



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 199

Entry Year 2015

Acreage: 530

County Crawford

Management Area: Camp Grayling

Revision Date: 07/22/2013

Stand Examiner: Patrick Mohney

Legal Description:

T25N R04W, Sections 1, 2, 3, (Beaver Creek Township)

Identified Planning Goals:

To maintain species and structural diversity while managing for health, productivity, and sustainability throughout the compartment. To provide multiple use opportunities and incorporate any visual management needed to optimize them while facilitating the military and their needs.

Soil and topography:

The soil types within this compartment are Grayling and Roselawn sands. The terrain is flat with the exception of section 3 which has rolling hills.

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

The compartment consists entirely of State Military Board Land. The majority of the compartment is private land consisting of seasonal and permanent homes. The Fox Run golf course borders the eastern edge of Section 1 along Oak Road. The Military Board Land in the SWNE is land locked and cannot be accessed for management. Land in Section 3 is part of the Hanson Reserve.

Unique Natural Features:

Secretive Locust (*Appalacia arcana*) a species of state special concern is listed for 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:

Section 3 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 needs. Hunting is prohibited on these lands. The military has designated some of the property in this compartment to be traded in order to consolidate property elsewhere.

Watershed and Fisheries Considerations:

No occurrences at this time.

Wildlife Habitat Considerations:

To maintain existing cover types and promote age class diversity where possible to improve habitat conditions for ruffed grouse, deer, and rabbits.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. Glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Michigan Formation, quarried for gypsum elsewhere in the State. Gravel pits are located in the area and potential is good on the upland areas. None of the compartment is currently leased for oil and gas due to Military Board ownership. The Compartment is located one mile northeast of the 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. Quicksilver is currently drilling new wells in the Detroit River 3 Zone in adjacent compartments. No well activity has occurred in this compartment.

Vehicle Access:

The compartment can easily be accessed from the following County Roads: Military, Four Mile, Five Mile, Oak, King, Birchwood, and Beaver. The designated snowmobile trail can also provide access to the interior of several stands. A two track has been created and maintained by an adjacent private property owner which leads from the snowmobile trail to the

property owner's residence. Remedial action has been taken and the property owner has complied to cease all maintenance activities on Military Board Land. It is recommended that this new two track be blocked using posts. New roads constructed in the future for management activities will be blocked. 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:

The possibility for survey needs exist in the compartment.

Recreational Facilities and Opportunities:

A designated snowmobile trail runs through section 1. Other recreational opportunities are hunting, mushrooming, and other forms of dispersed recreation.

Fire Protection:

The compartment contains very little high hazard fuel types. Sections 1 and 2 are surrounded by paved and/or improved gravel roads. Road access is good throughout compartment.

Additional Compartment Information:

The following reports from the Inventory are attached:

