Compartment Review Presentation

Grayling Forest Management Unit

Compartment 70
Entry Year 2016
Acreage: 2,127
County Iosco
Management Area: Wurtsmith

Revision Date: 05/28/2014

Stand Examiner: Scott Shooltz

Legal Description:

T 23N R 08E Section 2 and T 24N R 08E Sections 11, 14, 23, 26, & 35

Identified Planning Goals:

To maintain species and structural diversity while managing for health, productivity, and sustainability througout the comparment. To provide multiple use opportunities and incorporate any visual management needed to optimize these uses.

Soil and topography:

Soils consist of Grayling/Graycolm sand in the uplands and Colonville fine sandy loam in the flood plain of the AuSable River. The terrain is level except where influenced by the AuSable River, Coppler Creek, and 7 Mile Swamp. The terrain in these areas is quite hilly.

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

This compartment consists of solid state ownership bisected by the AuSable River and Coppler Creek. The compartment is located directly west of 7 Mile Swamp, a special management area (compartment 73). Foote Dam, on the AuSable River, is located just to the west of the compartment. Foote Dam is owned and operated by Consumers Energy Company.

Unique Natural Features:

Eastern Massasauga Rattlesnake (Sistrurus catenenatus), Secretive Locust (Appalachia arcane)

Archeological, Historical, and Cultural Features:

There are known concerns within the compartment. All proposed management activities have taken these concerns into consideration.

Special Management Designations or Considerations:

This stand is adjacent to the 7 Mile Swamp management area.

Watershed and Fisheries Considerations:

The Au Sable River, a designated natural river, and Coppler Creek are in the compartment. Foote Dam is just to the west of the compartment.

Wildlife Habitat Considerations:

This compartment contains a large amount of swamp edge habitat and transitions from upland to lowland. This transition habitat is highly valuable to wildlife species.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of lacustrine (lake) sand and gravel and fine-textured glacial till. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift is the Coldwater Shale. There is not an economic use for the Coldwater Shale. A gravel pit is located two miles to the north and potential appears to be good for the western upland areas. This compartment was recently leased for oil and gas development, but the Antrim Shale may be too deep to be developed.

Vehicle Access:

County roads located in the compartment are Rea Road, River Road, and Bissonette Road. The remainder of the compartment has difficult access due to rough overgrown trails and sandy, hilly terrain.

Survey Needs:

The south 1/4 corner, the east 1/4 corner, and the south 1/16 corner of section 35 need to be placed in order to identify the compartment boundary for a proposed timber sale.

Recreational Facilities and Opportunities:

The compartment contains the Old State House trail head/parking lot along with portion of designated snowmobile trail #96, the Old State House ORV Trail and ORV Route. "Highbanks", a parking lot and scenic overlook, provides fishing access from River Road to the south side of the Ausable River. The compartment also contains a Parks and Recreation Bureau

managed access site on the AuSable, located on leased Consumers Energy land located in Section 26. The dock for the River Queen paddle boat is located on River Road just west of the compartment.

Fire Protection:

Access between Bissonette Road to the south and Indian Road to the north is difficult. The trails are rough, narrow, and sandy. The powerline has numerous areas with loose sand and terrain that makes access with fire apparatus difficult. The east side of the compartment next to compartment 73 (7 Mile Swamp) is hilly with steep slopes down to the swamp.

Additional Compartment Information:

Bissonette road between Section 23 and 26 is not on the section line for approximately 3/4 mile. The private property south of Bissonette road is crossing the State land between their property and Bissonette Road with driveways for access to residences. Formal requests have been levied to purchase easements across the State land to gain legal ingress-egress. This parcel was recommended for disposal last YOE. No action has been taken at this time. The best coarse of action would be to dispose of the State land south of Bissonette Road at public auction.

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

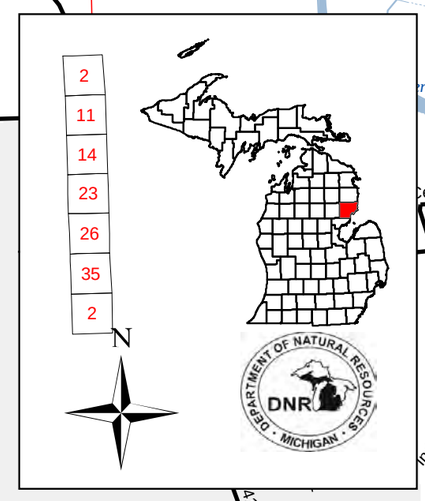
The following information is displayed, where pertinent, on the attached compartment maps:

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: 070
T23N R08E Sec. 02
T24N R08E Sec. 11, 14, 23, 26, 35
County: Iosco
Unit: Grayling
YOE: 2016
Acres: 2,127 GIS Calculated
Examiner: Scott Shooltz
Map Revised: 09/02/2014
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
- PLSS Corner
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Culverts
- Snowmobile Trail
- Motorcycle (DNR Sticker)
- ORV Trail
- Hiking Trail
- Horse Trail
- Motorcycle Trails (DNR License)
- Hiking Trails
- Horse Trails
- ORV Trails
- Snowmobile Trails
- Bridges
- Recreation
- Pipeline
- Powerline
- Stream
- Intermittent Stream
- Lakes and Rivers
- State Forest Land

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

Forest Stands
Level 3
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 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
- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 623 - Emergent Wetland

1 4226-MC9; 2 310-G0; 3 4191-MD6; 4 4199-MD9; 5 6128-Q9; 6 4130-A2; 7 429 -MC9; 8 6132-LM9; 9 6123-Q5; 10 330-U0; 11 4122-O3; 12 4191-MD9; 13 6122-S6; 14 6117-E9; 15 4123-O9; 16 6117-E9; 17 6122-S5; 18 4131-A6; 19 4191-MD3; 20 429 -MC3; 21 4191-MD9; 22 6139-LM3; 23 6118-E8; 24 4310-UM3; 25 4123-O9; 26 4125-O2; 27; 28 310-G0; 29 4191-MD9; 30 330-U0; 31 4125-O2; 32 4121-O3; 33 4131-A3; 34 4226-MC6; 35 4199-MD6; 36 4122-O9; 37 4125-O9; 38 4131-A3; 39 4121-O2; 40 4125-O9; 41 4191-MD6; 42 4226-MC3; 43 4125-O2; 44 4191-MD6; 45 4125-O9; 46 310-G0; 47 4221-R8; 48 4191-MD9; 49 4125-O9; 50 122-X0; 51 4125-O9; 52 4211-R3; 53 4225-MC6; 54 4125-O9; 55 122-X0; 56 4125-O9; 57 4199-MD3; 58 4125-O9; 59 310-G0; 60 4125-O9; 61 6129-Q2; 62 6122-S4; 63 4124-O3; 64 4124-O9; 65 6120-C9; 66 6139-LM6; 67 6117-E9; 68 6120-C9; 69 623-N0; 70 6129-Q9; 71 4119-M9; 72 4110-M9; 73 4191-MD9; 74 4119-M9; 75 623-N0; 76 500-Z0; 77 500-Z0; 78 122-X0; 79 310-G0; 80 330-U0; 81 4310-UM9; 82 4191-MD9; 83 6119-E8; 84 4190-MD9; 85 4319-UM9; 86 4229-MC9; 87 500-Z0; 88 310-G0; 89 4310-UM9

