



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 204

Entry Year 2016

Acreage: 1,281

County Crawford

Management Area: Camp Grayling

Revision Date: 05/28/2014

Stand Examiner: Scott Schooltz

Legal Description:

T 26N R 04W Sections 1, 2, & 3

Identified Planning Goals:

The primary goal is to provide for military training while maintaining for forest health, productivity, species and structural diversity, and sustainability throughout the compartment and to meet restrictions placed on Hanson grant lands. To meet this goal, we should promote mixed stands of pine and oak for diversity of habitat and wildlife species use.

Soil and topography:

Soils within the compartment include a large area of Graycalm Sands in the east and a mix of Croswell Sands, Grayling Sands, Graycalm-Grayling Sands, and Croswell-AuGres soil in the center and to the north. Soil in the west and south west portion of the compartment are made up of Kinross-Augres complex, Dawson-Loxley Peats and Kinross Muck. Topography within the compartment is level to rolling terrain in the east, north, and center portions. The west and southwest portion is largely flat and seasonally wet.

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

The entire compartment is comprised of Hanson Grant Lands and military board lands except for a parcel in the NW of Section 1. The compartment also contains a small parcel of the Grayling Army Airfield in the NW corner. AuSable Trail and Sherwood Forest Subdivisions border the east side of the compartment and are heavily residential areas.

Unique Natural Features:

Michigan Natural Feature Inventory has listed the Calypso (*Calypso bulbosa*), Eastern Massasauga (*Sistrurus catenatus*), Henry's Elfin (*Incisalia henrici*), Hill's Thistle (*Cirsium hillii*), and secretive locust (*Appalachia arcane*) as unique or natural features within this compartment. Also, Lake Margrethe North intermittent wetland complex (as described by MNFI) exist throughout Section 3 of this compartment. Care needs to be taken to protect this bog wetland complex.

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 compartment is part of the Hanson Military Reserve. This land was gifted to the State in 1913 (Act 172) by Mr. Hanson for the following purposes: 1) as a permanent encampment and maneuvering ground for the military, 2) as a game preserve for the breeding and protection of game, 3) as a forest reserve. The MDNR manages the natural resources on Hanson lands as long as management does not conflict with military training needs. Hunting is prohibited on Hanson Grant lands. This compartment also contains five forty-acre parcels in Section 2 and a small piece in Section 1 that are open to hunting.

Watershed and Fisheries Considerations:

This compartment contains a portion of the upper Au Sable River near Pollack Bridge Road. This section of river was historically impaired by the Salling Dam which was removed in 1991. This reach is still recovering from that impairment, and a grant application has been submitted for instream habitat work in this reach. A narrow strip of land just north of Sherwood Forest Subdivision provides for public access to the AuSable River. Currently this access is undeveloped but could be developed in the future.

Wildlife Habitat Considerations:

This compartment appears to be a winter deer yarding area due to heavy deer densities during winter months and presence of thick jack pine cover. Wildlife should investigate and confirm the quality of this yard and winter range. Opening work would be recommended if yarding or winter use by deer is confirmed. Currently over browsing is an issue and negatively affecting the deer population in the area through habitat degradation. This compartment has limited hunting opportunities due to Hanson deed restrictions. The center of Section 3 is part of Lake Margrethe North intermittent wetland complex which hosts a diversity of unique plants and wildlife which are all part of delicate understudied ecosystem. Early notes have mixed pine and oak forests with a hardwood wetlands around the bogs. Efforts should be made to study and direct future

management of this area.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift are the Marshall Sandstone and Michigan Formation. The Marshall was quarried for building stone in the past and the Michigan is quarried for gypsum. A gravel pit is located two miles to the west and potential is good on the upland areas. None of the compartment is leased for oil and gas, as it is part of the Military area. The Compartment is located eight miles northeast of Beaver Creek Field. The field has produced over 21 MBO from the Devonian Richfield and over 5 Bcf gas from the Ordovician Prairie du Chien.

Vehicle Access:

Vehicle access into the compartment can be obtained from several two tracks off of AuSable Trail and north off of M-72 West at the snowmobile parking lot.

Survey Needs:

NE corner of the NWNW of Section 1. Needed for a timber sale boundary between military owned land and military board land.

