Compartment Review Presentation

Grayling Forest Management Unit

Compartment 285
Entry Year 2015
Acreage: 948
County Crawford
Management Area: Ausable Outwash

Revision Date:

Stand Examiner: Scott Shooltz

Legal Description:

T 27N R 01W Sections 14, 15, 16, & 23

Identified Planning Goals:

To enhance recreational activities while maintaining for health, productivity, diversity, and sustainability within the compartment.

Soil and topography:

The topography is relatively flat with the exception of the SW ¼ of Section 16 and the ridges leading up from the river flood plains. The soil consists primarily of Grayling sand.

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

This compartment is composed of blocks of state ownership partially surrounded by private lands. The majority of Section 23 is owned by the Warbler's Hideaway, a private association. A small 2.5 acre parcel of state land provides fishing to Big Creek. Sno Trac Village, a private campground, is located in the SE-NE of Section 15. This campground is currently accessed through state land.

Unique Natural Features:

Kirtland's Warbler, a federally endangered species, has been known to be in the area.

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:

A Kirtland's Management Unit is located in compartment 275 to the north, with 80 acres of the unit falling in Section 14. The North Branch of the AuSable and Big Creek are designated as Natural Rivers.

Watershed and Fisheries Considerations:

The North Branch of the Au Sable River and the East and West Branches of Big Creek flow through the compartment. The AuSable and its tributaries are designated Natural Rivers. Stand 67 in Section 23 was purchased by DNR Fisheries Division as an access site for fishers to Big Creek. Stand 35 is the Sheep Pasture Access site which serves as a canoe landing and fishing access site.

Wildlife Habitat Considerations:

There is a possible occurrence of the Kirtland's Warbler in the compartment. Stands to the north in adjacent compartment 275 are currently being managed for Kirtland's Warbler habitat. There is extensive deer and turkey activity in Sections 14 and 16.

Mineral Resource and Development Concerns and/or Restrictions

Sections 14 – 16, 23 & 26, T27N-R1W, Crawford County
Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift is the Coldwater Shale. The Coldwater does not have a current economic use. The nearest gravel pit is located just north of the Compartment and potential is thought to be good on the upland areas. The Compartment is located to the north of Conners Marsh Field. The field has produced over 20 Bcf gas from the Ordovician Prairie du Chien. Part of Section 26 is leased for oil and gas development.

Vehicle Access:

Access throughout the compartment is adequate. Section 15, and Section 16 north of the AuSable River, is easily accessed off of F-97. Section 16 south of the AuSable River can be accessed off of North Down River Road going through section 22 to the south. Section 14 must be accessed from Walsh Road using Sawmill Trail. No existing roads need to be closed at this time. All new roads created through management activities are to be closed upon completion.

Survey Needs:

None at this time. However, there are two areas of concern: the center section corner in Section 15 has been disturbed by planting crews and is no longer properly established, and the south 40 corner in Section 16 is being pushed/moved over by vehicle traffic using the road.

Recreational Facilities and Opportunities:

Stand 67 serves as fishing access to Big Creek although there is no maintained access structure. Parking in this area is extremely limited, but cars were frequently observed parked along North Down River Road. Stand 35 is Sheep Pasture Access Site, managed by Parks and Recreation Bureau. The Access Site is used for fishing and canoeing access. There is hunting activity for turkey, deer, and coyote throughout the compartment from adjacent private parcels with the heaviest use in Section 14.

Fire Protection:

The AuSable River, Big Creek, and the wet areas around them, serve as effective fire breaks. Road access is adequate. Fuel types in Section 14 and 15 are of concern. There are several seasonal and permanent homes found around the compartment.

Additional Compartment Information:

None.

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

Stand # 23

Stocking Density

(412)0) - A7

Level 3 OI Code

Level 4

Cover Type Code

Compartment: 285
T27N R01W Sec. 14, 15, 16
County: Crawford
Unit: Grayling
YOE: 2015
Acres: 948 GIS Calculated
Examiner: Scott Shooltz
Map Revised: 09/04/2013
Map Phase: Pre-Review

16 | 15 | 14

N

DEPARTMENT OF NATURAL RESOURCES · DNR · MICHIGAN

84°27'0"W 84°26'0"W 84°25'0"W 84°24'0"W 84°23'0"W
44°45'0"N 44°44'0"N 44°43'0"N

Spencer Trl
Nash Camp Rd
Woodys Dr
Sno Trac Trl
Crooked Trl
S Jackson Trl
Sawmill Trail
Griffin Rd
Walsh Rd
Scenic Creek Dr
Private Ln
Kellogg Trl
Henir Trl
E North Down River Rd
North Branch Au Sable River