Indian Rd; Wagner Trl; Center Rd; Indian Trl; Mohawk Rd; Pine Rd; Hutchinson Rd; Near Trl; Newport Trl; Paster Rd; Merton Rd; Nine Point Rd; Wentworth Rd; Bissonette Rd; Mack Rd; Riverview Rd; Janis Dr; Alvin Rd; Fern Rd; Schafer Rd; Buck Rd; Doe Rd; Duffern Rd; River Ave; Harvey Trl; Foote Dam Pond; Wilber Resort Rd; Allen Lake; Au Sable River; Middle Ave; Roy Rd; Bobwhite St; Bear St; Wells Rd; River Rd; Mead Rd

1 0.5 0 1 Miles

83°28'0"W 83°27'0"W 83°26'0"W 83°25'0"W 83°24'0"W
44°30'0"N 44°29'0"N 44°28'0"N 44°27'0"N 44°26'0"N

Stand Boundary Map

Compartment: 070
T23N R08E Sec. 02
T24N R08E Sec. 11, 14, 23, 26, 35
County: Iosco
Unit: Grayling
YOE: 2016
Acres: 2,127 GIS Calculated
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Map Revised: 09/02/2014
Map Phase: Pre-Review

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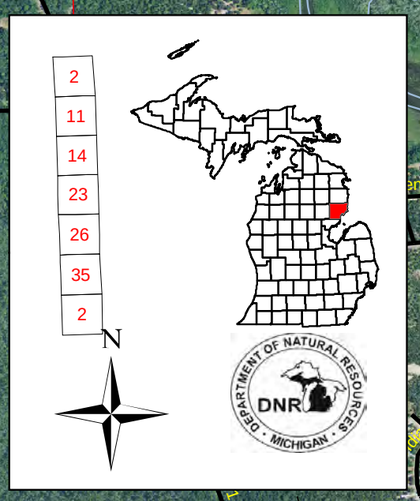
(412)0) - A7
Level 3 Level 4 — OI Code
Cover Type Code



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- Intermittent Stream
- Stand Boundaries

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Non-Forest Stands
Level 3
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- 310 - Herbaceous Openland
- 330 - Low-Density Trees
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- 623 - Emergent Wetland

1 Miles

Special Conservation Areas & Site Conditions Map

Compartment: 070
T23N R08E Sec. 02
T24N R08E Sec. 11, 14, 23, 26, 35
County: Iosco
Unit: Grayling
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Acres: 2,127 GIS Calculated
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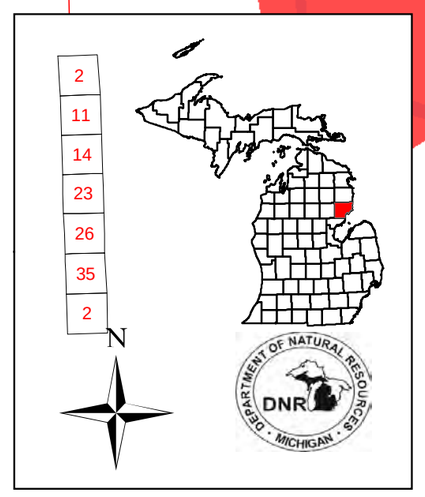

Legend
- Miris Corners
- Stand Boundaries
- Remonumented Section Corners

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

Site Condition Type
- Available Factors W/ Constraints
  - 5C: Delay treatment for age/size class diversity or exceptional site quality
- Unavailable Factors
  - 2F: Too steep
  - 2G: Too wet (sensitive soils, does not include access issues)
  - 3D: Recreational / Scenic values
  - 3J: Water quality / BMPs (stream, river, or lake)

Special Conservation Areas
- Cold Water Streams
- Cold Water Lakes

1 **4226**-MC9
2 **310**-G0
3 **4191**-MD6
4 **4199**-MD9
5 **6128**-Q9
6 **4130**-A2
7 **429** -MC9
8 **6132**-LM9
9 **6123**-Q5
10
11
12 **4191**-MD9
13 **6122**-S6
14 **6117**-E9
15 **4123**-O9
16 **6117**-E9
17 **6122**-S5
18 **4131**-A6
19 **4191**-MD3
20 **429** -MC3
21 **4191**-MD9
22 **6139**-LM3
23
24 **4310**-UM3
25 **4123**-O9
26 **4125**-O2
27 **4130**-A6
28 **310**-G0
29 **4191**-MD9
30 **330**-U0
31 **4125**-O2
32 **4121**-O3
33 **4131**-A3
34 **4226**-MC6
35 **4199**-MD6
37 **4125**-O9
38 **4131**-A3
39 **4121**-O2
40 **4125**-O9
41 **4191**-MD6
42 **4226**-MC3
43 **4125**-O2
44 **4191**-MD6
45 **4125**-O9
46 **310**-G0
47 **4221**-R8
48 **4191**-MD9
49 **4125**-O9
50 **122**-X0
51 **4125**-O9
52 **4211**-R9
53 **4225**-MC6
54 **4125**-O9
55 **122**-X0
56 **4125**-O6
57 **4199**-MD3
58 **4125**-O9
59 **310**-G0
60 **4125**-O9
61 **6129**-Q2
62 **6122**-S4
63 **4124**-O3
64 **4124**-O9
65 **6120**-C9
66 **6139**-LM6
67 **6117**-E9
68 **6120**-C9
69 **623**-N0
70 **6129**-Q9
71 **4119**-M9
72 **4110**-M9
73 **41**
74 **4119**-M9
75 **623**-N0
76 **500**-Z0
77 **500**-Z0
78 **122**-X0
79 **310**-G0
81 **4310**-UM9
82 **4191**-MD9
83 **6119**-E9
85 **4319**-UM9
86 **4229**-MC9
87 **500**-Z0
88 **310**-G0
89