Recreational Facilities and Opportunities:

The compartment is host to a number of designated recreational trails. The Blue Bear Snowmobile Trail (# 7) traverses the compartment. An ORV Route follows the Blue Bear Snowmobile Trail. The Shore to Shore Riding and Hiking Trail also runs through this compartment. Dispersed recreational opportunities include fishing, bird watching, and hunting in areas designated as open.

Fire Protection:

This compartment falls within jurisdiction of the Grayling DNR, The Grayling Township Volunteer Fire Department and the National Guard for fire suppression. The AuSable River, Lake Margrethe and several fire hydrants on the east side of compartment are the closest water source for fire suppression and several trails traverse through most all of the compartment providing adequate access.

Additional Compartment Information:

Several experimental oak patchcuts were completed in Section 2 in the late 1990's. Old notes suggest very poor oak regeneration as a result of these patch cuts. Poor regeneration was attributed to creating frost conditions with the small size of the cuts, heavy sedge precluding development of seedlings from acorns, and heavy wildlife browse impacting stump sprouting and seedling development. These cuts have since filled in with a good stocking of oak regeneration. Recent large cuts of oak have resulted in a non-forested condition with heavy browse apparent but also very few oak trees actually stump sprouted. The oak resource, which is primarily N. Pin Oak, is aging and becoming less responsive to management in already non-favorable conditions. Caution should be taken when regenerating oak in this area. Site conversion to mixed pine with scattered oak should be considered when managing.

The following reports from the Inventory are attached:

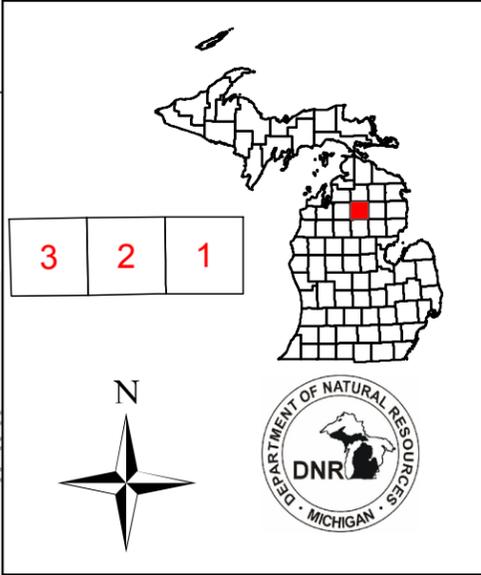
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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: 204
 T26N R04W Sec. 02, 03
 County: Crawford
 Unit: Grayling
 YOE: 2016
 Acres: 1,281 GIS Calculated
 Examiner: Scott Scholtz
 Map Revised: 09/02/2014
 Map Phase: Pre-Review



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

Legend

- Miris Corners
- Remonumented Section Corners
- PLSS Corner
- GPS Point
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Gate
- Berms
- Recreation
- Railroads
- Powerline
- ORV Routes
- Snowmobile Trails
- ORV Route
- Snowmobile Trail
- Stream
- Intermittent Stream
- Lakes and Rivers
- State Forest Land