9 10 17 16 15 14 13 21

1 4221-Z0
2 6120-C9
3 6117-E6
4 4221-Z0
5 622-L0
6 6120-C6
7 4130-A5
8 4126-O8
9 4131-A5
10 4125-O7
11 4311-UM8
12 4229-MC8
13 310-G0
14 4226-MC9
15 4229-MC8
16 4133-A5
17 500-Z0
18 4214-MC9
19 6121-T6
20 4131-A6
21 310-G0
22 4122-O8
23 4125-O7
24 330-U0
25 4222-J6
26 4123-O9
27 310-G0
28 4211-R6
29 4211-R9
30 4131-A6
31 310-G0
32 4124-O6
33 4212-J6
34 4130-A5
35 4236-C9
36 310-G0
37 622-L0
38 6117-E5
39 4191-MD8
40 4212-J3
41 4212-J6
42 4121-O3
43 330-U0
44 110-X0
45 4212-J6
46 4212-J6
47 4212-J6
48 4229-MC8
49 4212-J6
50 4212-J6
51 4214-MC2
52 122-X0
53 4222-J4
54 4214-MC6
55 330-U0
56 4221-R8
57 4212-J5
58 4212-J6
59 4212-J6
60 122-X0
61 4130-A5
62 4212-J6
63 4229-MC6
64 4229-MC5
65 310-G0
66 4133-A6
67 6129-Q9
68 6123-Q5
69 4212-J6
70 4125-O8
71 629-L0
72 6117-E3
73 6123-Q6
74 622-L0
75 500-Z0
76 622-L0
77 6139-LM6

Legend

- Remonumented Section Corners
- PLSS Corner
- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Pipeline
- Powerline
- Snowmobile Trail
- Hiking Trail
- Horse Trail
- Hiking Trails
- Horse Trails
- Snowmobile Trails
- Stream
- Intermittent Stream
- Lakes and Rivers
- State Forest Land

Treatments
- Clearcut (w/Reserves, Patch/Strip)
- Thinning (Crown, Low, Systematic)
- Selection (Group, Single Tree)
- Site Preparation

Forest Stands
Level 3
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 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
- 110 - Low Intensity Urban
- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 621 - Floating Aquatic
- 622 - Lowland Shrub
- 623 - Emergent Wetland

1 0.5 0 1 Miles

Special Conservation Areas & Site Conditions Map

Stand # 23 — Stocking Density

(412)0) - A7

Level 3 — OI Code

Level 4

Cover Type Code

Compartment: 285
T27N R01W Sec. 14, 15, 16
County: Crawford
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16 | 15 | 14

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DEPARTMENT OF NATURAL RESOURCES · DNR · MICHIGAN

84°27'0"W 84°26'0"W 84°25'0"W 84°23'0"W
44°45'0"N 44°44'0"N 44°43'0"N

9 10 17 16 15 14 13 21 23

10 4125-O7 21 310-G0 25 4222-J6 34 4130-A5 9 4131-A5 6 6120-C6 11 4311-UM8 37 622-L0 17 500-Z0 1 4229-MC6 18 4214-MC9 31 310-G0 28 4211-R6 33 4212-J6 12 4229-MC8 13 310-G0 23 4125-O7 36 310-G0 2 6120-C9 1A - 005 3 6117-E6 19 6121-T6 27 310-G0 5 622-L0 15 4133-A5 8 4126-O8 4 621-Z0 30 4131-A5 3D - 010 29 4211-R9 41 4212-J6 7 4130-A5 22 4122-O8 35 4236-C9 43 330-U0 14 4226-MC9 15 4229-MC8 24 330-U0 39 4191-MD8 26 4123-O9 2F - 008 20 4131-A6 40 4212-J3 32 4124-O6 42 4121-O3 38 6117-E5 44 110-X0 49 4212-J6 45 4212-J6 46 4212-J6 47 4212-J6 51 4214-MC2 50 4212-J6 48 4229-MC8 53 4222-J4 52 122-X0 60 122-X0 55 330-U0 62 4212-J6 69 4212-J6 54 4214-MC6 58 4212-J6 70 4125-O8 65 310-G0 61 4130-A5 59 4212-J6 73 6123-Q6 2F - 009 6117-E3 75 500-Z0 1A - 006 56 4221-R8 64 4229-MC5 63 4229-MC6 66 4133-A6 76 622-L0 2B - 004 1A - 007 57 4212-J5 68 6123-Q5 77 6139-LM6 67 6129-Q9 1A - 003

Legend

- Miris Corners
- Remonumented Section Corners
- Stand Boundaries

Site Condition Available

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

Site Condition Type

Available Factors W/ Constraints

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

Unavailable Factors

- 1A: Federal/State/Local Law
- 2F: Too steep

Dedicated Special Conservation Areas

- Cold Water Streams
- Natural Rivers Zoning District
- Natural Rivers Vegetative Buffer
- Essential Habitat (Kirtland Warbler)
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Research, Development, and Military Lands

1 0.5 0 1 Miles

Stand Boundary Map

Stand # 23

Stocking Density: (412)0) - A7
Level 3 / OI Code
Cover Type Code

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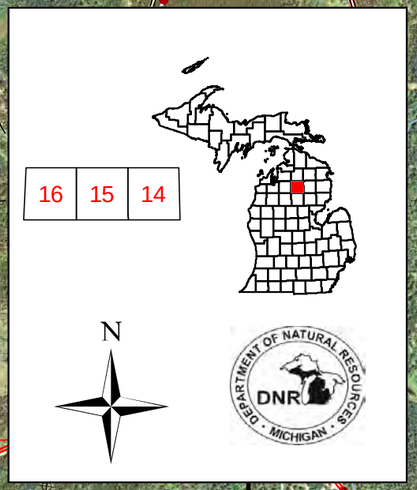