5C - 010
3J - 015
5C - 014
2F - 011
5C - 043
5C - 044
2F - 004
5C - 045
5C - 046
2F - 004
2F - 004
5C - 042
5C - 040
5C - 040
5C - 039
5C - 039
5C - 019
5C - 018
2G - 006
2G - 007
5C - 021
2G - 017
5C - 037
5C - 030
2F - 004
3J - 008
5C - 031
3J - 008
3J - 008
2G - 005
5C - 025
2F - 004
5C - 035
3D - 003
5C - 022

High Banks Overlook

10
11
14
15
22
23
25
26
27
34
35
36
2

1 0.5 0 1 Miles

83°28'0"W
83°26'0"W
83°24'0"W
44°30'0"N
44°29'0"N
44°28'0"N
44°27'0"N
44°26'0"N

Report 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit **Compartment 070 Year of Entry 2016**

Scott Shooltz : 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	22	55	63	0	0	0	0	0	0	0	0	0	0	0	**140**
Cedar	0	0	0	0	0	0	0	0	0	0	40	0	0	0	**40**
Herbaceous Openland	87	0	0	0	0	0	0	0	0	0	0	0	0	0	**87**
Low-Density Trees	22	0	0	0	0	0	0	0	0	0	0	0	0	0	**22**
Lowland Conifers	0	0	0	0	8	0	5	0	0	0	10	0	0	0	**22**
Lowland Deciduous	0	0	0	0	0	28	0	0	0	85	0	0	0	0	**113**
Lowland Mixed Forest	0	26	0	0	6	0	0	0	0	10	0	0	0	0	**41**
Lowland Spruce/Fir	0	0	0	0	0	5	0	0	13	3	0	0	0	0	**21**
Marsh	5	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
Mixed Upland Deciduous	0	55	186	29	0	0	0	0	0	184	0	0	12	0	**465**
Natural Mixed Pines	0	44	13	0	5	0	0	22	0	0	0	0	7	0	**91**
Northern Hardwood	0	0	0	0	0	0	0	0	0	24	46	0	0	0	**69**
Oak	295	61	0	0	0	66	0	0	0	328	31	41	0	0	**822**
Red Pine	0	0	0	0	0	0	52	0	0	5	0	0	0	0	**57**
Upland Conifers	0	12	0	0	0	0	0	15	0	0	0	0	0	0	**26**
Upland Mixed Forest	0	17	0	0	0	0	0	0	0	43	0	0	5	0	**64**
Urban	15	0	0	0	0	0	0	0	0	0	0	0	0	0	**15**
Water	27	0	0	0	0	0	0	0	0	0	0	0	0	0	**27**
Total	**472**	**269**	**263**	**29**	**18**	**99**	**57**	**36**	**13**	**681**	**126**	**41**	**23**	**0**	**2127**

Report 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2016

Compartment 070
Total Compartment Acres: 2,127

Acres by Treatment Type

Commercial Harvest - 518	Tree Planting - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Lowland Coniferous Forest	23	0	0	0	0	0	**23**
Lowland Deciduous Forest	50	0	0	0	0	0	**50**
Lowland Mixed Forest	8	0	0	0	0	0	**8**
Mixed Upland Deciduous	111	0	0	0	0	0	**111**
Northern Hardwood	0	36	0	0	0	0	**36**
Oak Types	251	0	0	0	0	0	**251**
Planted Pines	5	0	0	0	0	0	**5**
Upland Mixed Forest	32	0	0	0	0	0	**32**
Total	**481**	**36**	**0**	**0**	**0**	**0**	**518**

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
8	72070008-Cut	8.2	6132 - Mixed Lowland Forest with Cedar	High Density Log	93	141-170	Harvest	Clearcut with Reserves	6132 - Mixed Lowland Forest with Cedar	Cmpt. Review Proposal

Prescription Specs: Harvest all deciduous species and balsam fir. Mark 2 trees per acre to cut and leave. Mark cedar where needed to make this stand operable. Apply standard area retention around wet areas or thick regeneration.

Other Comments: Leave tops to protect regeneration from deer browse. Harvest during cold winter or dry summer months. Treatment boundary was adjusted for river buffer.

Next Steps: Natural regeneration survey. Management objective is to regenerate the current deciduous species and promote cedar. Will accept any mix of species which meets stocking levels.

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
12	72070012-Cut	14.5	4191 - Mixed Upland Deciduous with Conifer	High Density Log	93	81-110	Harvest	Clearcut	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Harvest oak, jack pine, and aspen. Leave white and red pine to maintain as a component. Oak and aspen will come back strong.

Other Comments: No retention in order to maximize regeneration. Apply drumming log spec.

Next Steps: Natural regeneration survey. Management objective is an oak pine mix but will accept any upland mix.

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
15	72070015-Cut	24.1	4123 - Red Oak	High Density Log	93	111-140	Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal

Prescription Specs: Final harvest 2" and up. Apply standard area retention.

Other Comments: Group with stands 4, 8, & 16 to provide solid operating ground for the producer.

Next Steps: Natural regeneration survey. Management objective is oak/aspen but will accept any upland mix.

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
16	72070016-Cut	23.8	6117 - Lowland Deciduous, Mixed Coniferous	High Density Log	93	81-110	Harvest	Clearcut with Reserves	6118 - Lowland Deciduous with Cedar	Cmpt. Review Proposal

Prescription Specs: Final harvest leave all pine and cedar. Cut into swamp edge as much as possible. Mark a tree (preferably balsam fir) every 50 feet along swamp boundary to be pushed over by producer. Work with wildlife personnel to select these trees. Apply standard retention.

Other Comments: Ground is solid but may become saturated quickly.

Next Steps: Natural regeneration survey. Management objective is to regenerate the current species but will accept any mix that meets minimum stocking levels.

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
21	72070021-Cut	57.5	4191 - Mixed Upland Deciduous with Conifer	High Density Log	93	81-110	Harvest	Clearcut with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest 2" and up. Apply retention around heaviest white pine pockets.

Other Comments: Full tree harvest if possible to promote scarification and seed dispersal of jack pine.

Next Steps: Natural regeneration survey. Management objective is oak pine mix but will accept any upland mix.