Treatments

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

Forest Stands

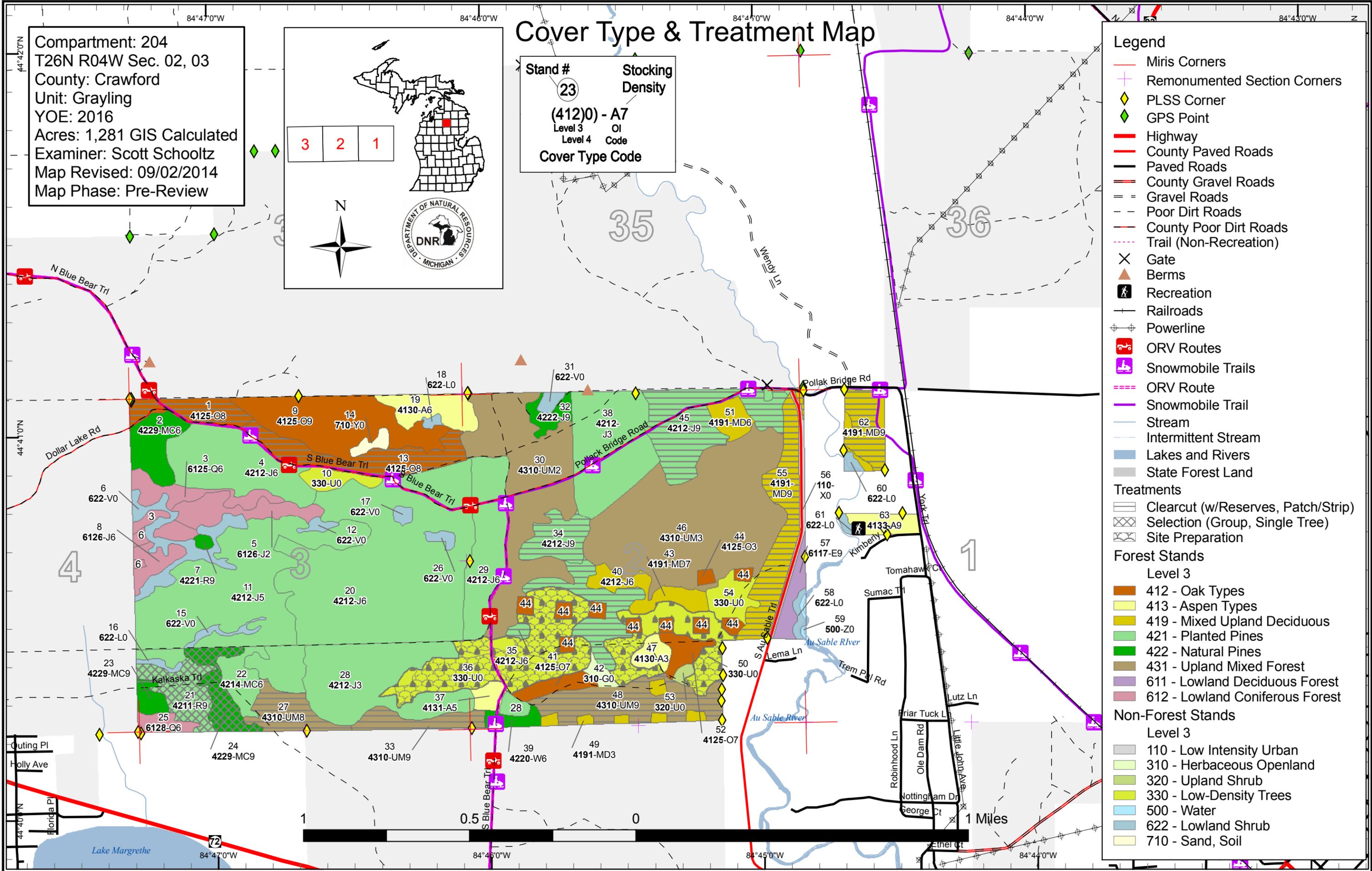
Level 3

- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

Non-Forest Stands

Level 3

- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 710 - Sand, Soil



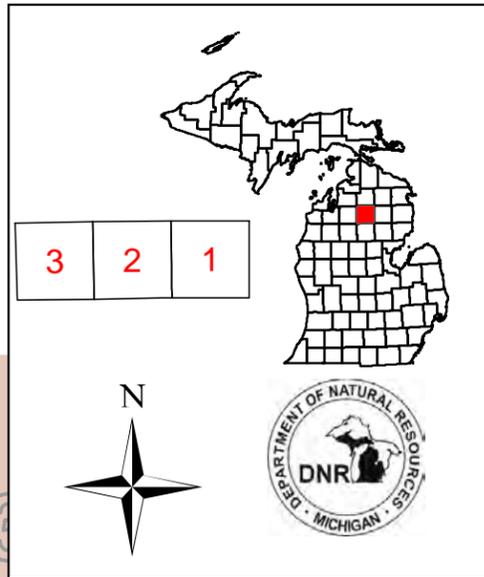
Outing Pl
 Holly Ave
 Florida Pl
 Lake Margrethe

Tomahawk Ct
 Sumac Trl
 Trem Pl Rd
 Lema Ln
 Au Sable River
 Robinhood Ln
 Ole Dam Rd
 Little John Ave
 Nottingham Dr
 George Ct
 Lutz Ln
 Ether Ct