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

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

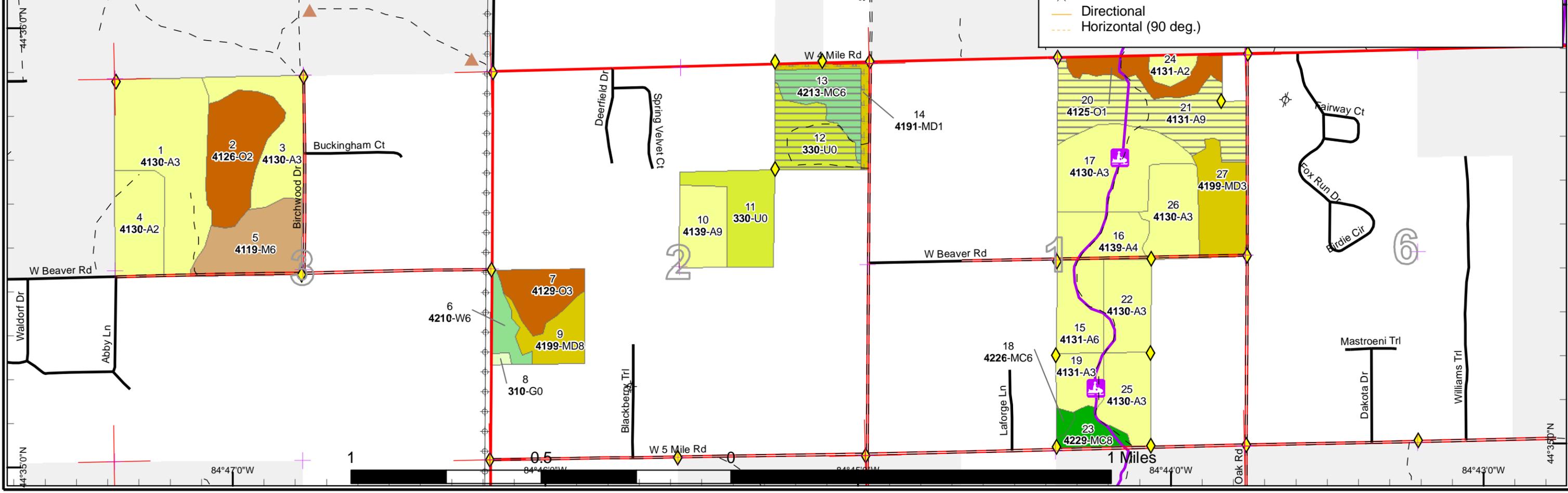
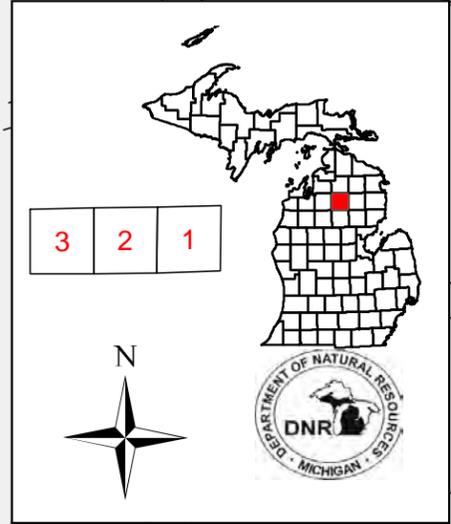
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Compartment: 199
 T25N R04W Sec. 01, 02, 03
 County: Crawford
 Unit: Grayling
 YOE: 2015
 Acres: 530 GIS Calculated
 Examiner: Patrick Mohney
 Map Revised: 09/05/2013
 Map Phase: Pre-Review

Cover Type & Treatment Map

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

- 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
 - Oil & Gas Well Permit Numbers
 - Oil & Gas Wells Plugged Wells
 - Oil
 - ⊙ Natural Gas
 - ⊙ Gas Condensate
 - ⊙ Gas Injection
 - ⊙ Gas Storage
 - ⊙ Liquefied Petroleum Gas Storage
 - ⊙ Gas Production and Brine Disposal
 - ⊙ Brine Disposal
 - ⊙ Dry Hole
 - ⊙ Water Injection
 - ⊙ Other Injection
 - ⊙ Observation
 - ⊙ Other
 - Permitted Well Location
 - × Oil & Gas Well Surface Locations
 - Directional
 - Horizontal (90 deg.)
 - ▲ Berms
 - ⊕ Powerline
 - Snowmobile Trail
 - Snowmobile Trails
 - Stream
 - Intermittent Stream
 - Lakes and Rivers
 - State Forest Land
 - Treatments**
 - Clearcut (w/Reserves, Patch/Strip)
 - Other Treatment - See Comments
 - Forest Stands**
 - Level 3
 - 411 - Northern Hardwood
 - 412 - Oak Types
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - Non-Forest Stands**
 - Level 3
 - 310 - Herbaceous Openland
 - 790 - Other Bare/Sparsely Vegetated