Legend

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Report 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit **Compartment 285 Year of Entry 2015**

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	0	0	36	0	65	0	0	0	0	0	0	0	0	0	**101**
Cedar	0	0	0	0	0	0	0	0	0	0	0	13	0	0	**13**
Herbaceous Openland	33	0	0	0	0	0	0	0	0	0	0	0	0	0	**33**
Jack Pine	0	32	121	101	67	51	0	0	0	0	0	0	0	0	**372**
Low-Density Trees	28	0	0	0	0	0	0	0	0	0	0	0	0	0	**28**
Lowland Conifers	0	0	18	0	0	0	0	0	0	0	0	2	0	0	**21**
Lowland Deciduous	0	0	14	0	6	0	0	0	0	0	0	0	0	0	**20**
Lowland Mixed Forest	0	0	0	0	0	0	0	0	4	0	0	0	0	0	**4**
Lowland Shrub	17	0	0	0	0	0	0	0	0	0	0	0	0	0	**17**
Mixed Upland Deciduous	0	0	0	0	0	0	0	11	0	0	0	0	0	0	**11**
Natural Mixed Pines	0	0	0	0	17	26	0	0	9	0	0	10	0	0	**62**
Oak	0	0	7	0	0	0	0	89	0	6	20	0	0	0	**121**
Planted Mixed Pines	0	38	0	0	18	0	0	0	17	0	0	0	0	0	**73**
Red Pine	0	0	0	0	0	5	5	0	18	0	0	0	0	0	**28**
Tamarack	0	0	9	0	0	0	0	0	0	0	0	0	0	0	**9**
Upland Mixed Forest	0	0	0	0	0	0	0	0	9	0	0	0	0	0	**9**
Urban	18	0	0	0	0	0	0	0	0	0	0	0	0	0	**18**
Water	8	0	0	0	0	0	0	0	0	0	0	0	0	0	**8**
Total	**104**	**70**	**205**	**101**	**172**	**83**	**5**	**100**	**56**	**6**	**20**	**25**	**0**	**0**	**948**

Report 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2015

Compartment 285
Total Compartment Acres: 948

Acres by Treatment Type

Commercial Harvest - 106	Tree Planting - 52	Other - 31
Habitat Cut - 0	Opening Maintenance - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen Types	18	0	0	0	0	0	**18**
Lowland Deciduous Forest	6	0	0	0	0	0	**6**
Natural Pines	17	2	0	0	0	0	**19**
Oak Types	14	0	0	0	0	0	**14**
Planted Pines	35	0	0	0	5	0	**41**
Upland Mixed Forest	9	0	0	0	0	0	**9**
Total	**98**	**2**	**0**	**0**	**5**	**0**	**106**

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
3	72285003-Cut	5.6	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	45	81-110	Harvest	Clearcut with Reserves	6117 - Lowland Deciduous, Mixed Coniferous	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves. Leave all super-canopy white pine and mark out a handful of super-canopy red pine. Leave white pine under six (6) inches.

Other Comments: Harvest in frozen winter months or dry summer months. Stand is seasonally wet. Request survey for the SE corner of the NWSW of Section 14.

Next Steps: Natural regeneration survey. A mix of aspen and mixed conifer regeneration will be acceptable.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
7	72285007-Cut	17.6	4130 - Aspen	Medium Density Pole	45	51-80	Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves. Leave super-canopy red pine and mark out a few small retention pockets around mature balsam fir with low lateral branches for wildlife cover also place retention around pockets of white pine and balsam fir under six (6) inches in diameter.

Other Comments: White pine and aspen regeneration is to thick in areas to operate. Work with the producer to open up operating lains. Stand has significant blown down in areas.

Next Steps: Natural regeneration survey.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
8	72285008-Cut	5.9	4126 - White, Black, N. Pin Oak	Medium Density Log	99	51-80	Harvest	Clearcut with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves. Leave 1 - 3 healthy/dominant oak per acre for mast, focus retention on white oak. Place oak retention in clumps of 2 - 3. Also leave all white and red pine under six (6) inches in diameter.

Other Comments:

Next Steps: Natural regeneration survey. The goal for this stand is a mixed oak/pine stand. A mix of aspen, red maple, and oak would also be acceptable.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
11	72285011-Cut	9.2	4311 - Pine, Aspen Mix	Medium Density Log	84	81-110	Harvest	Clearcut with Reserves	42260 - Natural Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves. Mark out a hand full of healthy/dominant red and white pine for retention. Leave all white pine and balsam fir under six (6) inches in diameter.

Other Comments: Goal of this prescription is to create a mixed pine stand with an aspen component. Avoid using Sheep Pasture access road to the South if possible.

