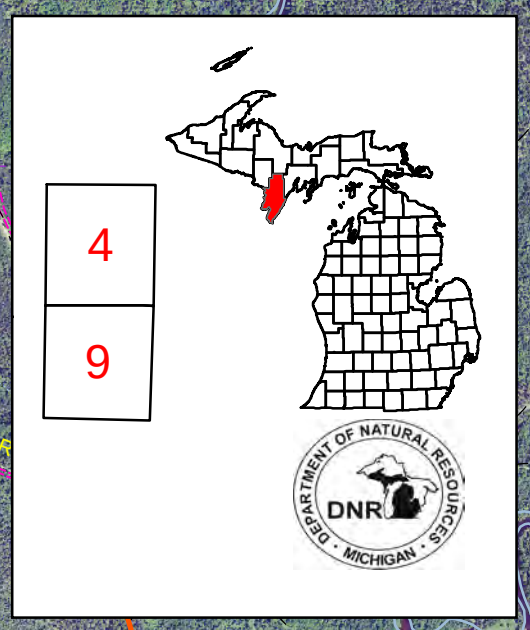
87°26'0"W · 87°25'0"W · 87°24'0"W · 87°23'0"W
45°28'0"N · 45°27'0"N · 45°26'0"N

1 0.5 0 1 Miles

Stand Boundary Map

Compartment: 51
T35N R25W Sec. 4, 9
County: Menominee
Unit: Escanaba
YOE: 2016
Acres: 1,268 GIS Calculated
Examiner: Dustin Salter
Map Revised: 05/16/2014
Map Phase: Pre-Review

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



Legend

- Remonumented Section Corners
- Miris Corners
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- ORV Trails
- ORV Routes
- ORV Trail
- ORV Route
- Stream
- Intermittent Stream
- Stand Boundaries

Forest Stands

Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
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Non-Forest Stands

Level 3

- 330 - Low-Density Trees
- 622 - Lowland Shrub
- 629 - Mixed non-forested wetland

1 Stand 4: 4319-UM6
2 6118-E5
3 4134-A6
4 622-D0
5 4220-W5
6 330-U0
7 6132-LM5
8 330-U0
9 4112-M5
10 330-U0
11 6122-S6
12 622-L0
13 4112-M4
14 4112-M4
15 622-D0
16 4221-R8
17 4220-W5
18 6121-T6
19 6129-Q6
20 4221-R5
21 4221-R6
22 6118-E5
23 622-D0
24 4226-MC2
25 4229-MC6
26 6122-S6
27 4130-A6
28 6120-C5
29 622-L0
30 6127-Q7
31 4235-H9
32 330-U0
33 6121-T1
34 4319-UM6
35 629-L0
36 4133-A3
37 330-U0
38 4319-UM6
39 6115-E6
40 4191-MD6
41 4235-H9
42 6120-C6
43 4311-UM6
44 629-L0
45 4112-M5
46 4191-MD6
47 4235-H9
48 4191-MD6
49 6117-E3
50 4235-H9
51 4113-M9
52 6117-E5
53 6115-E6
54 4136-A2
55 429-MC5
56 6115-E6
57 4235-H9
58 4112-M6
59 6119-E4
60 6119-E6
61 4199-MD3

Stand 9

1 0.5 0 1 Miles

87°26'0"W 87°25'0"W 87°24'0"W
45°28'0"N 45°27'0"N 45°26'0"N

Special Conservation Areas & Site Conditions Map

Compartment: 51
T35N R25W Sec. 4, 9
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Unit: Escanaba
YOE: 2016
Acres: 1,268 GIS Calculated
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Map Revised: 05/16/2014
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Stand # 23
Stocking Density
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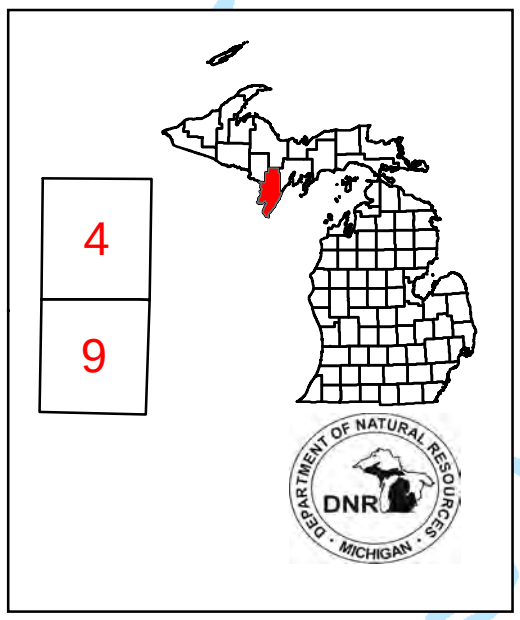
Level 3 Level 4 OI Code
Cover Type Code



Legend

- Miris Corners
- Stand Boundaries
- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)

Site Condition Type

Available Factors W/ Constraints

- 4A: No merchantable products (see product standards)
- 5B: Retention for regeneration purposes