Special Conservation Areas & Site Conditions Map

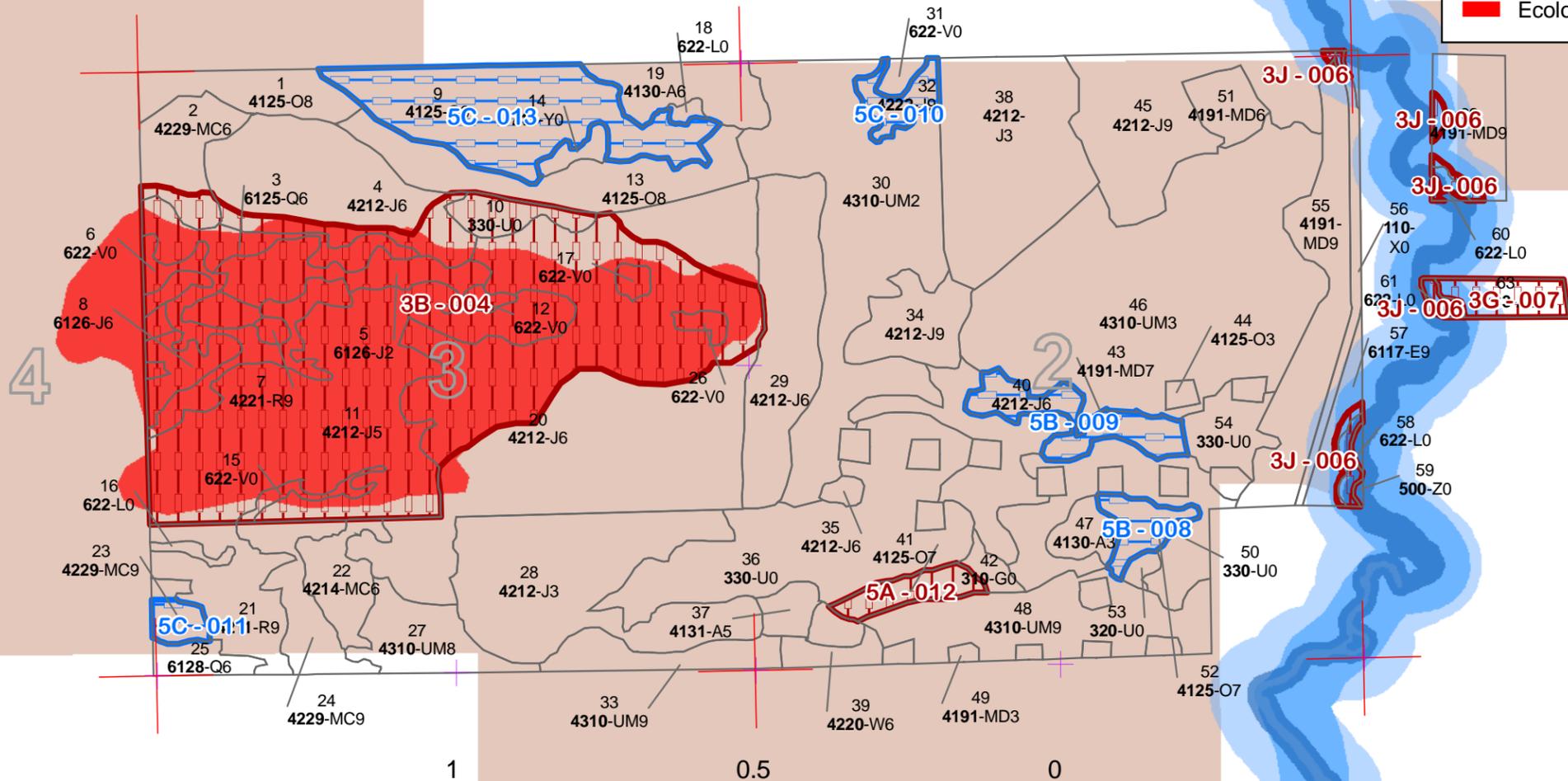
Compartment: 204
 T26N R04W Sec. 02, 03
 County: Crawford
 Unit: Grayling
 YOE: 2016
 Acres: 1,281 GIS Calculated
 Examiner: Scott Scholtz
 Map Revised: 09/02/2014
 Map Phase: Pre-Review