Next Steps: Any mix of aspen, oak, conifer will be acceptable.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
14	72285014-Cut	2.2	42260 - Natural Pine, Mixed Deciduous	High Density Log	110	141-170	Harvest	Group Selection	42201 - Natural White Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Specs: Mark the residual stand to 60 - 80 sqft of BA. Focus residual on healthy/dominant white pine and red pine as well as any vigorous white pine in co-dominant positions. Protect white pine advanced regeneration.

Other Comments: Goal of this harvest is to promote natural white pine and red pine regeneration and recruitment into the canopy.

Next Steps: Natural regeration survey. A mix of aspen, red maple, and pine would also be and acceptable mix of regeneration.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
28	72285028-Cut	5.5	42110 - Planted Red Pine	High Density Pole	53	171-200	Harvest	Crown Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Remove a third of the volume from this stand. Reduce the basal area to 110 - 120 sqft through individual tree marking.

Other Comments: The south end of this stand as a lower stem diameter compared to the north end. Areas of this stand were thinned more as well. Adjust marking as needed. Avoid using Sheep Pasture access road to the South if possible.

Next Steps: No next step.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
33	72285033-Cut	35.2	42120 - Planted Jack Pine	High Density Pole	53	81-110	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest this stand. Focus retention in the SE corner for visual management.

Other Comments: This stand has high stems/acre and small diameter. Setup with adjacent red pine sales to make it more appealing to producers. Mostly chip wood. Avoid using Sheep Pasture access road to the South if possible.

Next Steps: Trench and plant to jack pine. Minimal deciduous competition because of dense jack pine canopy.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
56	72285056-Cut	16.6	42210 - Natural Red Pine	Medium Density Log	84	51-80	Harvest	Clearcut with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves. Leave a few retention pockets healthy red pine along the private boundaries for visual.

Other Comments: Parts of this stand are within the 150 ft natural river buffer for the W. Branch Big Creek. Buffer was built into the prescription boundary.

Next Steps: Trench and re-plant to red pine. Competition should be minimal. A mixed pine /oak stand will also be acceptable.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
70	72285070-Cut	8.1	4125 - Black, N. Pin Oak	Medium Density Log	107	81-110	Harvest	Clearcut with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest with reserves. Leave all white pine and mark to leave 1 - 2 healthy oak per acre.

Other Comments: The south part of this stand is extremely steep. Run treatment boundary along the top of the ridge.

Next Steps: Natural regeneration survey. A mix of oak, aspen, pine will be acceptable. Trench and plant red pine if stocking levels are not adequate.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
10	72285010-Prep	6.8	4125 - Black, N. Pin Oak	Low Density Log	105	1-50	Site Prep	Scarification	4126 - White, Black, N. Pin Oak	Cmpt. Review Proposal

Prescription Specs: Scarify soil with either chains or by putting in furrows underneath current overstory to promote natural oak regeneration within this stand. Apply this treatment during a heavy mast year.

Other Comments: Perform task with Grayling staff and equipment. Possibly use as training.

Next Steps: Natural regeneration survey next YOE.

Proposed Start Date: 10/01/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
65	NF_72285065-Prep	24.5	3105 - Mixed Upland Herbaceous				Site Prep	Trenching		Cmpt. Review Proposal

Prescription Specs: Stand needs site prep work. Roller chopping and possibly herbicide to reduce cherry competition.

Other Comments: Utility lines run along Sawmill Trail to the North.

Next Steps: Plant red pine.

Proposed Start Date: Unspecified

Total Treatment Acreage Proposed: 137.2

Report 4 -- Treatments Prescribed with a Limiting Factor

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

Prescription Specs:

Other Comment:

Next Steps:

Proposed Start Date: #Type!

Limiting Factor

Total Treatment Acreage Proposed: 0.0

Data updated yesterday after 6:00 PM

Report 5 – Site Conditions

Grayling Mgt. Unit | **Compartment 285**

Scott Shooltz : Examiner | **Year of Entry 2015**

Availability for Management

Total Acres	Acres Available	Acres Not Available		Dominant Site Conditions No	3D	2F	2B	1A
101	94	7	**Aspen**	94				7
13	6	6	**Cedar**	6	2			4
372	372		**Jack Pine**	372				
21	15	5	**Lowland Conifers**	15				5
20	15	5	**Lowland Deciduous**	15		1		4
4	2	2	**Lowland Mixed Forest**				2	2
11	8	3	**Mixed Upland Deciduous**	8	3			
62	59	4	**Natural Mixed Pines**	59				4
121	112	10	**Oak**	112		10		
73	73		**Planted Mixed Pines**	73				
28	22	6	**Red Pine**	22	5			1
9	3	6	**Tamarack**	3	0			6
9	9		**Upland Mixed Forest**	9				
844	791	53	Total Forested Acres	789	10	10	2	32
	94%	6%	Relative Percent					