Unavailable Factors

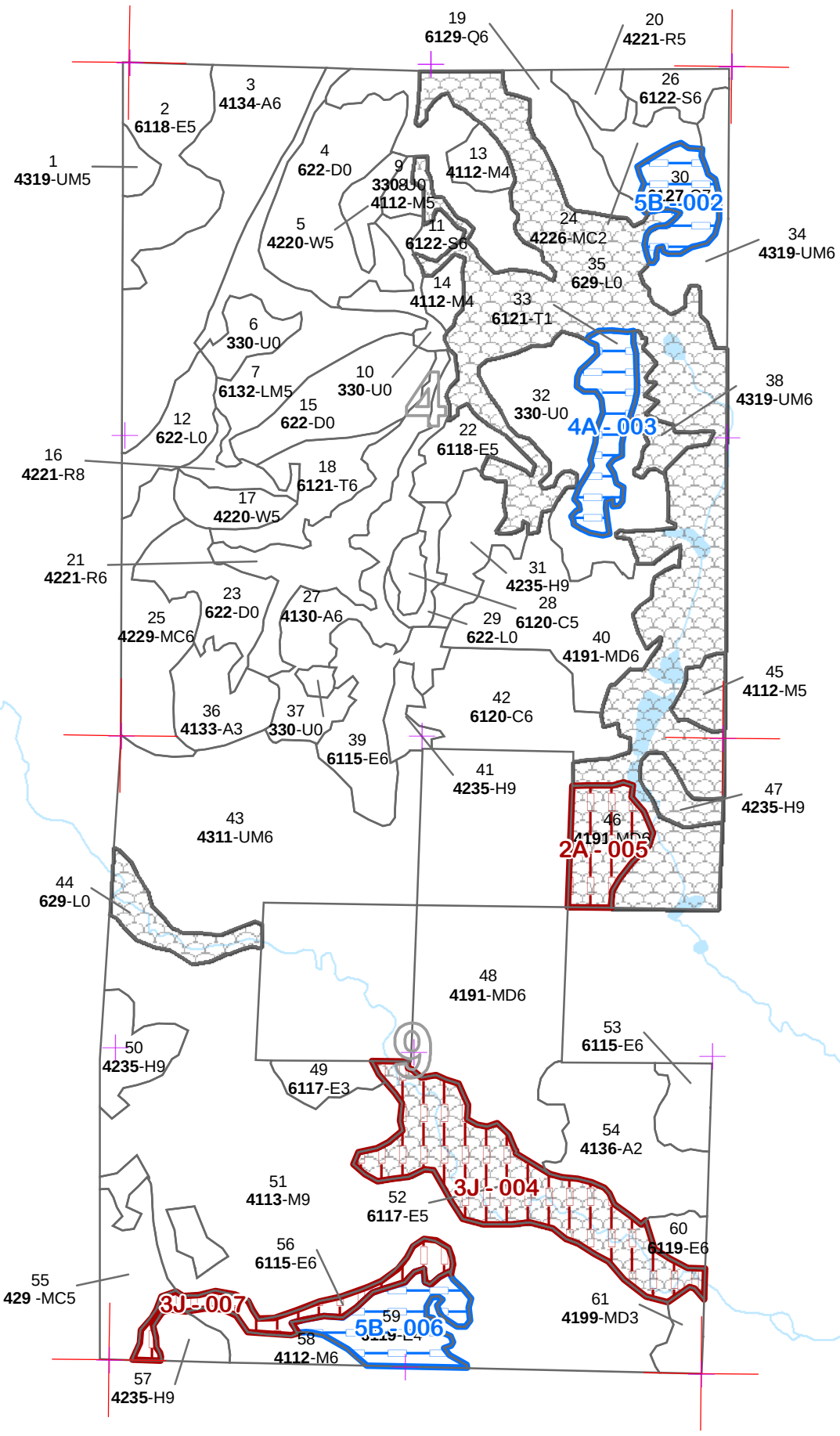
- 2A: Adjacent landowner denied access
- 3J: Water quality / BMPs (stream, river, or lake)