Stand #
 23
Stocking Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

Legend

- Miris Corners
- Stand Boundaries
- Site Condition Available
- ▭ Available w/ Constraints (Factor - Number)
- ▭ Unavailable (Factor - Number)
- Site Condition Type
- Available Factors W/ Constraints
 - 5B: Retention for regeneration purposes
 - 5C: Delay treatment for age/size class diversity or exceptional site quality
- Unavailable Factors
 - 3B: Threatened, endangered, and special concern species/communities
 - 3G: Other Influence zones - See comments
 - 3J: Water quality / BMPs (stream, river, or lake)
 - 5A: Not able to obtain desirable regeneration
- Special Conservation Areas
 - Cold Water Streams
 - Cold Water Lakes
 - Research, Development, and Military Lands
 - High Priority Trout Stream Buffer
 - Natural Rivers Zoning District
 - Natural Rivers Vegetative Buffer
 - Ecological Reference Areas





	Age Class													Total	
	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
Aspen	6	0	15	5	0	8	0	0	0	0	0	0	0	0	33
Bog	28	0	0	0	0	0	0	0	0	0	0	0	0	0	28
Herbaceous Openland	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Jack Pine	0	107	52	306	0	78	6	0	0	0	0	0	0	0	549
Low-Density Trees	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Lowland Conifers	0	0	0	0	0	20	0	0	0	0	0	0	0	0	20
Lowland Deciduous	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7
Lowland Shrub	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Mixed Upland Deciduous	0	6	7	0	0	0	0	0	64	0	0	0	0	0	78
Natural Mixed Pines	0	0	0	0	16	0	0	0	0	5	14	0	0	0	34
Oak	0	15	0	0	0	0	0	0	28	73	0	0	0	0	116
Planted Mixed Pines	0	0	0	11	0	0	0	0	0	0	0	0	0	0	11
Red Pine	0	0	0	0	0	0	0	0	1	21	0	0	0	0	22
Sand, Soil	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Upland Mixed Forest	192	0	0	0	0	0	0	0	46	15	0	0	0	0	253
Upland Shrub	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Urban	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Water	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
White Pine	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
Total	351	127	74	322	23	110	6	0	28	185	41	14	0	0	1281



Report 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2016

Compartment 204
Total Compartment Acres: 1,281

Acres by Treatment Type

Commercial Harvest - 261 Tree Planting - 64 Other - 68
 Habitat Cut - 0 Opening Maintenance - 0

Cover Type by Harvest Method

		<i>Clearcut</i>	<i>Selection</i>	<i>Seed Tree</i>	<i>Shelterwood</i>	<i>Thinning</i>	<i>Other - Specify</i>	<i>Total Acres</i>
Mixed Upland Deciduous	47	0	0	0	0	0	0	47
Natural Pines	1	14	0	0	0	0	0	15
Oak Types	43	0	0	0	0	0	0	43
Planted Pines	77	17	0	0	0	0	0	95
Upland Mixed Forest	61	0	0	0	0	0	0	61
Total	230	31	0	0	0	0	0	261



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
1 72204001-Cut	14.4	4125 - Black, N. Pin Oak	Medium Density Log	93	1-50	Harvest	Clearcut	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Final harvest 2" and up. No retention due to small acerage and forest health concern.

Specs:

Other Comments: Harvest all dead and dying oak may be a significant volume in this stand. Protect snowmobile signs and trail during harvest.

Next Steps: Plant to red pine. Site prep as needed.

Proposed Start Date: 10/01/2015

13 72204013-Cut	28.2	4125 - Black, N. Pin Oak	Medium Density Log	88	51-80	Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Final harvest 2" and up. Apply area retention around heaviest advanced white pine regeneration.

Specs:

Other Comments: Harvest all dead or dying oak may be a significant volume. Protect snowmobile trail and signs during harvest.

Next Steps: Plant to red pine. Site prep as needed.