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
003	**Not Available**	**1A: Federal/State/Local Law**	2	2G: Too wet (sensitive soils, does not include access issues)			
	Comments: Natural river buffer 150 ft from E. Branch Big Creek. Soils also saturated.						
004	**Available**	**2B: Unknown if access through adjacent landowner(s) is possible**	2	2C: Engineered Bridge Needed (Dept. portable bridge not available or inadequate)	No Limiting Factor		
	Comments:						

005	**Not Available**	**1A: Federal/State/Local Law**	30	

Comments:

N. Branch AuSable natural river buffer 150 ft. from rivers edge.

006	**Not Available**	**1A: Federal/State/Local Law**	1	

Comments:

W. Branch Big Creek natural river buffer 150 ft. from rivers edge.

007	**Not Available**	**1A: Federal/State/Local Law**	11	

Comments:

E. Branch Big Creek natural river buffer 150 ft. from river edge.

008	**Not Available**	**2F: Too steep**	9	

Comments:

Grade above 40 %. May be able to harvest part of this slope either from the top or the bottom.

009	**Not Available**	**2F: Too steep**	2	

Comments:

010	**Not Available**	**3D: Recreational / Scenic values**	11	1A: Federal/State/Local Law

Comments:

Sheep Pasture Access Site. Parks and Recreation Division Management Priority. Also contains the 150 ft Natural River Buffer which buffers the N. Branch AuSable River.