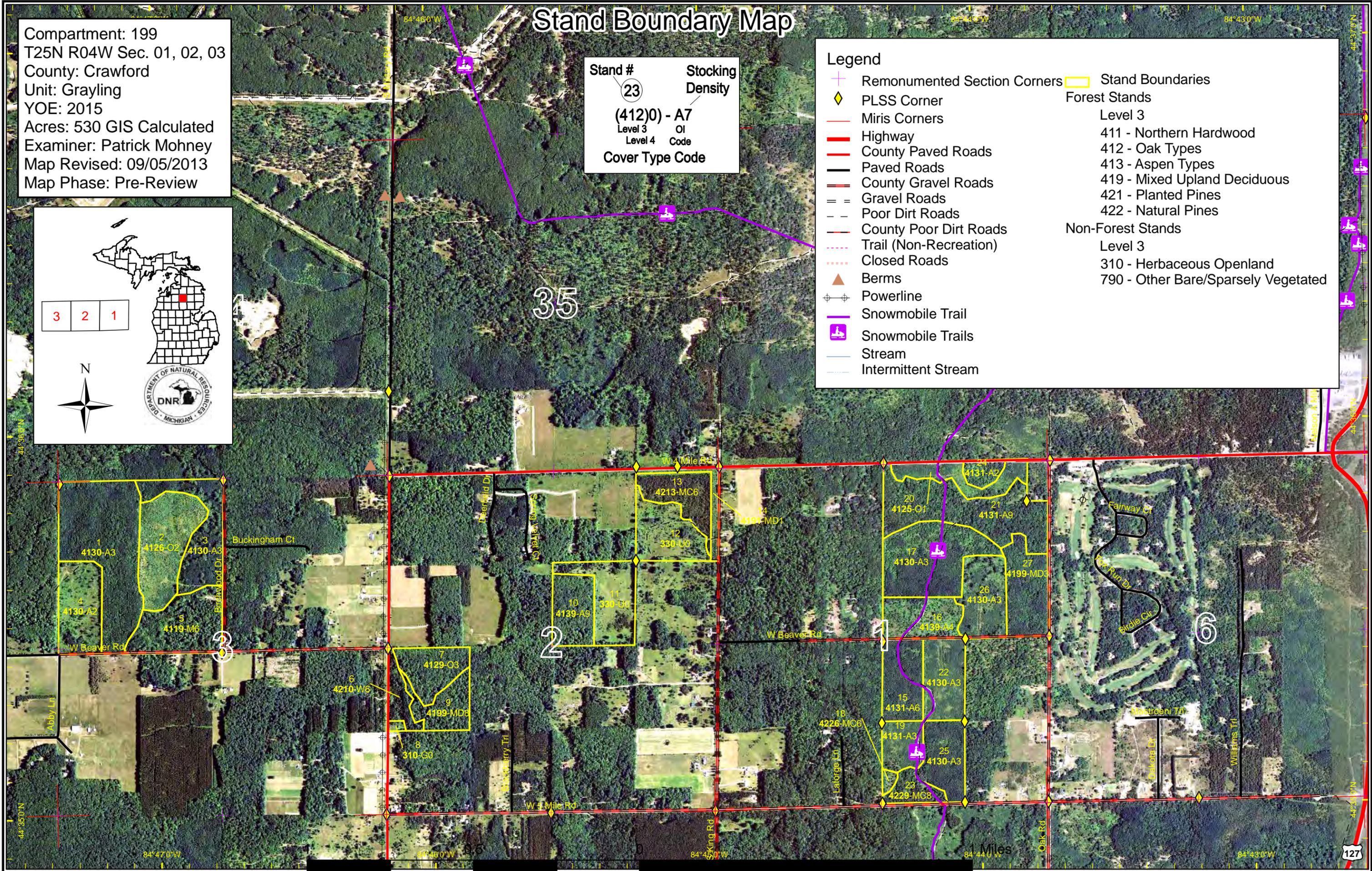
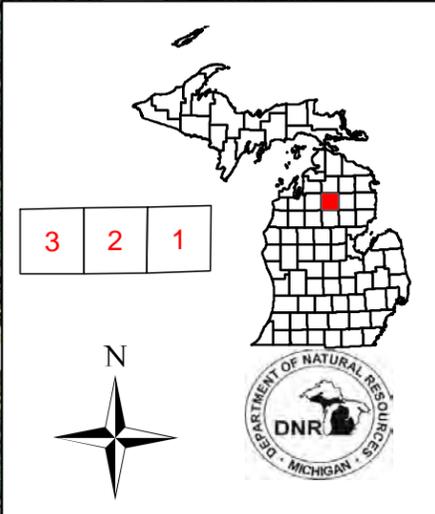
Stand Boundary Map