Proposed SCA's

- Proposed SCA
- SCA Removal

Special Conservation Areas

- Cold Water Streams
- Cold Water Lakes



1 0.5 0 1 Miles

87°26'0"W 87°25'0"W 87°24'0"W 87°23'0"W
45°29'0"N 45°28'0"N 45°27'0"N 45°26'0"N

Report 1 – Total Acres by Cover Type and Age Class

Escanaba Mgt. Unit **Compartment 051 Year of Entry 2016**

Dustin Salter : 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	45	0	28	0	49	0	0	0	0	0	0	0	0	0	**122**
Cedar	0	0	0	0	0	0	0	0	0	0	0	29	4	0	**33**
Hemlock	0	0	0	0	0	0	0	0	0	5	0	0	41	0	**47**
Low-Density Trees	71	0	0	0	0	0	0	0	0	0	0	0	0	0	**71**
Lowland Conifers	0	0	0	0	0	0	0	0	0	12	0	0	14	0	**26**
Lowland Deciduous	0	0	0	6	0	0	25	0	56	50	0	0	10	0	**147**
Lowland Mixed Forest	0	0	0	0	0	0	0	0	31	0	0	0	0	0	**31**
Lowland Shrub	171	0	0	0	0	0	0	0	0	0	0	0	0	0	**171**
Lowland Spruce/Fir	0	0	0	0	0	3	8	0	0	0	0	0	0	0	**10**
Mixed Upland Deciduous	5	0	0	36	0	0	0	0	14	56	0	0	0	0	**112**
Natural Mixed Pines	0	0	9	0	0	0	0	25	0	0	0	0	0	0	**34**
Northern Hardwood	0	0	0	0	0	0	0	0	14	184	0	0	0	0	**197**
Red Pine	0	0	0	0	5	30	0	0	0	0	0	0	0	0	**35**
Tamarack	0	0	0	0	0	0	13	0	0	15	0	0	0	0	**28**
Treed Bog	73	0	0	0	0	0	0	0	0	0	0	0	0	0	**73**
Upland Conifers	0	0	0	15	0	0	0	0	0	0	0	0	0	0	**15**
Upland Mixed Forest	0	0	0	94	3	0	0	0	0	6	0	0	0	0	**103**
White Pine	0	0	0	0	8	0	0	6	0	0	0	0	0	0	**13**
Total	**365**	**0**	**37**	**152**	**65**	**33**	**46**	**30**	**114**	**328**	**0**	**29**	**69**	**0**	**1268**

Report 2 – Proposed Treatment Summaries

Escanaba Mgt. Unit
Year of Entry 2016

Compartment 051
Total Compartment Acres: 1,268

Acres by Treatment Type

Commercial Harvest - 404	Tree Planting - 7	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	49	0	0	0	0	0	**49**
Lowland Coniferous Forest	14	0	15	0	0	0	**29**
Lowland Deciduous Forest	44	0	0	0	0	0	**44**
Mixed Upland Deciduous	70	0	0	0	0	0	**70**
Natural Pines	0	0	25	0	0	0	**25**
Northern Hardwood	188	0	0	0	0	0	**188**
Total	**365**	**0**	**39**	**0**	**0**	**0**	**404**

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
3	33051003-Cut	48.6	4134 - Aspen, Spruce/Fir	High Density Pole	49		Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal

Prescription Specs: Clearcut with Reserves - Cut all trees greater than 3" inches; except white pine and leave enough retention patches to have 3% retention. The retention patches should contain some of the younger patches of balsam fir. In addition mark some scattered spruce and balsam fir seed trees.

Other Comments: High quality aspen stand with dense pockets of balsam fir.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
8	33051008-Cut	2.9	4112 - Maple, Beech, Cherry Association	Medium Density Pole	85	1-50	Harvest	Clearcut with Reserves	4113 - R.Maple, Conifer	Cmpt. Review Proposal

Prescription Specs: Clearcut with Reserves - cut all trees greater than 4 inches; except white pine and any cedar or hemlock if present. The retention will be the white pine, cedar, and hemlock. This stand is being managed primarily for red maple, but there is already some conifer regen present.

Other Comments: This stand was shelterwood cut in 2010 on contract 034-06-01. The red maple has stumped sprouted very well, we should have clearcut this stand in the last harvest. So, the overstory should be removed to let the stand regenerate fully to red maple, which is the direction it is going.

Next Steps: Regeneration survey next inventory clycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
18	33051018-Cut	14.6	6121 - Tamarack	High Density Pole	91		Harvest	Seed Tree with Reserves	612 - Lowland Coniferous Forest	Cmpt. Review Proposal

Prescription Specs: Seed Tree Cut with Reserves - Cut all trees greater than 3 inches; except leave enough tamarack, spruce, white pine, and red pine seed trees to provide an adequate seed source and to meet the retention guidelines. This stand will be managed for a mix of the current species, with tamarack and spruce having the highest percentage,

Other Comments: Overall this stand is a poor quality lowland conifer stand, with some higher quality areas within. The stems are stunted and not growing much any more. The north stand line will vary some to include as much of the merchantable timber we can salvage along the edge of the treed bog.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
19	33051019-Cut	14.0	6129 - Mixed Coniferous Lowland Forest	High Density Pole	122		Harvest	Clearcut with Reserves	612 - Lowland Coniferous Forest	Cmpt. Review Proposal

Prescription Specs: Clearcut with Reserves - Cut all trees greater than 4 inches; except hemlock, some tamarack seed trees and enough retention patches to have 10% overall retention. The retention patches should be centered on dense pockets of higher quality cedar. This stand will be managed for the current mix of species, but tamarack is the desired species.

Other Comments: Decent quality cedar with mature tamarack and some other lowland species mixed in. The Eastern Larch Beetle is present and there is already tamarack mortality from the beetle. The stand needs to be cut now before the tamarack becomes un-merchantable and we lose a viable seed source. There was no deer sign in this stand in the 2013-14 winter.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
22	33051022-Cut	9.9	6118 - Lowland Deciduous with Cedar	Medium Density Pole	127		Harvest	Clearcut with Reserves	6118 - Lowland Deciduous with Cedar	Cmpt. Review Proposal

Prescription Specs: Clearcut with Reserves - Cut all species greater then 3 inches; except leave all cedar and hemlock. The retention will be the cedar, hemlock, and advanced conifer regeneration. This stand is being managed for lowland hardwoods and mixed conifer.