Report 6 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

SCA Name	SCA Category	Detail Type	Recommendation	Acres

Comments

Report 7 – DEDICATED CONSERVATION AREA DETAILS

* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

ERA = Ecological Reference Area
HCVA = High Conservation Value Area
SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	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 Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42290 - Natural Mixed Pine	High Density Pole	18.3	50	111-140	The canopy is a mix of cedar pocets and white pine/balsam fir to the north and white/red pine to the south along the river. Quaking aspen is evenly spread throughout the stand. Super-canopy of white and red pine throughout this stand but primarily located along the river. Nice lowland mix.
2	6120 - Lowland Cedar	High Density Log	4.3	110	141-170	North along the river is lower than to the south. This is where spruce, tamarack, and red pine show up. Aspen and balsam fir are on higher ground and are succumbing to blow down.
3	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	5.6	45	81-110	(Old Comment: Cut by wildlife in 1968. Beaver flooding and cutting in the northwest part of the stand.) Scattered super-canopy red and white pine. Some white pine regeneration is recruiting to the canopy. Stand is seasonally wet. Tag alder in the sub-canopy.
6	6120 - Lowland Cedar	High Density Pole	6.3	110	141-170	Cedar stand with pockets of balsam fir and spruce. Super-canopy red pine throughout this stand. Cedar varies from log size to sapling but is primarily pole size. Sapling stems were present in the balsam fir patches. Cored sapling cedar, found to be supressed individuals not regeneration. Good wildlife stand.
7	4130 - Aspen	Medium Density Pole	17.6	45	51-80	Left residual oak and pine throughout. Heavy white pine understory. Significant blow down in the eastern part of the stand. Created an above normal slash load.
8	4126 - White, Black, N. Pin Oak	Medium Density Log	5.9	99	51-80	Canopy is dominated by large diameter, spralling oaks. The basal area (BA) of this group is relatively small. BA is more representative of the sub-canopy which is a mixture of pole/log size red maple and oaks along with scattered white pine.
9	4131 - Aspen, Oak	Medium Density Pole	9.1	41	51-80	Oak aspen stand with red pine mixed in. Aspen is pole size with a handful of individuals reaching log size. The understory is mostly black cherry but red and white pine has seeded in towards the south part of the stand. Good wildlife cover because of the presents of coarse woody debris and conifers in the understory.
10	4125 - Black, N. Pin Oak	Low Density Log	6.8	105	1-50	Final harvested 12-31-1972, all merchantable jack pine and aspen were removed. 11-01-1961 all jack pine 10" and over in diameter were removed. Currently cherry brush and sparse jack pine make up the sub-canopy with a canopy of oak and pine.
11	4311 - Pine, Aspen Mix	Medium Density Log	9.2	84	81-110	Final harvested 10-01-1986 as part of Nash Camp Log Block TS# 720048601. Mostly red pine logs were removed from this stand but a minor component of oak and white pine was removed as well. Aspen regenerated below the residual red and white pine. Balsam fir and n. pin oak also regenerated where aspen was less dense. A few red pine also recruited. Stand consists of open pockets amongst denser timber.
12	42290 - Natural Mixed Pine	Medium Density Log	8.0	110	81-110	Large diameter trees are slowly weakening and falling over or snapping due to wind. This is allowing the stand to display gap phase dynamics of a climax stand. White and red pine are recruiting into these gaps along with some deciduous species.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
14	42260 - Natural Pine, Mixed Deciduous	High Density Log	2.2	110	141-170	Stand is on a gental north facing slope resulting in a dryer south end which gradually increases in moisture as you move south. This plus some nutrient level differences explains the variation in site index.
15	42290 - Natural Mixed Pine	Medium Density Log	7.8	52	1-50	Stand was cut in 1987. Oak has stump sprouted along with red maple . White pine and red pine were advanced regeneration that was left. Younger oak and maple is growing into a mixed white/red pine canopy currently. White pine has poorer form than the red pine but both are putting on acceptable growth. Oak and red maple stump sprouts will close in the canopy and push pine upwards. PVCd/PArVHa.
16	4133 - Aspen, Mixed Pine	Medium Density Pole	14.7	45	51-80	Aspen canopy with a varying sub-canopy. Balsam fir is dominant along with some white pine close to the river. This transitions to white and red pine farther from the river. Pockets of super-canopy red pine within this stand. Blow down is a major factor in this stand's low crown closure.
18	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Log	16.7	84	81-110	Red pine is more dense to the north with some jack pine mixing into the canopy and the sub-canopy. Oak and aspen filling in to the south. Minimal understory throughout the stand. Some balsam fir present for cover.
19	6121 - Tamarack	High Density Pole	8.7	25		Stand is seasonally wet. White and red pine are scattered throughout this stand . Power line also runs through this stand.
20	4131 - Aspen, Oak	High Density Pole	19.0	26		Final harvested 7-31-1987 as part of Green Box Block TS# 720028601. PArHa/PArVVb. Aspen is growing well.
22	4122 - Oak, Pine	Medium Density Log	30.4	75	1-50	Low density oak stand with mixed pine throughout. Red and white pine are more prevelant to the west and north. This transitions to jack/red pine mixed in with the oak as you move east and south. PVCd.
23	4125 - Black, N. Pin Oak	Low Density Log	3.8	105	1-50	N. pin oak site. Scattered red pine along the north edge. Jack pine, aspen, and oak make up the understory. All are low density. Most of the understory is cherry brush or herbacious open land.
25	42220 - Natural Jack Pine	High Density Pole	39.4	41	51-80	Final harvested 12-31-1972, removed all merchantable aspen and jack pine with one 8' bolt. Mixed size class of jack pine because of past management. Some of the oak stump sprouted after harvest and is more dense in the west part of the stand.
26	4123 - Red Oak	High Density Log	14.1	74	81-110	This stand was not included in sale to the south because it is to steep. PArHa/PArVVb.
28	42110 - Planted Red Pine	High Density Pole	5.5	53	171-200	3rd row thinned 2-11-2008 as part of Lovell's Sawmill Jack TS# 720520501. Better quality stems to the north. Diameter and height both increase. Crowns are almost touching between every third row.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
29	42110 - Planted Red Pine	High Density Log	5.2	63	171-200	Access to the Sheep Pasture Access Site is through this stand. Department infrastructure and signage are also located in this stand. Stand was planted approximately the same time as stand to the east. Pine is growing well along the river. Most of this stand is within the Natural River Buffer.
30	4131 - Aspen, Oak	High Density Pole	10.1	26		Final harvested 3-31-1987 as part of North Branch Block TS# 720038601. Left all cedar and removed aspen, oak, and red pine.
32	4124 - Red with White Oak	High Density Pole	44.6	74	51-80	Stand was thinned 10-15-2009 as part of N. Branch Oak Thin TS# 720290501. Removed all red maple and aspen as well as marked the residual oak down to 50 sq ft/acre. 219 cords of mixed oak was removed. PArHa/PArVVb.
33	42120 - Planted Jack Pine	High Density Pole	35.2	53	81-110	Most of this stand has stagnated because of its high number of stems per acre. Areas where blow down has occured the jack pine is larger in diameter. Scattered log size red pine throughout, less than 2%.
34	4130 - Aspen	Medium Density Pole	4.9	41	51-80	Cut in 1972 with adjacent stand. Aspen pocket which regenerated nicely. More dense to the north. Aspen loses diameter and basal area as you move south.
35	42360 - Upland Cedar	High Density Log	2.0	110		Sheep Pasture access site. Contains a turn around/parking area as well as signage and some minimal infrastructure. Located in a small cedar patch along the river.