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

Legend

+	Remonumented Section Corners	□	Stand Boundaries
◆	PLSS Corner	Forest Stands	
—	Miris Corners	Level 3	
—	Highway	411 - Northern Hardwood	
—	County Paved Roads	412 - Oak Types	
—	Paved Roads	413 - Aspen Types	
—	County Gravel Roads	419 - Mixed Upland Deciduous	
—	Gravel Roads	421 - Planted Pines	
—	Poor Dirt Roads	422 - Natural Pines	
—	County Poor Dirt Roads	Non-Forest Stands	
—	Trail (Non-Recreation)	Level 3	
—	Closed Roads	310 - Herbaceous Openland	
▲	Berms	790 - Other Bare/Sparsely Vegetated	
⊕	Powerline		
—	Snowmobile Trail		
—	Snowmobile Trails		
—	Stream		
—	Intermittent Stream		



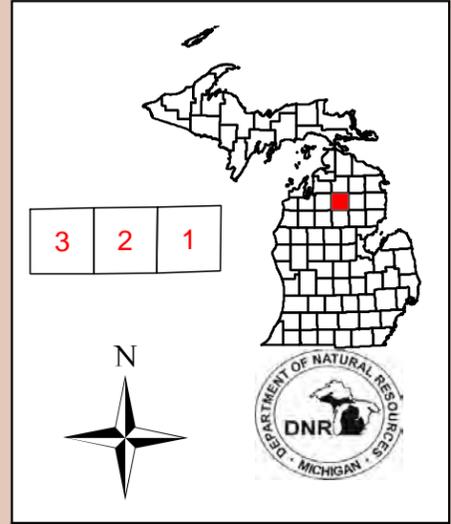
Special Conservation Areas & Site Conditions Map

Compartment: 199
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 County: Crawford
 Unit: Grayling
 YOE: 2015
 Acres: 530 GIS Calculated
 Examiner: Patrick Mohney
 Map Revised: 09/05/2013
 Map Phase: Pre-Review

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

Legend

- + Remonumented Section Corners
- Miris Corners
- Stand Boundaries
- Unavailable (Factor - Number)
 2A: Adjacent landowner denied access
- Dedicated Special Conservation Areas
 Research, Development, and Military Lands



34

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1 4130-A3
 2 4126-O2
 3 4130-A3
 4 4130-A2
 5 4119-M6

6 4210-W6
 7 4129-O3
 8 310-G0
 9 4199-MD8

10 2A-006
 11 330-U0
 12 330-U0
 13 4213-MC6
 14 4191-MD1

15 4131-A6
 16 4139-A4
 17 4130-A3
 18 4226-MC6
 19 4131-A3
 20 4125-O1
 21 4131-A9
 22 4130-A3
 23 4229-MC8
 24 4131-A2
 25 4130-A3
 26 4130-A3
 27 4199-MD3