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
37	72070037-Cut	36.0	4125 - Black, N. Pin Oak	High Density Log	110	81-110	Harvest	Clearcut with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest. Leave all white pine. Run boundary into swamp where possible to create a diverse edge.

Other Comments: Areas of this stand may be too steep to harvest. Apply within stand retention around these areas or boundary exclude them. Create brush piles along swamp edge for snow shoe hare management. Mark boundary trees to be fallen into the adjacent swamp and left. Work with Wildlife Division when selecting these trees.

Next Steps: Natural regeneration survey. Management objective is a oak pine mix but will accept any upland mix.

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
40	72070040-Cut	126.3	4125 - Black, N. Pin Oak	High Density Log	90	81-110	Harvest	Clearcut with Reserves	412 - Oak	Cmpt. Review Proposal

Prescription Specs: Harvest around 5 spot patches. Utlilize retention to eliminate steep portions along the north edge of stand.

Other Comments: Parts of this stand were already placed under a site condition. Forested drain along the north edge of this stand is intermittent at best. Appeared to be dry year around at time of inventory.

Next Steps: Natural regeneration survey. Management objective is oak but will accept any upland mix.

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	72070045-Cut	29.0	4125 - Black, N. Pin Oak	High Density Log	96	81-110	Harvest	Clearcut with Reserves	412 - Oak	Cmpt. Review Proposal

Prescription Specs: Final harvest. Leave all super canopy red and white pine. Utilize retention to eliminate steep portions of this stand.

Other Comments: Snowmobile trail # 96 runs through this stand. Protect signage during harvest. Keep boundary line south of the old railroad grade, which is identified by a steep ridge running east/west.

Next Steps: Natural regeneration survey. Management objective is oak but will accept any upland mix.

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	72070048-Cut	21.3	4191 - Mixed Upland Deciduous with Conifer	High Density Log	96	81-110	Harvest	Clearcut with Reserves	412 - Oak	Cmpt. Review Proposal

Prescription Specs: Final harvest. Leave all super canopy red and white pine. Run boundary line into adjacent swamp as far as possible. Apply standard retention.

Other Comments: Snowmobile trail # 96 runs through this stand. Protect signage during harvest. Keep boundary line south of the old railroad grade, which is identified by a steep ridge running east/west. Heavy wildlife, recreation, and visual influence.

Next Steps: Natural regeneration survey. Management objective is oak but will accept any upland mix.

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
49	72070049-Cut	27.5	4125 - Black, N. Pin Oak	High Density Log	96	81-110	Harvest	Clearcut with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest. Leave all super canopy red and white pine. Apply retention around dense areas of white pine understory. Focus along Bissonette Rd.

Other Comments: Snowmobile trail # 96 runs through this stand. Protect signage during harvest. Keep boundary line south of the old railroad grade, which is identified by a steep ridge running east/west. Heavy wildlife, recreation, and visual influence.

Next Steps: Natural regeneration survey. Management objective is an oak pine mix but will accept any upland mix.

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
52	72070052-Cut	5.0	42110 - Planted Red Pine	High Density Log	92	141-170	Harvest	Clearcut with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest. Mark 2 - 5 red pine in groups to leave throughout the stand equalling 10 - 20 BA. Red pine will act as retention.

Other Comments: Snowmobile trail # 96 runs through this stand. Protect signage during harvest. Heavy wildlife, recreation, and visual influence.

Next Steps: Natural regeneration survey. Management objective is to convert this stand to an oak type with a pine component. Will accept any upland mix.

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
64	72070064-Cut	8.1	4124 - Red with White Oak	High Density Log	96	111-140	Harvest	Clearcut with Reserves	412 - Oak	Cmpt. Review Proposal

Prescription Specs: Final harvest 2" and up. Apply standard area retention.

Other Comments: Steep slope along east and west side of this stand. Long narrow ridge. Haul route for surrounding harvests will be through this stand.

Next Steps: Natural regeneration survey. Management objective is oak but will accept any upland mix.

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
65	72070065-Cut	23.4	6120 - Lowland Cedar	High Density Log	102		Harvest	Patch or Strip Clearcut	612 - Lowland Coniferous Forest	Cmpt. Review Proposal

Prescription Specs: Scale sale. Set up sale upon purchase of contract. Remove obvious wet areas from sale. Low ground pressure equipment must be utilized when harvesting. Leave tops for seed source and soil protection. Harvest during dry summer months only. This is because of Massasauga Rattlesnake habitat.

Other Comments: Portions of this stand are too wet year round. Water table rises towards the east and north. Forested drains run through this stand from north to south. Place leave areas around these streams or areas with tag alder present in the understory. Best access is from the SW corner of the stand.

Next Steps: Natural regeneration survey. Management objective is a lowland conifer stand but will except any mix of lowland species.

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
67	72070067-Cut	15.3	6117 - Lowland Deciduous, Mixed Coniferous	High Density Log	92		Harvest	Patch or Strip Clearcut	6117 - Lowland Deciduous, Mixed Coniferous	Cmpt. Review Proposal

Prescription Specs: Harvest 60 - 70% of this stand, leaving various size patches throughout. Focus leave patches around conifer species, primarily hemlock and cedar, and obvious wet areas. Salvage ash where ever possible. Leave tops and harvest during dry summer months only. This is because of potential Massasauga Rattlesnake habitat.

Other Comments: May need crain mats to haul through wet areas along access road. A small ridge runs east and west along the south portion of this stand. Leave room so equipement can utilize as a skid trail when accessing adjacent stands to the north.

Next Steps: Natural regeneration survey. Management objective is a mix of current species but will accept any lowland mix.

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
67	72070067-Cut_small	11.1	6117 - Lowland Deciduous, Mixed Coniferous	High Density Log	92		Harvest	Patch or Strip Clearcut	6117 - Lowland Deciduous, Mixed Coniferous	Cmpt. Review Proposal

Prescription Specs: Scale sale. Set up sale upon purchase of contract. Place retention around obvious wet areas. Leave all hemlock and cedar. Salvage as much ash as possible. Low ground pressure equipment must be utilized when harvesting. Leave tops for seed source and soil protection. Harvest during dry summer months only. This is because of Massasauga Rattlesnake habitat.

Other Comments: Portions of this stand are too wet year round. Water table rises towards the east and north. Best access is from the SW corner of the stand.

Next Steps: Natural regeneration survey. Management objective is a mix of current species but will accept any lowland mix.