Other Comments: Overall this stand is lowland deciduous with some areas of cedar. Within areas of the stand there is quite a bit of spruce and balsam fir regen.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
25	33051025-Cut	24.6	42290 - Natural Mixed Pine	High Density Pole	74	81-110	Harvest	Seed Tree with Reserves	42260 - Natural Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Seed Tree Harvest with Reserves - cut all merchantable trees; except leave some pine seed trees. The pine seed trees along with the advanced pine regen will make up the retention. This stand will be managed for a mix of pine and aspen.

Other Comments: This stand has 3 distinct age classes of pine and some old mature aspen. The understory is full of advanced pine regen that is becoming stunted with the dense overstory. With harvesting the stand now we would release the pine regen and also maintain aspen in the stand.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
39	33051039-Cut	21.8	6115 - Lowland Ash	High Density Pole	93		Harvest	Clearcut with Reserves	611 - Lowland Deciduous Forest	Cmpt. Review Proposal

Prescription Specs: Clearcut with Reserves - Cut all trees greater then 4 inches; except leave all hemlock(less than 2%), and enough retention pockets to meet the 3% guideline. The retention pockets should be centered on the densest/highest quality patches of cedar. In addition mark some spruce seed trees to leave. Manage this stand primarily for lowland hardwoods and spruce.

Other Comments: Mature, good qulity lowland ash stand. There is quite a bit of advanced spruce regeneration throughout the stand.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
45	33051045-Cut	5.3	4112 - Maple, Beech, Cherry Association	Medium Density Pole	86		Harvest	Clearcut	4113 - R.Maple, Conifer	Cmpt. Review Proposal

Prescription Specs: Clearcut - Cut all trees greater than 4 inches. Due to the small size of the stand the retention guidelines will not be met. This stand will be managed for a mix of red maple, spruce/fir, and white pine. The adjacent stand in comp 55 is on contract to be cut, this stand could be added to that contract.

Other Comments: This stand was listed as Potential Old Growth last decade, this designation should be removed. This stand was designated before because it provided mature forest conditions along the drain to the west. This drain has been dry for ten plus years. Stand is mature red maple with an understory of conifer. The overstory should be removed to release the advanced conifer regeneration.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
48	33051048-Cut	56.0	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	90	81-110	Harvest	Clearcut with Reserves	4199 - Other Mixed Upland Deciduous	Cmpt. Review Proposal

Prescription Specs: Clearcut with Reserves - Cut all trees greater than 3 inches; except cedar, hemlock, and mark some white pine and spruce seed trees. There will be about 10% retention left. Manage this stand for a mix of maple, ash, balsam fir, and white pine.

Other Comments: Stand was thinned in 2004 on contract 044-01-01. Mature hardwood stand with thick balsam fir and white pine regen. About 60% of this stand is upland, with mostly red maple and the other 40% is lowland with a higher percentage of ash. The ash should be harvested prior to the arrival of Emerald Ash Borer.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
51	33051051-Cut	172.1	4113 - R.Maple, Conifer	High Density Log	90	81-110	Harvest	Clearcut with Reserves	4113 - R.Maple, Conifer	Cmpt. Review Proposal

Prescription Specs: Clearcut with Reserves - Cut all merchantable species; except leave all hemlock and cedar. In addition red line out some of the dese pockets of hemlock and cedar, leaving all of the other species within them. Also, mark some scattered white pine seed trees to leave. Also, retain the floodplain of the Elwood Creek in the northwestern part of the stand. In total there will be about 15 to 20% retention left in this stand. This stand is being managed for a mix of red maple and white pine primarily.

Other Comments: Stand was thinned in 1995 on contract 051-92-01. Mature red maple stand with a dense understory of white pine regeneration. The pine needs to be released before it becomes stunted, the pine regen is about 20' tall and 20 years old.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
53	33051053-Cut	7.7	6115 - Lowland Ash	High Density Pole	80	81-110	Harvest	Clearcut	611 - Lowland Deciduous Forest	Cmpt. Review Proposal

Prescription Specs: Clearcut - Cut all trees greater than 3 inches; except the cedar. Due to the small stand size 3% retention will not be left. This stand will be managed for a mix of ash, aspen and balsam fir.

Other Comments: Mature lowland ash stand. This stand should be harvested prior to the arrival of the Emerald Ash Borer. There is enough aspen within the stand to convert a portion of the stand to aspen.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
58	33051058-Cut	7.8	4112 - Maple, Beech, Cherry Association	High Density Pole	97	51-80	Harvest	Clearcut with Reserves	4113 - R.Maple, Conifer	Cmpt. Review Proposal

Prescription Specs: Clearcut with Reserves - Cut all trees greater than 4 inches; except white pine, cedar, and hemlock. The retention will be a mix of the designated trees to leave along with the advanced conifer regeneration. This stand will be managed for a mix of red maple, white pine, and spruce/fir. There is a couple acres of this stand that extends into stand 42 in Comp 54 to the south that should also be harvested at the same time.