44°36'0"N

44°36'0"N

44°35'0"N

44°35'0"N

84°47'0"W

84°44'0"W

84°43'0"W

84°47'0"W

84°46'0"W

84°45'0"W

84°44'0"W

1

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1 Miles

Report 1 – Total Acres by Cover Type and Age Class



	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	54	47	137	19	0	0	0	0	44	0	17	0	0	0	318
Herbaceous Openland	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Low-Density Trees	44	0	0	0	0	0	0	0	0	0	0	0	0	0	44
Mixed Upland Deciduous	6	0	22	0	0	0	14	0	0	0	0	0	0	0	42
Natural Mixed Pines	0	0	2	0	0	0	0	8	0	0	0	0	0	0	10
Northern Hardwood	0	0	0	0	0	0	28	0	0	0	0	0	0	0	28
Oak	14	48	0	0	0	0	0	0	0	0	0	0	0	0	62
Planted Mixed Pines	0	0	17	0	0	0	0	0	0	0	0	0	0	0	17
White Pine	0	0	8	0	0	0	0	0	0	0	0	0	0	0	8
Total	120	94	186	19	0	0	42	8	44	0	17	0	0	0	530



Report 2 – Proposed Treatment Summaries

Grayling Mgt. Unit
Year of Entry 2015

Compartment 199
Total Compartment Acres: 530

Acres by Treatment Type

Commercial Harvest - 82	Tree Planting - 0	Other - 6
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>
Aspen Types	44	0	0	0	0	0	44
Low-Density Trees	21	0	0	0	0	0	21
Planted Pines	17	0	0	0	0	0	17
Total	82	0	0	0	0	0	82



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
13 72199013-Cut	17.2	42130 - Planted Scotch Pine	High Density Pole	25		Harvest	Clearcut		Cmpt. Review Proposal

Prescription Final harvest stand, to remove scotch pine from the stand. Leave no retention. Cut everything.

Specs:

Other Comments: Stand is basically unmerchantable as far as size goes. The objective is to remove the scotch pine and prepare the site for planting

Next Steps: Burn, roller chop, herbicide, do whatever it takes to beat back the scotch pine for planting. Trench and plant to red pine.

Proposed Start Date: 10/01/2013

21 72199021-Cut	44.4	4131 - Aspen, Oak	High Density Log	80	51-80	Harvest	Clearcut	4131 - Aspen, Oak	Cmpt. Review Proposal
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Prescription Final harvest stand. Objective is to regenerate aspen and oak. There is oak wilt across street so I would like to maximize regeneration by leaving no retention. Limit snowmobile trail crossing to one location. Use Drumming Log Spec.

Other Comments:

Next Steps: Being a final harvest, this stand requires a regen check. Acceptable regen is oak and aspen mix.

Proposed Start Date: 10/01/2014

12 NF_72199012-Cut	20.9	3303 - Mixed Low Density Trees				Harvest	Clearcut with Reserves		Cmpt. Review Proposal
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Prescription Final harvest stand. Do not cut any apple trees. Cut everything else, remove as much from the site as possible.

Specs:

Other Comments:

Next Steps: Burn, herbicide, roller chop, etc... Use any site prep method necessary to combat the scotch pine and prepare site for planting to Red Pine. Trench and plant to Red Pine. Trench around aspen clones and apple trees as best as you can.

Proposed Start Date: 10/01/2013

14 72199014-Other	5.9	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	6		Other	Unspecified		Cmpt. Review Proposal
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Prescription Roller chop or herbicide stand to prepare site to be planted to Red pine. Protect Apple trees.

Specs:

Other Comments: Stand was supposedly planted to Jack pine, plantation has all but failed and scotch pine is moving into the stand from stand 13.

Next Steps: Trench stand with stands 12 and 13. Trench around apple trees.