Proposed Start Date: 10/01/2015

21 72204021-Cut	17.3	42110 - Planted Red Pine	High Density Log	106	171-200	Harvest	Group Selection	42260 - Natural Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Variable thin stand from 100 - 50 BA utilizing leave islands, large canopy gaps, and individual marking. Focus leave islands around wet areas and dense pockets of red pine. Mark to leave large, wind firm trees in heavily thinned areas. Leave all white pine and create canopy gaps adjacent to seed producing trees.

Other Comments: Harvest during dry summer months. Scarify ground as much as possible during harvest to prepare seed bed. Buffer vernal ponds or areas with standing water 50 ft.

Next Steps: Prescribe burn with adjacent treatment or possibly with future ERA burn. Management objective is natural mixed pine with mixed deciduous. Will accept any upland mix. Long term objective is a mixed age structure of pine which resembles old growth characteristics.

Proposed Start Date: 10/01/2015

23 72204023-Cut	1.2	42290 - Natural Mixed Pine	High Density Log	106	81-110	Harvest	Clearcut	42260 - Natural Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Final harvest. Leave all white pine and white oak.

Specs:

Other Comments: Utilize two track as south boundary. This stand may be the best area for a landing.

Next Steps: Prescribe burn with adjacent treatment or possibly with future ERA burn. Management objective is natural mixed pine with mixed deciduous. Will accept any upland mix. Long term objective is a mixed age structure of pine which resembles old growth characteristics.

Proposed Start Date: 10/01/2015



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

Prescription
Specs:

Other
Comment:

Next
Steps:

Proposed
Start Date: #Type!

Limiting Factor

**Total Treatment
Acreage Proposed: 0.0**



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
35 72204035-Cut	1.7	42120 - Planted Jack Pine	High Density Pole	56		Harvest	Clearcut	42221 - Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Final harvest. No retention because of small stand size.

Specs:

Other Tree length skid if possible to promote scarification and seed dispersal.

Comments:

Next Steps: Natural regeneration survey. Management objective is natural jack pine mixed deciduous but will accept any upland mix. Re-plant open area to jack pine if stocking is not adequate.

Proposed

Start Date: 10/01/2015

40 72204040-Cut	21.3	42121 - Planted Jack Pine, Mixed Deciduous	High Density Pole	56		Harvest	Clearcut with Reserves	42121 - Planted Jack Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Final harvest. Apply standard retention as boundary exclusions.

Specs:

Other Tree length skid if possible to promote scarification and seed dispersal.

Comments:

Next Steps: Natural regeneration survey. Management objective is natural jack pine mixed deciduous but will accept any upland mix. Re-plant open area to jack pine if stocking is not adequate.

Proposed

Start Date: 10/01/2015

45 72204045-Cut	39.9	42121 - Planted Jack Pine, Mixed Deciduous	High Density Log	53		Harvest	Clearcut with Reserves	42221 - Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Final harvest. Leave all red and white pine. Apply standard retention as islands.

Specs:

Other Tree length skid if possible to promote scarification and seed dispersal. Focus retention along snowmobile trail. Protect trail and signage during harvest operations.

Comments:

Next Steps: Natural regeneration survey. Management objective is natural jack pine mixed deciduous but will accept any upland mix. Re-plant open area to jack pine if stocking is not adequate.

Proposed

Start Date: 10/01/2015

48 72204048-Cut	34.3	4310 - Pine, Oak Mix	High Density Log	93	81-110	Harvest	Clearcut with Reserves	4310 - Pine, Oak Mix	Cmpt. Review Proposal
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Prescription Final harvest. Leave all red and white pine. Apply standard retention, focus along private in the NE corner. Mark to leave a handful of the healthier black oak. Leave all white oak.

Specs:

Other Residual pine BA should be between 30 - 50 BA. Leave tops to discourage deer browse of regeneration. Scarify soil during harvest. Harvest during summer months for best scarification.

Comments:

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

Proposed

Start Date: 10/01/2015



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
55 72204055-Cut	33.1	4191 - Mixed Upland Deciduous with Conifer	High Density Log	93	51-80	Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal

Prescription Final harvest 2" and up except leave all white and red pine. Apply standard area retention around heavy white pine advanced regeneration.
Specs:

Other Comments: Heavy visual influence on this stand. Harvest all dead or dying oak. Protect snowmobile trail and signage during harvest.