Other Comments: Stand was thinned in 1994 on contract 051-92-01. Stand was opened up quite a bit in the previous harvest, allowing white pine, balsam fir, and spruce to seed in. The regen is now at a point that it needs to be released before it becomes stunted.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
60	33051060-Cut	4.6	6119 - Mixed Lowland Deciduous Forest	High Density Pole	80		Harvest	Clearcut	611 - Lowland Deciduous Forest	Cmpt. Review Proposal

Prescription Specs: Clearcut - Cut all trees greater than 3 inches. No retention will be left due to the small size of the stand. This stand will be managed for a mix of aspen, balm, and ash.

Other Comments: Mature ash stand with a significant amount of aspen and balm mixed in. This stand should be harvested now, before the Emerald Ash Borer arrives. There is enough aspen and balm to convert the majority of this stand to an aspen/balm cover type.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
6	NF_33051006-Plant	7.4	3302 - Low Density Conifer Trees				Tree Planting	Machine Plant	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Trench, herbicide (if needed), and plant red pine seedlings per TMS recommendations.

Other Comments: This stand was seed tree cut in 2009 on contract 034-06-01. Red and white pine seed trees were left. The site was than mechanically scarified in the fall of 2011 on FTP #33-667 to expose mineral soil to regenerate red pine. The mechanical scarification and natural red pine regeneration has failed. The stand should be planted with red pine.

Next Steps: Regeneration survey following the planting. WLD will plant hard and soft mast along perimeter and in locations not accessed by the trencher.

Proposed Start Date: 10/01/2015

Total Treatment Acreage Proposed: 397.4

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
46	33051046-Cut	13.8	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	81	81-110	Harvest	Clearcut with Reserves	4113 - R.Maple, Conifer	Cmpt. Review Proposal

Prescription Specs: Clearcut with Reserves - Cut all hardwoods greater than 3 inches, cut all balsam fir and spruce greater than 4 inches. Retain all hemlock, cedar, and white pine. In addition red line out some of the densest pockets of hemlock, retaining the other species within that pocket. This stand will be managed for a mix of red maple and conifer. This stand should be factor limited due to access, we will have to obtain permission from two different landowners to access it.

Other Comment: Stand was listed as Potential Old Growth last entry, this designation should be removed. This stand has no unique qualities, it was originally designated to provide mature forest conditions along the drain to the east, but the drain has been dried up for over ten years. Overall this stand is a mature red maple stand with isolated pockets of hemlock. There is a dense understory of balsam fir throughout most of the stand, that should be released.

Next Steps: Regeneration survey next inventory cycle.

Proposed Start Date: 10/01/2015

Limiting Factor: 2A: Adjacent landowner denied access

Total Treatment Acreage Proposed: 13.8

Report 5 – Site Conditions

Escanaba Mgt. Unit

Dustin Salter : Examiner

Compartment 051

Year of Entry 2016

Availability for Management

Total Acres	Acres Available	Acres Not Available		Dominant Site Conditions No	5B	4A	3J	2A
122	122		**Aspen**	122				
33	33		**Cedar**	33				
47	47		**Hemlock**	47				
26	26		**Lowland Conifers**	14	12			
150	95	54	**Lowland Deciduous**	79	17		54	
31	31		**Lowland Mixed Forest**	31				
10	10		**Lowland Spruce/Fir**	10				
112	98	14	**Mixed Upland Deciduous**	98				14
34	34		**Natural Mixed Pines**	34				
194	194		**Northern Hardwood**	194				
35	35		**Red Pine**	35				
28	28		**Tamarack**	15		13		
15	15		**Upland Conifers**	15				
103	103		**Upland Mixed Forest**	103				
13	13		**White Pine**	13				
952	884	68	Total Forested Acres	843	28	13	54	14
	93%	7%	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
002		**Available**	**5B: Maintain for regeneration purposes**	12				

Comments:

The residual trees retained are providing a seed source and retention.

Site No.	Dominant Site Cond	Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
003		**Available**	**4A: No merchantable products (see product standards)**	13				

Comments:

This stand contains only isolated pockets of merchantable timber, but overall the stand is mostly sub-merchantable stems.

004	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	44

Comments:
Elwood Creek flows through this stand. This stand is the primary floodplain of the creek.

005	**Not Available**	**2A: Adjacent landowner denied access**	14

Comments:
Access to this stand will be through a few private landowners, access has not been granted at this point.

006	**Available**	**5B: Maintain for regeneration purposes**	17

Comments:
This stand was shelterwood cut, so once the understory is established the overstory will be removed. This will occur in 10 to 20 years.

007	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	11

Comments:
There is a small drain that flows through this stand, so to protect the drain the timber should not be harvested.