38	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	6.4	26		Cedar and white pine were left from previous harvest. White pine was more than likely sub-canopy judging by its poor form and lack of height.
39	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	11.2	75	51-80	Red pine and aspen along west aspect of the ridge that paralells the power line and in the river flat. Oak is primarily on top of the ridge and to the east. This is also where oak regeneration is the heaviest. Older aspen stems are deteriorating. Pine is recruiting to the canopy in spots primarily in lower areas closer to the river. Balsam fir is heaviest adjacent to the river.
40	42121 - Planted Jack Pine, Mixed Deciduous	High Density Sapling	31.8	17		Harvest in 1995 as part of Sec. 16 Jack Block TS# 720079501. FTP for planting was sent to the District. Planted to JP in 1996. Scattered larger diameter red pine throughout this stand. PVCd.
41	42120 - Planted Jack Pine	High Density Pole	14.9	53	81-110	Heavy trail incluence due to canoe landing. Most of this stand has stagnated because of its high number of stems per acre. Areas where blow down has occured the jack pine is larger in diameter. Scattered log size red pine throughout, less than 2%.
42	4121 - Oak, Aspen	High Density Sapling	6.7	26	51-80	Final harvested 7-31-1987 as part of Green Box Block TS# 720028601. Stand is on a very steep hill. PArHa/PArVVb. Left scattered red pine and a few white pine throughout.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
45	42120 - Planted Jack Pine	High Density Pole	14.5	33		Leave another YOE. Jack pine still has most of its lower lateral branches and is just becoming merchantable. Appears to be stagnating and may be vulnerable to jack pine budworm in the area.
46	42120 - Planted Jack Pine	High Density Pole	44.4	33		Jack pine still has most of its lower lateral branches and is just becoming merchantable. Appears to be stagnating and may be vulnerable to jack pine budworm in the area.
47	42121 - Planted Jack Pine, Mixed Deciduous	High Density Pole	15.0	33		Oak stump sprouted heavier in this stand compared to adjacent stands. Jack pine still has most of its lower lateral branches and is just becoming merchantable. Appears to be stagnating and may be vulnerable to jack pine budworm in the area.
48	42290 - Natural Mixed Pine	Medium Density Log	7.6	40	1-50	Final harvested 3-31-1989 as part of Sno-Trac Pine Block TS# 720638701. Scattered clumped red pine was advanced regeneration left from the last harvest.
49	42120 - Planted Jack Pine	High Density Pole	1.2	52	111-140	(Old Comment: Treatment Limiting Factored due to scenic values/visual values and small acerage.) Mix of jack pine and red pine. Red pine along with a few jack pine stems are older. One or two aspen pockets with in this stand.
50	42120 - Planted Jack Pine	High Density Pole	26.9	33		Residual oak in the south part of stand were left for visual managment. Jack pine still has low lateral branches. Planted in 1980. Appears to be stagnating and may be vulnerable to jack pine budworm in the area.
51	42141 - Planted Mixed Pine, Mixed Deciduous	Medium Density	38.4	18		Final harvested 3-31-1989 as part of Sno-Trac Pine Block TS# 720638701. FTP for planting was sent to the District. Planted in 1995. Some mortality and weavil damage was recorded in 2003. Natural jack pine over-topped most of the red pine. Created a mixed pine covertype.
53	42220 - Natural Jack Pine	Low Density Pole	5.2	24		Final harvested 3-31-1989 as part of Sno-Trac Pine Block TS# 720638701. FTP for planting was sent to the District. This portion was never planted. Natural jack pine as well as residual red pine dominate this stand.
54	42141 - Planted Mixed Pine, Mixed Deciduous	High Density Pole	18.3	40	81-110	Stand has a larger super-canopy component of oak and red pine than adjacent stands. Jack pine almost acts as the sub-canopy in this stand.
56	42210 - Natural Red Pine	Medium Density Log	17.6	84	51-80	(Old Comment: Inadequate volume due to low stocking and small diameter.) Low density red pine logs. Some mortality is occuring in the red pine. Jack pine, along with a low density of white pine has grown into the canopy where red pine wasn't present. Cherry brush is filling in areas were there is a break in canopy cover.
57	42120 - Planted Jack Pine	Medium Density Pole	7.7	40	51-80	Jack pine is open grown and maintaining a lot of its lower lateral branching. Mix of super-canopy red pine and n. pin oak as well.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
58	42120 - Planted Jack Pine	High Density Pole	19.7	40		Planted in 1973. Scattered super-canopy oak throughout this stand along with a few red pine. Jack pine still have a few lateral branches.
59	42120 - Planted Jack Pine	High Density Pole	46.8	25		Final harvested 6-19-1987 as part of Fast Big Creek Blk. TS# 720088601. Small pocket of larger diameter jackpine was left along the road to the north. Treated as an inclusion. Jack pine is low and acts as excellent cover for wildlife in the area.
61	4130 - Aspen	Medium Density Pole	6.8	26		Aspen regenerated better to the north. The southeast is low density aspen and jack pine stand.
62	42120 - Planted Jack Pine	High Density Pole	34.9	25		Final harvested 6-19-1987 as part of Fast Big Creek Blk. TS# 720088601. Strip of mature trees were left to the north, result of boundary adjustment. Scattered oak stump sprouts throughout this stand.
63	42290 - Natural Mixed Pine	High Density Pole	9.3	89	81-110	Most of the red pine with in this stand is super-canopy. The main canopy is mostly white pine/aspen to the east and white pine/spruce to the west. The spruce within this stand has reached pole size diameter and is approximately 89 yrs old.
64	42290 - Natural Mixed Pine	Medium Density Pole	9.2	47	81-110	Balsam fir component in the canopy as well as the sub-canopy.
66	4133 - Aspen, Mixed Pine	High Density Pole	18.6	47	81-110	Some residual red pine and jack pine scattered throughout. Aspen varies in size and density depending on this residual timber. A balsam fir understory/canopy picks up in the east 1/4 of this stand as elevation drops. White and red pine become more dominant in the NE. Appear to be released sub-canopy individuals at the beginning of the rotation.
67	6129 - Mixed Coniferous Lowland Forest	High Density Log	2.3	110	81-110	(Old Comment: Bought by fish division for access to the river. Cedar declining, blow down damage as well. Grassy along river which provides good access for fisherman.)
68	6123 - Lowland Fir	Medium Density Pole	10.8	24		(Old Comment: Stand was cut during the winter of 88'-89'. Some advanced pockets of aspen and conifer regeneration were left.) This stand is a little lower and contained more beaver activity than adjacent stands. Resulted in a less stocked stand with a lower aspen component. White pine becomes more prevalent to the south.
69	42121 - Planted Jack Pine, Mixed Deciduous	High Density Pole	34.5	25		Final harvested 6-19-1987 as part of Fast Big Creek Blk. TS# 720088601. This stand has a higher amount of stump sprout oak than adjacent jack pine stands.
70	4125 - Black, N. Pin Oak	Medium Density Log	9.2	107	81-110	Old SI 45. (Old Comment: Poor quality oak. Majority of it is on a steep slope with a southern aspect. Some fuelwood cutters have been cutting the dead oak in the stand. YrO: 1906) Oak is rapidly declining.
72	6117 - Lowland Deciduous, Mixed Coniferous	High Density Sapling	8.0	24		(Old Comment: Stand was cut during the winter of 88'-89'. Some advanced pockets of aspen and conifer regeneration was left. Stand was cut very close to the river.) Nice wildlife stand.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
73	6123 - Lowland Fir	High Density Pole	7.5	24		Stand regenerated nicely. Diversity of the prior stand seems to be intact except beaver activity eliminated or reduced the aspen component along the river. Stand is now within the natural river zone.
77	6139 - Mixed Lowland Forest	High Density Pole	3.6	89		Balsam/white pine understory. Oak and aspen is declining.