Next Steps: Natural regeneration survey. Management objective for this stand is mixed upland deciduous with a conifer component. Will accept any upland mix. Regeneration will be a concern for this stand. If parts or all of this stand fail, replant open areas to red pine.

Proposed Start Date: 10/01/2015

62 72204062-Cut	14.1	4191 - Mixed Upland Deciduous with Conifer	High Density Log	93	81-110	Harvest	Clearcut with Reserves	42290 - Natural Mixed Pine	Cmpt. Review Proposal
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Prescription Harvest oak, aspen, and maple. Mark out operational pine where necessary. Apply standard retention.
Specs:

Other Comments: Average pine BA of 40 in the canopy. Medium stocking of pole size white pine in the understory. Observe natural river buffer. Stand has a small inclusion of cedar/tamarack in the SW corner. Protect snowmobile trail and signage during harvest.

Next Steps: Natural regeneration survey. Management objective is mixed natural pine but will accept any upland mix. Mechanically scarify if natural regeneration fails.

Proposed Start Date: 10/01/2015

36 NF_72204036-Prep	50.1	3303 - Mixed Low Density Trees				Site Prep	Chopping	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Roller chop stand to reduce cherry, aspen, and maple competition. Identify pockets of oak to leave for diversity.
Specs:

Other Comments: Oak pockets should be in addition to the five spot pockets already established (st. 44).

Next Steps: Herbicide if needed. Otherwise trench and plant red pine.

Proposed Start Date: Unspecified

36 NF_72204036-Prep_small	1.6	3303 - Mixed Low Density Trees				Site Prep	Chopping	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Roller chop stand to reduce cherry, aspen, and maple competition. Identify pockets of oak to leave for diversity.
Specs:

Other Comments: Oak pockets should be in addition to the five spot pockets already established (st. 44).

Next Steps: Herbicide if needed. Otherwise trench and plant red pine.

Proposed Start Date: Unspecified



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
50 NF_72204050-Prep	15.3	3303 - Mixed Low Density Trees				Site Prep	Chopping	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription Roller chop stand to reduce cherry, aspen, and maple competition. Identify pockets of oak to leave for diversity.

Specs:

Other Oak pockets should be in addition to the five spot pockets already established (st. 44).

Comments:

Next Herbicide if needed. Otherwise trench and plant red pine.

Steps:

Proposed

Start Date: Unspecified

72204_OYOE-Fish	0.6					Other	Other - Specify	790 - Other Bare/Sparsely Vegetated	Cmpt. Review Proposal
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Prescription Maintain site for stockpiling material dredged from sand traps.

Specs:

Other Currently used for Williams Tract and AuSable Trail sand traps.

Comments:

Next When the site will no longer be used for additional sand deposits, re-contour and re-vegetate with site-appropriate species as indicated in IC4287

Steps: "Vegetation Restoration of ROW, Well Sites and Other Cleared Sites on State Forest Land - NLP" or current equivalent guidance.