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
	Potential Old Growth		**SCA Removal**	5.3
Comments				
	Potential Old Growth		**SCA Removal**	5.8
Comments				
	Potential Old Growth		**SCA Removal**	6.1
Comments				
	Potential Old Growth		**SCA Removal**	9.9
Comments				
	Potential Old Growth		**SCA Removal**	13.8
Comments				
	Potential Old Growth		**SCA Removal**	43.5
Comments				
	Potential Old Growth		**SCA Removal**	144.0
Comments				

Report 7 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

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.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4319 - Mixed Upland Forest	Medium Density Pole	2.9	49		Stand was shelterwood cut in 1999 on contract 42-93-01. This stand was cut with the larger part of the stand in comp 52. There is about 50% canopy.
2	6118 - Lowland Deciduous with Cedar	Medium Density Pole	25.2	63		Young lowland hardwood stand with good quality cedar along the transition zone and poor quality cedar throughout the rest of the stand.
3	4134 - Aspen, Spruce/Fir	High Density Pole	48.6	49		High quality aspen stand with dense pockets of balsam fir.
5	42200 - Natural White Pine	Medium Density Pole	5.6	74	1-50	Stand was clearcut in 2009 on contract 034-06-01; except some of the pine was retained. This stand is now a two aged stand, with pine in the overstory and aspen in the understory. There is also some pine seeding in.
7	6132 - Mixed Lowland Forest with Cedar	Medium Density Pole	30.6	83		Very poor quality stand- mostly low quality ash and cedar.
8	4112 - Maple, Beech, Cherry Association	Medium Density Pole	2.9	85	1-50	This stand was shelterwood cut in 2010 on contract 034-06-01. The red maple has stumped sprouted very well, we should have clearcut this stand in the last harvest. So, the overstory should be removed to let the stand regenerate fully to red maple, which is the direction it is going.
11	6122 - Black Spruce	High Density Pole	2.8	59		Overall the stand is a young mixed conifer stand. This stand has a low site index.
13	4112 - Maple, Beech, Cherry Association	Low Density Pole	5.4	85	1-50	Stand was shelterwood cut in 2010 on contract 034-06-01. Stand was being managed for a mix of red maple and white pine. There is quite a bit of advanced white pine and spruce regeneration. Also, most of the red maple cut have stump sprouted and there is more white pine and spruce seeding in. The deer have heavily browsed the maple and pine regen.
14	4112 - Maple, Beech, Cherry Association	Low Density Pole	3.8	90	1-50	Stand was shelterwood cut in 2010 on contract 034-06-01. This stand is being managed for a mix of maple and white pine primarily. Currently the stand is filling in with maple stump sprouts, white pine, red pine, and spruce.
16	42210 - Natural Red Pine	Medium Density Log	5.5	55	81-110	Stand was thinned in 2009 on contract 034-06-01. Good quality red pine stand with a dense understory of aspen sprouts. Most of th easpen sprouts should die out over time due to the thick overstory.
17	42200 - Natural White Pine	Medium Density Pole	7.7	40	51-80	Stand was cut in 2009 on contract 034-06-01. All of the aspen and pine greater then 12 inches was cut to release the advanced white pine regen. Previously this stand had been shelterwood cut to push it towards white pine. The pine ranges from 5 to 60 years in age, 40 is the mean age. there is also some aspen and maple sprouts from the last harvest, which the deer have heavily browsed.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
18	6121 - Tamarack	High Density Pole	14.6	91		Overall this stand is a poor quality lowland conifer stand, with some higher quality areas within. The stems are stunted and not growing much any more. The north stand line will vary some to include as much of the merchantable timber we can salvage along the edge of the treed bog.
19	6129 - Mixed Coniferous Lowland Forest	High Density Pole	14.0	122		Decent quality cedar with mature tamarack and some other lowland species mixed in. The Eastern Larch Beetle is present and there is already mortality from the beetle. The stand needs to be cut now before the tamarack becomes un-merchantable and we lose a viable seed source. There was no deer sign in this stand in the 2013-14 winter.
20	42210 - Natural Red Pine	Medium Density Pole	5.4	45	1-50	Stand was cut in 2009 on contract 025-06-01. The cedar, hemlock, white pine and red pine less then 10 inches were retained. There is heavy aspen regen throughout the stand following the harvest. Some of the aspen will die out where the overstory is dense.
21	42210 - Natural Red Pine	High Density Pole	24.5	55	81-110	Stand had its first thinning in 2009 on contract 034-06-01. Overall a very good quality natural red pine stand.
22	6118 - Lowland Deciduous with Cedar	Medium Density Pole	9.9	127		Overall this stand is Lowland Deciduous with some areas of cedar. Within areas of the stands there is quite a bit of spruce and balsam fir regen.
24	42260 - Natural Pine, Mixed Deciduous	Medium Density	9.2	25		Stand was clearcut in 2009 on contract 025-06-01. Some pine seed trees were retained along with some advanced white pine, red pine, and spruce regen. Since the harvest there are maple and aspen sprouts and more white pine and spruce regen. With over 2'+ of snow it was hard to see all of the regen present.