Report 9 – Nonforested Stands

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
4	621 - Floating Aquatic	2.0	No	Unspecified	(Old Comment: This area has been flooded by beavers. Some big red pine found in stand. A lot of standing dead timber.) Beaver appear to have moved out of this stand but a large portion of it remains flooded.
5	6220 - Alder/willow	3.5	No	Unspecified	Continuously wet stand. Some lowland conifers filling in. Bare Berry was found in this stand.
13	310 - Herbaceous Openland	1.3	No	Unspecified	
17	50 - Water	5.5	No	Unspecified	North Branch AuSable river. 150 ft natural river buffer zone.
21	310 - Herbaceous Openland	1.1	No	Unspecified	Open area within surrounding stand. Result of past management. Good wildlife opening.
24	3303 - Mixed Low Density Trees	11.4	No	Unspecified	Oak/pine barren resemblence.
27	310 - Herbaceous Openland	1.2	No	Unspecified	
31	310 - Herbaceous Openland	1.0	No	Unspecified	Open area within surrounding stand. Result of past management. Good wildlife opening.
36	310 - Herbaceous Openland	4.0	Yes	Low	Sheep Ranch access site. Some signage within this stand.
37	622 - Lowland Shrub	1.0	No	Unspecified	Low pocket along the road. Filled with tag alder and willow. Quaking aspen and jack pine filling in along the edges.
43	3303 - Mixed Low Density Trees	11.5	Yes	Oak	Harvested 2-11-2008 as part of Sawmill Jack Pine TS# 720520501. FTP C72-589 but was never planted. Jack pine, n. pin oak, white pine, balsam fir under 2" were left. Some oak has stump sprouted and is variable in height.
44	11 - Low Intensity Urban	6.0	No	Low	F-97
52	122 - Road/Parking Lot	3.1	No	Unspecified	Power line/access road.
55	3302 - Low Density Conifer Trees	5.1	No	Unspecified	Log size red pine are scattered throughout this stand along with some pole size jack pine. Open areas are cherry brush and blueberry.
60	122 - Road/Parking Lot	8.4	No	Unspecified	Thunder Mug Rd. and a power line.

Data updated yesterday after 6:00 PM

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
65	3105 - Mixed Upland Herbaceous	24.5	Yes	Red Pine	Harvested 2-11-2008 as part of Sawmill Jack Pine TS# 720520501. FTP C72-589.
71	629 - Mixed non-forested wetland	7.4	Yes	Lowland Conifers	(Old Comment: Stand was cut during the winter of 88'-89'. Old beaver activity within this stand.) May be the reason for its non-forested condition. Cattail is growing across this stand but most of the ground cover is sedges. The old beaver damn is in the SW portion.
74	622 - Lowland Shrub	2.4	No	Unspecified	(Old Comment: Beaver activity in 1993.) Stand has some sparse quaking aspen and lowland conifers in it but most of the ground cover is in lowland shrub or sedges.
75	50 - Water	1.0	No	Unspecified	East Branch Big Creek. Has a 150 ft natural river zone buffer.
76	6229 - Mixed lowland shrub	2.4	No	Unspecified	(Old Comment: Beaver activity in 1993.) Stand has some sparse quaking aspen and lowland conifers in it but most of the ground cover is in lowland shrub or sedges.