Proposed

Start Date: 10/01/2013

**Total Treatment
Acreage Proposed: 328.4**



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4125 - Black, N. Pin Oak	Medium Density Log	14.4	93	1-50	Oak mortality is high within this stand. Understory is minimal. Blue Bear snowmobile trail runs along the south boundary.
2	42290 - Natural Mixed Pine	High Density Pole	15.6	46	51-80	Oak experiencing mortality more than likely due to decline complex, e.g. age, site index, oak wilt, secondary pests. White pine is putting on good growth. Scattered throughout the stand but heaviest to the south. Jack pine is doing well where it was free to grow.
3	6125 - Lowland Black Spruce, Jack Pine	High Density Pole	14.3	50		Narrow strip between upland jack pine plantation and lowland jack pine plantation. This stand is the transition between the two. Spruce where more than likely released when the stand was harvested in the late 70's. Jack pine was then inter planted between clumps of spruce. Spruce understory is growing in clumps.
4	42120 - Planted Jack Pine	High Density Pole	42.1	35		Same age as adjacent stands. This stand contains more upland species than adjacent plantaion stands. Oak to the north, spruce to the south. Stand does not drop much in elevation. South edge is a transition from upland to lowland. Planted jack pine with natural jack pine mixed in. Previous inventory suggested natural origin but stand was part of larger planting block and contains evidence of rows.
5	6126 - Lowland Jack Pine	Medium Density	17.3	29		Water table appears to be higher in this stand compared to adjacent stands. Dense pockets of understory jack pine mixed with open areas. These areas may contain standing water during parts of the year. Previous inventroy called this stand a treed bog. Part of a larger intermittent wetland complex. Harvested in late 70's. Stand was either avoided when adjacent stands were planted or plantation failed. Natural plant community as since succeeded.
7	42210 - Natural Red Pine	High Density Log	1.3	93	141-170	Stand is a upland transition from lowland intermittent wetland. Small pocket of natural log size red pine possibly a result of the historic fire regime accociated with the surrounding plant community.
8	6126 - Lowland Jack Pine	High Density Pole	10.7	35		Part of surrounding plantation but with a higher mix of spruce and natural pine. This stand is seperated by low ground which is seasonally wet.
9	4125 - Black, N. Pin Oak	High Density Log	44.9	93	111-140	Stand is made up of several ridges with a south aspect. White oak is more prevelent along the bottom of the ridges. A heavy white pine understory is also present here. Understory is minimal along the top of the ridges.
11	42120 - Planted Jack Pine	Medium Density Pole	90.6	35		Planted jack pine stand. Originally planted with surrounding pine stands. Stand appears to have been subject to mortality early on due to the seasonably higher water table in this area. Jack pine and black spruce filling in canopy gaps.
13	4125 - Black, N. Pin Oak	Medium Density Log	28.2	88	51-80	Pine understory is thickest in western parts of the stand. Thinned heaver towards snowmobile trail.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
6	6225 - Bog	17.9	No	Unspecified	Scattered trees along perimeter. Ground cover changes yearly from grass to water to shrub depending on the water table.
10	3302 - Low Density Conifer Trees	6.7	No	Unspecified	Trees range from seedling to pole size. Evenly distributed. Good example of an evolving intermittent wetland succeeding to a lowland conifer forest.
12	6225 - Bog	1.8	No	Unspecified	Seasonally to yearly wet. Water table fluctuates as a natural process with this community.
14	710 - Sand, Soil	2.9	No	Low	Old gravel pit.
15	6225 - Bog	2.7	No	Low	Seasonally to yearly wet. Water table fluctuates as a natural process within this community.
16	6229 - Mixed lowland shrub	1.6	No	Low	Forested drain filled in with leatherleaf and blue berry. Part of surrounding pine plantation but had a higher water table more often than surrounding stand, causing its non-forested condition.
17	6225 - Bog	1.8	No	Unspecified	Seasonally to yearly wet. Water table fluctuates as a natural process in this community.
18	6229 - Mixed lowland shrub	1.1	No	Unspecified	Small kettle hole in surrounding hills. Seasonally wet.
26	6225 - Bog	2.0	No	Unspecified	Seasonally to yearly wet. Water fluctuates as a natural process in this community.
31	6225 - Bog	2.2	No	Unspecified	
36	3303 - Mixed Low Density Trees	57.2	Natural Regen	Oak	Minimal regeneration along with heavy deer browse resulting in low stocking. Snow limited. Maybe more oak under 3 ft. Super canopy oak experiencing mortality. This portion of the previous harvest also had less jack pine.
42	310 - Herbaceous Openland	3.0	No	Unspecified	
50	3303 - Mixed Low Density Trees	26.9	Natural Regen	Oak	Successfully expanded aspen clone in previous harvest but not enough to overcome cherry in this stand. Oak regeneration was low from previous harvest and has experienced heavy deer browse. Black cherry is dominate throughout most parts of this stand.
53	320 - Upland Shrub	1.6	No	Unspecified	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
54	3301 - Low Density Deciduous Tree	9.5	No	Unspecified	
56	11 - Low Intensity Urban	7.5	No	Unspecified	S. AuSable Trl.
58	6220 - Alder/willow	2.1	No	Unspecified	
59	50 - Water	1.0	No	Unspecified	AuSable River
60	6220 - Alder/willow	1.5	No	Unspecified	Year around wet stand along river. AuSable river runs through this stand.
61	6220 - Alder/willow	1.6	No	Unspecified	



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.
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	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.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.