25	42290 - Natural Mixed Pine	High Density Pole	24.6	74	81-110	This stand has 3 distinct age classes of pine and some old mature aspen. The understory is full of advanced pine regen that is becoming stunted with the dense overstory. With harvestin gthe stand now we would release the pine regen and also maintain aspen in the stand.
26	6122 - Black Spruce	High Density Pole	7.6	65		Overall the stand is a mix of younger spruce and white pine with some upland knobs containing mature red pine. Wait till the majority of the spruce and white pine is merchantable and then harvest this stand.
27	4130 - Aspen	High Density Pole	27.8	26		Stand was clearcut in 1988 on contract 20-86-01. Good quality aspen stand.
28	6120 - Lowland Cedar	Medium Density Pole	3.9	127		Low quality cedar stand with some tamarack mixed in. There are not enough of the shorter lived species to harvest them.
30	6127 - Lowland Pine	Low Density Log	11.6	90		Stand was clearcut in 2009 on contract 025-06-01. The cedar, hemlock, white pine, and red pine less then 10 inches were retained. The open areas are filling in with white pine, red maple, and spruce primarily. There was over 2' of snow so I couldn't see all of the regen.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
31	42350 - Upland Hemlock	High Density Log	13.2	137	111-140	This stand was thinned in 2009 on contract 034-06-01. There are some hemlock seedlings showing up, even above the 1'+ of snow. There is also some white pine and maple regen. Overall the stand is too dense to get widespread hemlock regen.
33	6121 - Tamarack	Low Density Sapling	13.1	60		Very low quality lowland conifer stand - The overstory is stunted, but in the understory there is quite a bit of tamarack and spruce saplings that are showing good height expression. There are also areas with dense areas of tagalder.
34	4319 - Mixed Upland Forest	High Density Pole	14.5	38		Stand is heavy to aspen and red maple with areas dense conifer.
36	4133 - Aspen, Mixed Pine	High Density Sapling	14.6	5		This stand was clearcut in 2009 on contract 034-06-01. Red pine seed trees were retained. This stand was to be managed for red pine. This stand was on FTP 33-667 to be mechanically scarified in 2011, but there were too many hills so this stand was not completed. This stand has became fully stocked with aspen and mixed pine regen, so the objective will become a aspen/pine mix. There was quite a bit of advanced pine regen present when the stand was cut. FTP 33-667 should be cancelled for this stand.
38	4319 - Mixed Upland Forest	High Density Pole	6.1	91		This stand was designated as Potential Old Growth last entry. This designation can be removed, this is not an unique timber type. The drain that used to flow through along the east edge of the stand has been dried up for over ten years. The lowland to the east is primarily marsh grass with some conifer seedlings. This stand is mature, but this stand does not contain enough volume to cut it by itself this decade, wait till next decade and cut it with stand 40 to the south.
39	6115 - Lowland Ash	High Density Pole	21.8	93		Mature, good qulity lowland ash stand. There is quite a bit of spruce advanced regeneration throughout the stand.
40	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	36.5	39		Good quality aspen stand with some dense pockets of hemlock on the north end.
41	42350 - Upland Hemlock	High Density Log	5.0	135	141-170	Stand was last thinned in 1988 on contract 020-86-01. The majority of the short lived species have been removed from this stand.
42	6120 - Lowland Cedar	High Density Pole	28.8	114		Overall an almost pure cedar stand, which has higher quality cedar in the north and as you go south the quality goes down. There were 5 east-west strips cut out of this stand in 1975. These strips have filled in with balsam fir, spruce, birch, maple, and balm. I did not see any cedar regen. These strips have filled in so dense that there growth is stunted. There was no deer sign in here this winter.
43	4311 - Pine, Aspen Mix	High Density Pole	79.8	37		This stand was clearcut in the 1970's; except for the pine, cedar and hemlock. In 2004 the mature pine was cut out of this stand on contract 046-01-01. This stand is a mix of aspen, red maple, and white pine primarily.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
45	4112 - Maple, Beech, Cherry Association	Medium Density Pole	5.3	86		This stand was listed as Potential Old Growth last decade, this designation should be removed. This stand was designated before because it provided mature forest conditions along the drain to the west. This drain has been dry for ten plus years. Stand is mature red maple with an understory of conifer. The overstory should be removed to release the advanced conifer regeneration.
46	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	13.8	81	81-110	Stand was listed as Potential Old Growth last entry, this designation should be removed. This stand has no unique qualities, it was originally designated to provide mature forest conditions along the drain to the east, but the drain has been dried up for over ten years. Overall this stand is a mature red maple stand with isolated pockets of hemlock. There is a dense understory of balsam fir throughout most of the stand, that should be released.
47	42350 - Upland Hemlock	High Density Log	5.8	128	171-200	This stand was designated as Potential Old Growth, this designation can be removed. This stand was left as a mature forested buffer along the drain to the west, but that drain has been dried up for over ten years. This stand is not unique to the landscape.