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
71	72070071-Cut	28.6	4119 - Mixed Northern Hardwoods	High Density Log	104	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Cmpt. Review Proposal

Prescription Specs: Thin to 80 BA and create 1 - 2, 60ft canopy gaps per acre. Remove ash if still valueable, otherwise leave for coarse woody debris. Mark several trees throughout the stand to drop and leave underneath hemlock to provide seed bed.

Other Comments: Portions of this stand are designated as a BSA. Maintain diversity throughout.

Next Steps: Natural regeneration survey. Management objective is a diverse uneven-aged northern hardwood stand.

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
74	72070074-Cut	7.5	4119 - Mixed Northern Hardwoods	High Density Log	98	141-170	Harvest	Single Tree Selection	411 - Northern Hardwood	Cmpt. Review Proposal

Prescription Specs: Thin down to 100 BA. Create 1 - 2 80ft gaps per acre in the canopy for pine and oak regeneration.

Other Comments: Access is located in the south of this stand. A road was carved into the hillside from previous harvests, creating access to this stand. 150 ft natural rivers buffer was built into the treatment boundary.

Next Steps: Natural regeneration survey. Management objective is an uneven-aged northern hardwood stand with a hard mast associate.

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
81	72070081-Cut	32.5	4310 - Pine, Oak Mix	High Density Log	96	81-110	Harvest	Patch or Strip Clearcut	4310 - Pine, Oak Mix	Cmpt. Review Proposal

Prescription Specs: Final harvest 60 - 70% of the stand, leaving the rest in variable size islands. Place residual pockets around heaviest white pine regeneration areas. Leave all white and red pine.

Other Comments: Protect as much understory white pine as possible. Several pipeline right-of-ways run through this stand. Federal land borders to the south. High Banks viewing area is across River Rd. to the NE. Consider visual management when setting up stand.

Next Steps: Natural regeneration survey. Management objective is a two-aged mixed pine, oak stand. The future goal for this stand would be an uneven-aged system. Will accept any upland mix.

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
82	72070082-Cut	17.6	4191 - Mixed Upland Deciduous with Conifer	High Density Log	96	81-110	Harvest	Patch or Strip Clearcut	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest 2" and up leaving 20 - 30% of the stand in patches. Focus patches around areas of heaviest white pine regeneration. Harvest heaviest oak crown areas.

Other Comments: Steep slope to the west and north. Stand 86 is buffered by 100 ft. Do not utilize two track along its boundary during harvest. See OFS locked comments.

Next Steps: Natural regeneration survey. Management objective is to restart portions of this stand to oak while promoting the succession of white pine in this stand. Will accept any upland mix in place of oak.

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	72070006-Survey	21.9	4130 - Aspen	Medium Density Sapling	2		Regeneration Survey	Intermediate Survey (natural regen)	413 - Aspen	Cmpt. Review Proposal

Prescription Specs: Management objective is aspen/oak but will accept any mix of upland species.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2016

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2	NF_72070002-Survey	15.3	3105 - Mixed Upland Herbaceous				Regeneration Survey	Intermediate Survey (natural regen)	413 - Aspen	Cmpt. Review Proposal

Prescription Specs: Management objective is a full stocking of aspen and oak but will accept any mix of upland species.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2016

Total Treatment Acreage Proposed: 554.7

Report 4 -- Treatments Prescribed with a Site Condition

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
		#Type!	#Type!							

Prescription Specs:

Other Comment:

Next Steps:

Proposed Start Date: #Type!

Limiting Factor

Total Treatment Acreage Proposed: 0.0

Report 5 – Site Conditions

Grayling Mgt. Unit

Scott Shooltz : Examiner

Compartment 070

Year of Entry 2016

**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**	**3D: Recreational / Scenic values**	1				
	Comments:							
004		**Not Available**	**2F: Too steep**	94				
	Comments:							
005		**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	2				
	Comments:							
006		**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	26				
	Comments:							

007	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	1	

Comments:

008	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	23	

Comments:
Lower Au Sable River buffer 100 ft.

010	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	10	

Comments:

011	**Not Available**	**2F: Too steep**	1	

Comments:

014	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	0	

Comments:

015	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	38	

Comments:
200 ft. buffer Cobbler Creek.

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

Comments:

Forested drain which holds water year round. Many windthrown trees along it.

018	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	4

Comments:

019	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	16

Comments:

020	**Not Available**	**2F: Too steep**	3

Comments:

021	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	21

Comments:

022	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	3

Comments:

025	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	16	
Comments:				
030	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	12	
Comments:				
031	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	1	
Comments:				
035	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	10	
Comments:				
037	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	3	
Comments:				
039	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	31	
Comments:				

040	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	12

Comments:

042	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	20

Comments:

043	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	9

Comments:

044	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	23

Comments:

045	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	7

Comments:

046	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	6

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
High Banks Overlook	Concentrated Recreation Area	Fishing Access Site	**SCA**	4.2

Comments

Site contains a parking lot, paved walk way, and stairs down to the river.