Proposed Start Date: 10/01/2013

Total Treatment Acreage Proposed: 88.4



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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

Report 5 – Site Conditions

Grayling Mgt. Unit

Patrick Mohney : Examiner

Compartment 199

Year of Entry 2015

Availability for Management

Total Acres	Acres		Dominant Site Conditions	Dominant Site Conditions	
	Available	Not Available		No	2A
318	301	17	Aspen	301	17
42	42		Mixed Upland Deciduous	42	
10	10		Natural Mixed Pines	10	
28	28		Northern Hardwood	28	
62	62		Oak	62	
17	17		Planted Mixed Pines	17	
8	8		White Pine	8	
485	468	17	Total Forested Acres	468	17
	96%	4%	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
006	Not Available	2A: Adjacent landowner denied access	17				
Comments:							
Stand has been prescribed in the past and access has been denied. No legal access.							



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	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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	High Density Sapling	56.3	25		Excellent aspen regeneration. Some small oak in the understory. Some larger diameter aspen in the SE corner of the stand, looks like it was excluded from the original sale area. Sale was cut in 88.
2	4126 - White, Black, N. Pin Oak	Medium Density	31.2	13		PARVHA/PARVBB. Stand looks to have been cut in the last 10-20 years. Oak is regenerating nicely in some patches. There are some signs of browse throughout. Some larger diameter oak was left throughout stand from sale. Looked at it with B. Piccolo.
3	4130 - Aspen	High Density Sapling	25.5	17		PARVHA/PARVBB. Stand was cut in 1995 (041-95-01). Stand has regenerated nicely. Aspen is clean and straight. Some pine and oak were left from the sale.
4	4130 - Aspen	Medium Density	23.0	4		PARVHA/PARVBB. Stand harvested under contract 72-623-08-01 Wellington Oak/Aspen in summer of 2009. Residual BA of approx 30 (O7). Stand is regenerating slowly. Some large beech and oak were left from sale.
5	4119 - Mixed Northern Hardwoods	High Density Pole	28.2	65	1-50	PARVHA/PARVBB. Small diameter red maple and aspen were removed in 2003 according to old OI notes. Stand has some regeneration filling in, mostly red maple and beech. There is a very small amount of ash in the stand. Beech seems to be healthy. No signs of BBD. Some scotch pine along beaver rd. Probably seeded in from across the street. Not much has made it into the interior of the stand yet.
6	42100 - Planted White Pine	High Density Pole	8.1	28	1-50	Stand is very dense. Plantation of mostly white pine. Has some scotch pine mixed in. South end has some miscellaneous hardwoods. Just reaching pole sized at this time.
7	4129 - Mixed Oak	High Density Sapling	16.3	15		PARVHA/PARVBB. Stand was cut in 1988. Previous inventory indicates that the oak is regenerating slowly.
9	4199 - Other Mixed Upland Deciduous	Medium Density Log	13.8	65	1-50	PARVHA/PARVBB. Stand was shelterwooded in the last 20 years. Thick beech regen. Ash is failing. Some is alive, some is dead. Birch is declining in spots. Other places it seems to be doing well. Oak looks decent, not declining. Lots of nice large diameter stems throughout stand. Inventoried stand with B. Piccolo. A nice mixed stand.
10	4139 - Aspen, Mixed Deciduous	High Density Log	17.1	102		Log sized stand. Mature. Has been prescribed in the past. No legal access to this stand. Cannot dispose of parcel because it is military land.
13	42130 - Planted Scotch Pine	High Density Pole	17.2	25		Very thick scotch pine with a little jack pine mixed within. Stand is seeding into adjacent stands.
14	4191 - Mixed Upland Deciduous with Conifer	Low Density Sapling	5.9	6		PARVHA/PARVBB. CUT IN 2006 SALE#720210501 "SUB ZERO ASPEN". Trenched and planted in 2007. If stand was planted to jack pine, very little has actually survived. Some scotch pine mixed in from plantation. Some larger diameter apple scattered through stand as well.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