48	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	56.0	90	81-110	Stand was thinned in 2004 on contract 044-01-01. Mature hardwood stand with thick balsam fir and white pine regen. About 60% of this stand is upland, with mostly red maple and the other 40% is lowland with a higher percentage of ash. The ash should be harvested prior to the arrival of Emerald Ash Borer.
49	6117 - Lowland Deciduous, Mixed Coniferous	High Density Sapling	6.3	30		Stand was clearcut in 1994 on contract 051-92-01. This stand has a low site index.
50	42350 - Upland Hemlock	High Density Log	17.1	146	141-170	Stand was thinned in 1995 on contract 051-92-01. Overall this stand is almost pure hemlock. There are three seperate polygons that make up this stand.
51	4113 - R.Maple, Conifer	High Density Log	172.1	90	81-110	Stand was thinned in 1995 on contract 051-92-01. Mature red maple stand with a dense understory of white pine regeneration. The pine needs to be released before it becomes stunted, the pine regen is about 20' tall and 20 years old.
52	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	43.5	89		Stand was designated as Potential Old Growth last entry, this designated can be switched to an SCA. This stand provides mature forest conditions along Elwood Creek, which flows through this stand. Also, this stand protects the water quality. When the Emerald Ash Borer shows up in this area, we should consider removing the higher value green ash.
53	6115 - Lowland Ash	High Density Pole	7.7	80	81-110	Mature lowland ash stand. This stand should be harvested prior to the arrival of the Emerald Ash Borer. There is enough aspen within the stand to convert a portion of the stand to aspen.
54	4136 - Aspen, Mixed Conifer	Medium Density	30.7	5		Stand was clearcut in 2009 on contract 024-06-01. Stand has fairly thick aspen regen throughout most of it, there were also quite a few sub-merchantable ash stems left after the harvest. Most of the cedar that was left after the harvest has blown over or snapped off.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
55	429 - Mixed Upland Conifers	Medium Density Pole	15.3	30		This stand was shelterwood cut in 2009 on contract 024-06-01 to release the advanced conifer regeneration. Some mature hardwoods were marked to leave, along with some mature pine. The advanced conifer regen averages about 30 years old. The open area's following the harvest are filling in with more conifer and hardwood stump sprouts. There is not enough overstory to worry about removing it.
56	6115 - Lowland Ash	High Density Pole	11.3	90		There is an intermittent stream that flows through this stand. This stand provides a buffer to the stream. This stand will have to be Factor Limited.
57	42350 - Upland Hemlock	High Density Log	5.4	96	51-80	Stand was thinned in 2004 on contract 051-02-01. Only the area west of the road was thinned, the other half has a much higher percentage of hemlock so it was not thinned. Overall the stand is mature hemlock with pockets of red maple.
58	4112 - Maple, Beech, Cherry Association	High Density Pole	7.8	97	51-80	Stand was thinned in 1994 on contract 051-92-01. Stand was opened up quite a bit in the previous harvest, allowing white pine, balsam fir, and spruce to seed in. The regen is now at a point that it needs to be released before it becomes stunted.
59	6119 - Mixed Lowland Deciduous Forest	Low Density Pole	16.9	97		Stand was shelterwood cut in 2009 on contract 024-06-01. This stand is a combination of upland and lowland. The ash and maple that were harvested have stump sprouted, the deer have heavily browsed the ash. There is some white pine, spruce, and balsam fir seedlings showing up, even though there was 2'+ of snow at time of inspection.
60	6119 - Mixed Lowland Deciduous Forest	High Density Pole	4.6	80		Mature ash stand with a significant amount of aspen and balm mixed in. This stand should be harvested now, before the Emerald Ash Borer arrives. There is enough aspen and balm to convert the majority of this stand to an aspen/balm cover type.
61	4199 - Other Mixed Upland Deciduous	High Density Sapling	5.5	5		Stand was shelterwood cut in 2009 on contract 024-06-01. Stand had some maple, ash, and other mature conifers left, equaling about 20 basal area. The stand has regenerated well to a mix of maple, ash, balm, aspen, and spruce/fir. Quite a few of the residual stems have died or have blown over.

Report 9 – Nonforested Stands

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
4	6224 - Treed Bog	32.9	No	Unspecified	
6	3302 - Low Density Conifer Trees	7.4	Natural Regen	Red Pine	If the stand does not adequately regenerate to red pine, trench and plant red pine per TMS recommendations.
9	3302 - Low Density Conifer Trees	20.6	Natural Regen	Lowland Conifers	
10	3302 - Low Density Conifer Trees	7.7	Natural Regen	Lowland Spruce/Fir	
12	6223 - Inundated Shrub Swamp	11.9	No	Unspecified	
15	6224 - Treed Bog	22.3	No	Unspecified	
23	6224 - Treed Bog	17.3	No	Unspecified	
29	6223 - Inundated Shrub Swamp	4.9	No	Unspecified	
32	3302 - Low Density Conifer Trees	34.1	Natural Regen	Lowland Conifers	
35	629 - Mixed non-forested wetland	144.0	No	Unspecified	
37	3302 - Low Density Conifer Trees	1.6	Natural Regen	Red Pine	If the stand does not adequately regenerate to red pine, trench, herbicide if needed, and plant red pine, per TMS recommendations.
44	629 - Mixed non-forested wetland	9.9	No	Unspecified	