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	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
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	42260 - Natural Pine, Mixed Deciduous	High Density Log	21.7	74	81-110	Natural pine stand with a mix of oak and aspen. Red pine is mostly single aged with scattered large diameter pine present. Red pine is also in the understory. Unsure if a new recruiting age class or suppressed individuals. Oak and aspen are perrsisting but the jack pine is beginning to die out.
3	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	28.5	36	81-110	Good mix of oak and aspen throughout. Residual pine from '78 harvest are producing seed and should help maintain a pine component to this stand. SW corner of this stand contains the ridge for and part of the Cobbler Creek flood plain. Aspen and red maple make up this area.
4	4199 - Other Mixed Upland Deciduous	High Density Log	4.8	91	81-110	Old Comments: Nice clump of sawlog oak by trail road. Oak aspen plateau. White pine succeeding along with scattered oak in large enough gaps. Aspen is dying out of stand.
5	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	7.2	103	141-170	South 1/4 of stand is on the north facing aspect of the Cobbler Creek flood plain, the middle 1/2 is in the flood plain itself, and the north 1/4 is on the south aspect. Aspen, oak dominate the ridges while white pine and cedar are more common below. Red pine and maple are scattered throughout the stand. Paper birch is present but dying out of the stand. Few hemlock in the understory and canopy. Cobbler Creek runs through this stand.
6	4130 - Aspen	Medium Density	21.9	2		Scattered log size oak over a sapling aspen stand. Deer browse was not heavy.
7	429 - Mixed Upland Conifers	High Density Log	14.8	76	111-140	Patches of solid cedar red maple with WP overstory. Coppler Creek adjacent. Overstory white pine varies in age due to gap phase dynamics. Recruitment is still occuring. Oak appears to be healthy for its age, suggesting decent site index values. Cedar pockets are 100 plus years.
8	6132 - Mixed Lowland Forest with Cedar	High Density Log	9.9	93	141-170	Red maple, paper birch with cedar pockets. Large diameter white pine scattered throughout the stand. Cedar and WP appear to be the same age. Canopy balsam is mostly a younger age class recruiting but older individuals are within the stand. Red maple is holding on but the paper birch is on the decline. Balsam fir regeneration is thick in spots and nonexistent in others.
9	6123 - Lowland Fir	Medium Density Pole	4.7	66		Originally part of stand 8. This stand is a good example of lowland type disturbance. Significant blow down has occurred within this stand over the past 10 - 15 years. More than likely due to a slightly higher water table. Reminant paper birch and red maple still persist but most are now large coarse woody debris. The understory balsamm fir now occupies the canopy along with red maple and some white pine that was present. New growth of balsam and red maple are now present in the understory.
11	4122 - Oak, Pine	High Density Sapling	5.0	17	51-80	Stand was cut in '97. Oak regenerated to full stocking with a good mix of jack pine with it. Oak is half multiple stem clumps and single stem individuals.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
12	4191 - Mixed Upland Deciduous with Conifer	High Density Log	14.5	93	81-110	Old Comment: Delayed treatment for age/size class diversity. Natural pine sub-canopy is recruiting into the canopy. White pine is occupying canopy gaps more efficiently than red pine which is mostly suppressed. Canopy oak and jack pine growth have stagnated, high rings per inch. Jack pine is experiencing the most mortality. Aspen did well on this site. Scattered large diameter red pine throughout the stand.
13	6122 - Black Spruce	High Density Pole	2.5	91		
14	6117 - Lowland Deciduous, Mixed Coniferous	High Density Log	27.8	57	111-140	Deciduous canopy with primarily a conifer understory. Areas of this stand appear to have had canopy disturbance. Pockets of red maple, oak, birch throughout 1 -2 acres at a time. Red maple and aspen overstory is beginning to decline. Balsam fir is filling in underneath.
15	4123 - Red Oak	High Density Log	24.1	93	111-140	Red and white oak stand with red maple along swamp edge and aspen to the south. Site index is lowest in the SW corner and increases as you move north. Black oak occupies the SW corner.
16	6117 - Lowland Deciduous, Mixed Coniferous	High Density Log	23.8	93	81-110	Transition from upland oaks to cedar swamp. Red maple, paper birch and aspen are the main component with oak to the west and cedar to the east. Scattered large diameter white pine along the swamp edge. Ash component has fallen out. Was heaviest to the south.
17	6122 - Black Spruce	Medium Density Pole	4.8	57		Black spruce with cranberry, blue berry understory. Scattered log size white pine. This stand becomes more wet as you approuch the river. Tag alder increases as well.
18	4131 - Aspen, Oak	High Density Pole	63.1	25		Primarily an aspen stand with pockets of heavier oak regeneration. Scattered red pine has also recruited into the canopy.
19	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	34.2	17	51-80	Oak is primarily in clumps. Single stem individuals scattered throughout. Jack pine is evenly mixed. Some red pine present as well.
20	429 - Mixed Upland Conifers	High Density Sapling	11.7	18		Some oak was left throughout plus maple and fir were left in wet areas. Cedar was left along east boundary of sale. White pine has avoided being weevled for the most part. Stand is a transition from uplands to lowlands. '96 salvage worked very well for this stand.
21	4191 - Mixed Upland Deciduous with Conifer	High Density Log	57.5	93	81-110	Oak stand with a mix of jack pine. Stand is stagnating. White pine from the understory is succeeding into the canopy. Scattered large diameter red pine. Natural red pine has seeded in around these individuals.
22	6139 - Mixed Lowland Forest	High Density Sapling	25.8	16		Some oak was left throughout plus maple and fir were left in wet areas. Cedar was left along east boundary of sale. Windthrow is occuring in interior cedar. Some of the oak that was left is declining. Good mix of regeneration. White pine has been partially weevled.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
23	6118 - Lowland Deciduous with Cedar	Medium Density Log	9.2	93		Unsalvaged portion of adjacent harvest. Western edge has experienced heavy blow down. Ash component has died out resulting in this stands low stocking. Understory balsam fir is growing into the canopy to the east and will succeed maple/aspen canopy.
24	4310 - Pine, Oak Mix	High Density Sapling	17.0	16		Natural jack pine stand with a mix of oak throughout. Aspen is in pockets. Heavy understory of oak seedlings. Should recruit in gaps.
25	4123 - Red Oak	High Density Log	23.1	96	111-140	Large diameter mature oak stand. Minimal understory in the north with it gradually thickening as you move south. Transition from uplands to lowlands. Small creek runs through the north portion of stand.
26	4125 - Black, N. Pin Oak	Medium Density	101.2	5		Harvested under contract # 72-033-06-01 8 Point Oak in 2008 - 2009. Advanced oak was not protected because of its sprouting ability. Deer browse throughout the stand on oak below 5 ft. Canopy is primarily made up of oak 5ft and higher.
27	4130 - Aspen	High Density Pole	23.5	16		Dense aspen pockets within surrounding oak stand. Provide good wildlife cover for species while the surrounding stand is regenerating.
29	4191 - Mixed Upland Deciduous with Conifer	High Density Log	47.1	96	141-170	Cedar, white pine, and birch directly adjacent to drain along drainage bottom. Oak, aspen, and red pine occupy the north and south aspects. White pine and balsam fir throughout understory. Hemlock is also present along the drainage in both the canopy and understory.
31	4125 - Black, N. Pin Oak	Medium Density	59.4	5		Stand meets 75% canopy closure when oak under 3 ft is counted. Deer browse is occuring 1/4 of oak below 3 ft. Stand should grow past browse height in a few years and maintain good form.
32	4121 - Oak, Aspen	High Density Sapling	18.9	16	1-50	5-spot method of cut. Harvested in 1998 under contract # 72-054-96-01 Seven Mile Patches. 14, one acre patches were placed systematically in a 1/2 by 1/2 mile area.
33	4131 - Aspen, Oak	High Density Sapling	6.3	16		Part of old stand 64. Good mix of oak and aspen. Some understory oak may still make it to the canopy.
34	42260 - Natural Pine, Mixed Deciduous	High Density Pole	13.4	23		Part of old stand 22. Red pine is slightly older than jack pine. Appears they were released from previos harvest. Red pine is putting on good diameter growth. Jack pine is more bushy to the east with many broken tops. Form improves to the west but growth is slow. Oak overtopping in many areas. Jack pine is of natural origin. The parent stand was a J5.
35	4199 - Other Mixed Upland Deciduous	High Density Pole	124.1	23	51-80	Oak is growing in clumps with 1 - 2 dominant stems obviouus. Aspen is in pockets with the largest being in the east. Oak is still present within aspen pockets. White pine appears to be older. Release from previous harvest. Contains ORV trail.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	4122 - Oak, Pine	High Density Log	5.9	96	111-140	Part of old stand 69. Black/pin oak stand. Left out of previous harvest to break up age classes and buffer trail to the north.
37	4125 - Black, N. Pin Oak	High Density Log	40.6	110	81-110	Contains old stands 25 and 80. Transition from upland oak to conifer swamp. White pine is the primary understory species. It is most dense towards the center of this stand, which is the lowest elevation. Oak is solid, minimal rot. Site index is lowest to the south. Stand has a grade of 5 - 15%