15	4131 - Aspen, Oak	High Density Pole	19.3	27	1-50	PARVHA/PARVVB. Stand is growing well. Has some hypox in patches. Not throughout whole stand. Has just reached pole sized. Snowmobile trail passes through stand.
16	4139 - Aspen, Mixed Deciduous	Low Density Pole	18.6	35	1-50	PARVHA/PARVVB. Stand is pretty open. Previously typed a U1. Lots of old stumps. Cherry is poor condition. Aspen is in clumps throughout stand and could be cut. Would like to leave for soft snags. Stand would be beneficial to wildlife. Snowmobile trail passes through stand.
17	4130 - Aspen	High Density Sapling	37.6	25		PARVHA/PARVVB. Stand was cut in 1988. Has good aspen regeneration. Also has some oak coming in underneath. Some hypox throughout stand. Snowmobile trail passes through stand.
18	42260 - Natural Pine, Mixed Deciduous	High Density Pole	1.6	23	1-50	PARVHA/PARVBB. Stand was previously typed as a U1. It has a fair amount of vegetation growing on it. It is now forested. Has a mix of pine. Jack pine is tall and straight. Looks to be growing well.
19	4131 - Aspen, Oak	High Density Sapling	11.5	7		PARVHA/PARVVB. CUT IN 2006 SALE#720210501 "SUB ZERO ASPEN". Aspen is regenerating nicely. Has some oak coming in the understory. Will be a fully stocked stand. Snowmobile trail passes through stand.
20	4125 - Black, N. Pin Oak	Low Density Sapling	14.4	7		PARVHA/PARVVB. CUT IN 2006 SALE#720210501 "SUB ZERO ASPEN". Oak has regenerated fairly decent. Still getting some browse. Snowmobile trail passes through stand.
21	4131 - Aspen, Oak	High Density Log	44.4	80	51-80	PARVHA/PARVVB. Stand is across from Fox Run Golf Course. Oak wilt was found there a couple of years ago. Would not be surprised if it was in this stand as well. Oak is declining. Aspen is getting old and starting to fall down too. Snowmobile trail passes through stand.
22	4130 - Aspen	High Density Sapling	19.7	7		PARVHA/PARVVB. CUT IN 2006 SALE#720210501 "SUB ZERO ASPEN" Sale has regenerated nicely. Should be a fully stocked stand.
23	42290 - Natural Mixed Pine	Medium Density Log	7.9	73	1-50	PARVHA/PARVVB. Stand was cut in 1988. Has regenerated to oak and aspen. Oak is being browsed regularly. Aspen is filling in from the outside in. Snowmobile trail passes through stand.
24	4131 - Aspen, Oak	Medium Density	5.5	25		PARVHA/PARVVB. Stand was cut in 1988. Has regenerated to oak and aspen. Oak is being browsed regularly. Aspen is filling in from the outside in. Stand is approaching pole size class.
25	4130 - Aspen	High Density Sapling	18.1	27		PARVHA/PARVVB. Stand has good height growth. Getting close to pole sized. Aspen has some stems with hypox. Not real wide spread though. White pine is mixed throughout stand.
26	4130 - Aspen	High Density Sapling	21.3	10		PARVHA/PARVVB. Stand was cut in 2003. Stand has some large diameter oak throughout from previous harvest. Stand is regenerating nicely.

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Grayling Mgt. Unit

Report 8 – Forested Stands

Compartment: 199
Year of Entry: 2015



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
27	4199 - Other Mixed Upland Deciduous	High Density Sapling	22.3	25		PARVHA/PARVVB. Stand has regenerated and has been growing fairly well. Has some patches with Hypox throughout.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
8	3102 - Grass	1.0	No	Unspecified	Open area. Probably has a fair amount of Knapweed on it. Could not tell from the snow cover.
11	3303 - Mixed Low Density Trees	23.0	No	Low	Stand is mostly open, has some grass. Jack pine and scotch pine scattered throughout in small clumps. Also has some aspen and apple trees scattered throughout.
12	3303 - Mixed Low Density Trees	20.9	Yes	Red Pine	