38	4131 - Aspen, Oak	High Density Sapling	24.9	16		Aspen/oak stand with oak in the understory. Low end for canopy closure but should fill in.
39	4121 - Oak, Aspen	Medium Density	36.8	16	1-50	Patch cut harvested in 1999, 153 acres. Jack pine filling in along edges. Oak is dense in some patches and more sparse in others with a few being dominated by aspen. All patches meet 50% canopy closure.
40	4125 - Black, N. Pin Oak	High Density Log	128.6	90	81-110	Stand made up of pure oak and aspen pockets with jack pine scattered throughout. The jack pine has been dying out for awhile. Remaining individuals look unhealthy. Aspen is holding strong but is more than likely hollow. Understory oak are growing in pockets, mostly under aspen. White pine is recruiting into the canopy.
41	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	50.7	29	51-80	Good formed oak for the most part. Aspen is smaller diameter than the oak and jack pine. Site index increases as you move south.
42	42260 - Natural Pine, Mixed Deciduous	High Density Sapling	44.2	17	51-80	Red pine age is an average of 3 individuals (50 - 100 yrs). Jack pine occupies 2 age classes because advanced regeneration was protected during previous harvest. Scattered large diameter oak.
43	4125 - Black, N. Pin Oak	Medium Density	117.7	5		Low canopy closure because of oak under 3 ft. Deer browse is minimal. Will grow to full stocking.
44	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	20.9	16	1-50	Patches are a good mix of deciduous and conifer species. Wildlife are utilizing patches for cover.
45	4125 - Black, N. Pin Oak	High Density Log	72.4	96	81-110	Stand is a transition from uplands to lowlands and occupies an east facing slope. This stand provides valuable edge and mast for wildlife. Snowmobile trail #96 runs through the south portion of this stand as does a small intermittent stream to the north.
47	42210 - Natural Red Pine	Medium Density Log	52.0	64	51-80	Oak and jack pine regeneration is thick. Single stem and clump oak present. Jack pine is putting on good growth and growing straight. Approximately 50% free to grow.
48	4191 - Mixed Upland Deciduous with Conifer	High Density Log	21.3	96	81-110	North edge of stand is old stand 31. Canopy is converting to red maple. Jack pine will not last another ten years. Some oak is recruiting where canopy gaps are sufficient. 7 Mile Swamp adjacent.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
49	4125 - Black, N. Pin Oak	High Density Log	34.4	96	81-110	High ridge runs east west through north part of stand. Appears to be man made, old railroad grade. Wet areas along both sides of this ridge. Red oak and white pine are growing into the canopy along with some red maple. 7 Mile Swamp (deer yard) is to the north. Heavy deer feeding within this stand.
51	4125 - Black, N. Pin Oak	High Density Log	11.7	96	81-110	Oak stand converting to a pine stand. East portion of this stand is on a 10 - 15% slope.
52	42110 - Planted Red Pine	High Density Log	5.0	92	141-170	Good stocking of oak in the understory. Deer do not appear to be utilizing this stand for thermal cover.
53	42250 - Pine, Oak	High Density Pole	4.7	42	51-80	Old pine plantation which was final harvested. Large diameter red pine where residual. Some red pine has seeded in. Mostly jack pine and oak.
54	4125 - Black, N. Pin Oak	High Density Log	30.6	100	111-140	Oak is of stump sprout origin, growing in clumps. Pockets of aspen and jack pine in the center of the stand. Jack pine is overtopped and staggnated. Aspen is reaching its age limit for the site.
56	4125 - Black, N. Pin Oak	High Density Pole	66.4	52	51-80	Illegal driveways located west of Rea Rd. and to the south. Oak is mostly growing in clumps. Pockets of jack pine and aspen throughout this stand.
57	4199 - Other Mixed Upland Deciduous	High Density Sapling	11.2	25	1-50	
58	4125 - Black, N. Pin Oak	High Density Log	3.4	96	81-110	Transition from upland to lowland. Pipeline along east edge of the stand.
60	4125 - Black, N. Pin Oak	High Density Log	16.3	96	81-110	Good mix of aspen, oak, and pine. Snowmobile trail #96 runs through this stand.
61	6129 - Mixed Coniferous Lowland Forest	Medium Density	7.7	42		Cattail throughout understory. Snow is limiting. May be more seedlings present than currently visible. Stocking levels decrease towards the west.
62	6122 - Black Spruce	Low Density Pole	13.2	85		Black spruce/cedar stand. Black spruce is more domininant to the west. Growth and overall health are poor within this stand because of a yearly high water table. Sparse pockets with a cattail understory are mixed in with denser pockets with a spruce understory. Scattered log size white pine are present within this stand but most of died out.
63	4124 - Red with White Oak	High Density Sapling	17.0	6		Some balsam fir and red maple left from previous harvest. Oak regeneration is heavy within this stand along with veins of aspen. Portions of this stand are still below 3 ft but should grow above browse height.
64	4124 - Red with White Oak	High Density Log	8.1	96	111-140	Small ridge in between two lowland stands (east and west). Stand gradually drops in elevation to the south, stand quality rises. Balsam fir understory is seeding in from either side.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
65	6120 - Lowland Cedar	High Density Log	39.4	102		Cedar/black spruce swamp. Part of lowland area that surrounds Allen Lake. Cedar varies in size with proximity of water table to the surface. Tag alder becomes visible in these areas. Heavy deer use during winter months for thermal cover.
66	6139 - Mixed Lowland Forest	High Density Pole	5.6	45		Lowland stand. Harvested 45 years ago. Left individual and patches of cedar along with scattered maple and birch. Ash regeneration was not heavy and is experiencing mortality due to EAB.
67	6117 - Lowland Deciduous, Mixed Coniferous	High Density Log	44.1	92		Mix of solid ground and forested drains. This variety in the soil along witn near by seed sources causes the species diversity present. Sugar maple and beech are also present in this stand. Water is present year round in drains. This is also where ash and cedar components are the heaviest. The ash is over 50% dead resulting in its low canopy percentage.
68	6120 - Lowland Cedar	High Density Log	1.0	102		Cedar pocket with paper birch along the bottom of a steep ridge.
70	6129 - Mixed Coniferous Lowland Forest	High Density Log	2.3	102		Lowland conifer stand along the bottom of a steep ridge.
71	4119 - Mixed Northern Hardwoods	High Density Log	45.6	104	111-140	Northern hardwood stand with a southern floodplain component in lower areas. A forested drain runs through the north portion of this stand. Beech and oak become more prevelant towards the river with red maple and birch increasing to the north. Sugar maple is mostly even aged but older individuals are scattered throughout the stand. A younger age class is in the sub-canopy. Hemlock appears to be healthy. White ash has mostly died out of this stand. Expect large coarse woody debris in a few years which may promote yellow birch and hemlock as well as a unevenaged structure.
72	4110 - Sugar Maple Association	High Density Log	12.0	98	81-110	Mixed hardwood stand with a component of southern floodplain species. Ash was a significant portion of the stand but has since died out. Large diameter coarse woody debris of ash and basswood may increase hemlock/birch associate. Ash motality has also created canopy gaps for understory sugar maple. May naturally convert to an unevenaged structure.
73	4191 - Mixed Upland Deciduous with Conifer	High Density Log	17.2	96	111-140	Oak stand along the top of the AuSuable River floodplain. A steep ridge runs along the north edge of this stand. River Rd. along the south.
74	4119 - Mixed Northern Hardwoods	High Density Log	11.9	98	141-170	Hardwood stand along the AuSable River. Southern floodplain species are not present within this stand.
81	4310 - Pine, Oak Mix	High Density Log	32.5	96	81-110	White pine succeeding oak and associated pine canopy. Red pine has seeded in from super canopy as well. Site quality increases from east to west.
82	4191 - Mixed Upland Deciduous with Conifer	High Density Log	21.1	96	81-110	White pine succeeding the oak canopy. Oak is declining in vigor.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
83	6119 - Mixed Lowland Deciduous Forest	Medium Density Log	8.2	96		Stand was historically dominated by ash and elm species. EAB and DED has since altered the species composition percentages in the canopy. These two species however remain dominant in the understory. A small drainage runs through the east portion of this stand.
84	4190 - Mixed Upland Deciduous with Cedar	High Density Log	11.5	140	171-200	South edge of stand is on a steep slope down to the river. Large diameter white pine are concentrated here. Oak and red pine dominate canopy on top. River floodplain is dominated by basswood and sugar maple with a conifer/birch associate. Heavy pockets of cedar with basswood super canopy are 140 + years. White pine is succeeding through the canopy up top. Ash component is opening up gaps for more tolerant species down below. Au Sable River Outlook located in the west part of this stand.
85	4319 - Mixed Upland Forest	High Density Log	4.8	150	171-200	Stand exibits some old growth characteristics. Hemlock easily differs in age up to 80 years. Deciduous species are various ages as well.
86	42290 - Natural Mixed Pine	High Density Log	6.5	130	81-110	Most of stand is on a steep ridge. Transition from uplands to lowlands. Super canopy of red and white pine. Cedar is present both at the bottom and at the top of the slope. Natural mixed pine understory.
89	4310 - Pine, Oak Mix	High Density Log	10.2	96	81-110	White and red pine succeeding oak canopy. Oak experiencing mortality because of age and site quality.

Report 9 – Nonforested Stands

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	3105 - Mixed Upland Herbaceous	15.3	Natural Regen	Aspen	
10	3302 - Low Density Conifer Trees	15.5	No	Unspecified	Tag alder stand with pockets of tamarack and balsam fir. Large diameter white pine are mainly along edge of stand. Cobbler Creek runs through this stand.
28	310 - Herbaceous Openland	48.6	No	Unspecified	
30	3302 - Low Density Conifer Trees	2.4	No	Unspecified	Windthrown cedar pocket plus mortality. Scattered cedar seedlings under 3 ft tall. White pine is over 10 ft.
46	310 - Herbaceous Openland	3.0	No	Unspecified	Powerline/Gas line Right of Way.
50	122 - Road/Parking Lot	4.4	No	Unspecified	Bissonette Rd.
55	122 - Road/Parking Lot	7.1	No	Unspecified	Rea Rd.
59	310 - Herbaceous Openland	14.7	No	Unspecified	Old lease by Wurtsmith Air Base from the State of Michigan for part of an air field. No longer valid. SE corner appears to be an old gravel pit.
69	6230 - Cattail	3.3	No	Unspecified	Kettle bowl with water present year round. Overrun by invasive cattail and phragmites.
75	6233 - Wet Meadow	1.6	No	Unspecified	Mixture of grasses, forbs, and shrubs along the edge. Perimeter basswood.
76	50 - Water	1.0	No	Unspecified	Small pond with a mixture of grasses and shrubs growing along its edge.
77	50 - Water	21.2	No	Unspecified	AuSable River
78	122 - Road/Parking Lot	3.6	No	Unspecified	River Rd.
79	310 - Herbaceous Openland	1.8	No	Unspecified	Powerline/Gas line Right of Way.
80	3301 - Low Density Deciduous Tree	4.2	No	Unspecified	Small island of trees surrounded by grass, shrubs, and water.
87	50 - Water	4.4	No	Unspecified	Back flow or spring connected to the AuSable River. Water present year round.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
88	310 - Herbaceous Openland	3.3	No	Unspecified	Powerline and gas line right of way.