



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72176

Entry Year 2020

Acreage: 1,223

County Crawford

Management Area: Grayling Ice Contact

Revision Date: 2018-07-11

Stand Examiner: Thomas Barnes

Legal Description:

T27N, R4W, Sections 4 & 9 Crawford County

Identified Planning Goals:

To maintain species diversity while also addressing sustainability, forest health, productivity, wildlife requirements, aesthetics, best management practices and recreational opportunities throughout the compartment.

Soil and topography:

Soils within the compartment include Rubicon-Roselawn, Graycalm and Blue Lake Loamy Sand types. Terrain consists of slightly to gently rolling hills in the north and in the south and divided by a narrow valley.

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

A solid block of state ownership, with one private forty in the northeast of the compartment. Surrounding land is predominately state ownership with the exception of 120 acres in the northeast and a forty in the southeast that are under private ownership. These private lands are used as residential sites.

Unique Natural Features:

None.

Archeological, Historical, and Cultural Features:

None

Special Management Designations or Considerations:

Visual management along County Road 612 is a consideration when harvesting any of the stands along this road. Any treatment along recreational trails within the compartment should be taken in to consideration by adding appropriate contract specification.

Watershed and Fisheries Considerations:

None within the compartment.

Wildlife Habitat Considerations:

To maintain and manage the existing forest cover types for Ruffed Grouse, Woodcock, White-tailed Deer, Wild Turkey, Black Bear and Squirrel.

Mineral Resource and Development Concerns and/or Restrictions

Sand/gravel pits are not located in the area, but sand & gravel potential appears to be very good within the compartment. There is currently no production and no active leasing within the compartment, but there is leasing and active Antrim Shale gas production just to the north. The Antrim may be too deep here to be productive. No known metallic mineral potential exists in this part of the state. The state does not own the mineral rights beneath some of the compartment. Private mineral rights owners must be allowed reasonable access to the surface should they choose to explore and/or develop the minerals.

Vehicle Access:

Compartment is accessible from County Road 612, which runs through the compartment in the north and Batterson Road (a Seasonal County Road) that runs through the center of the compartment almost east and west. Compartment is also accessible from the Blue Bear Snowmobile Trail and ORV Route from the north and south.

Survey Needs:

None at this time.

Recreational Facilities and Opportunities:

Several designated trails exist within the compartment in Section 9. Snowmobile trail 79 occurs in the far SW1/4; Frederic 50" ATV trail occurs near Batterson Road, and the Shore to Shore equestrian trail occurs on Batterson Road. Beyond the designated trail system the existing road access provides ample opportunity for wildlife viewing, mushroom or game hunting on rolling hilly terrain.(A.2018)

Fire Protection:

Compartment falls under the protection of the Frederic Township Volunteer Fire Department and the Michigan Department of Natural Resources. The nearest water sources include the Manistee and Au Sable River. Compartment is mostly hardwoods with some Red Pine plantations located in the valleys that Batterson Road runs through.

Additional Compartment Information:

The following reports from the Inventory are attached:

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

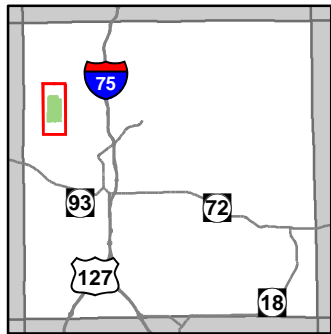
The following information is displayed, where pertinent, on the attached compartment maps:

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

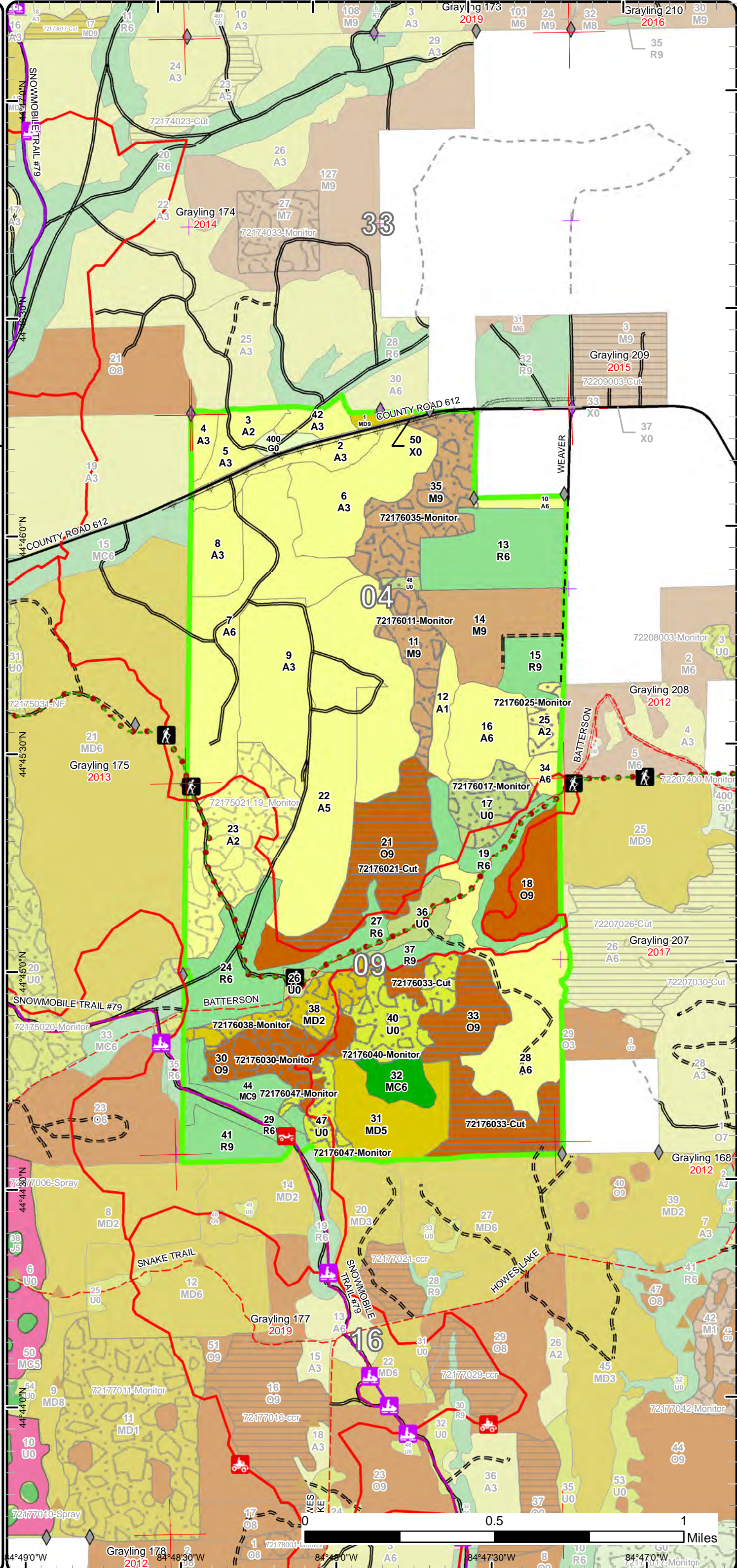
Cover Type & Treatments Map

Compartment: 176
T27N, R04W, Sec. 4, 9

County: Crawford
Unit: Grayling
Mgmt Area: Grayling Ice Contact
YOE: 2020
Acres: 1,223 GIS Calculated
Examiner: Thomas Barnes
Map Revised: 2/5/2019
Map Phase: Post-Review



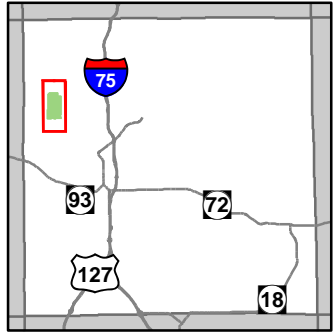
- Miris Corners
- + Remonumented Section Corners
- ◆ Field Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- Federal / State - Dirt / Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- Hiking Trails
- Horse Trails
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Designated Hiking Trails
- Designated Equestrian Trails
- Designated ATV
- Designated ORV Route
- Designated Snowmobile Trails
- ▲ Berms
- Sign
- Pipeline
- ⊕ Powerline
- Compartment Boundary
- Clearcut (w/Reserves)
- Regeneration Survey
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees



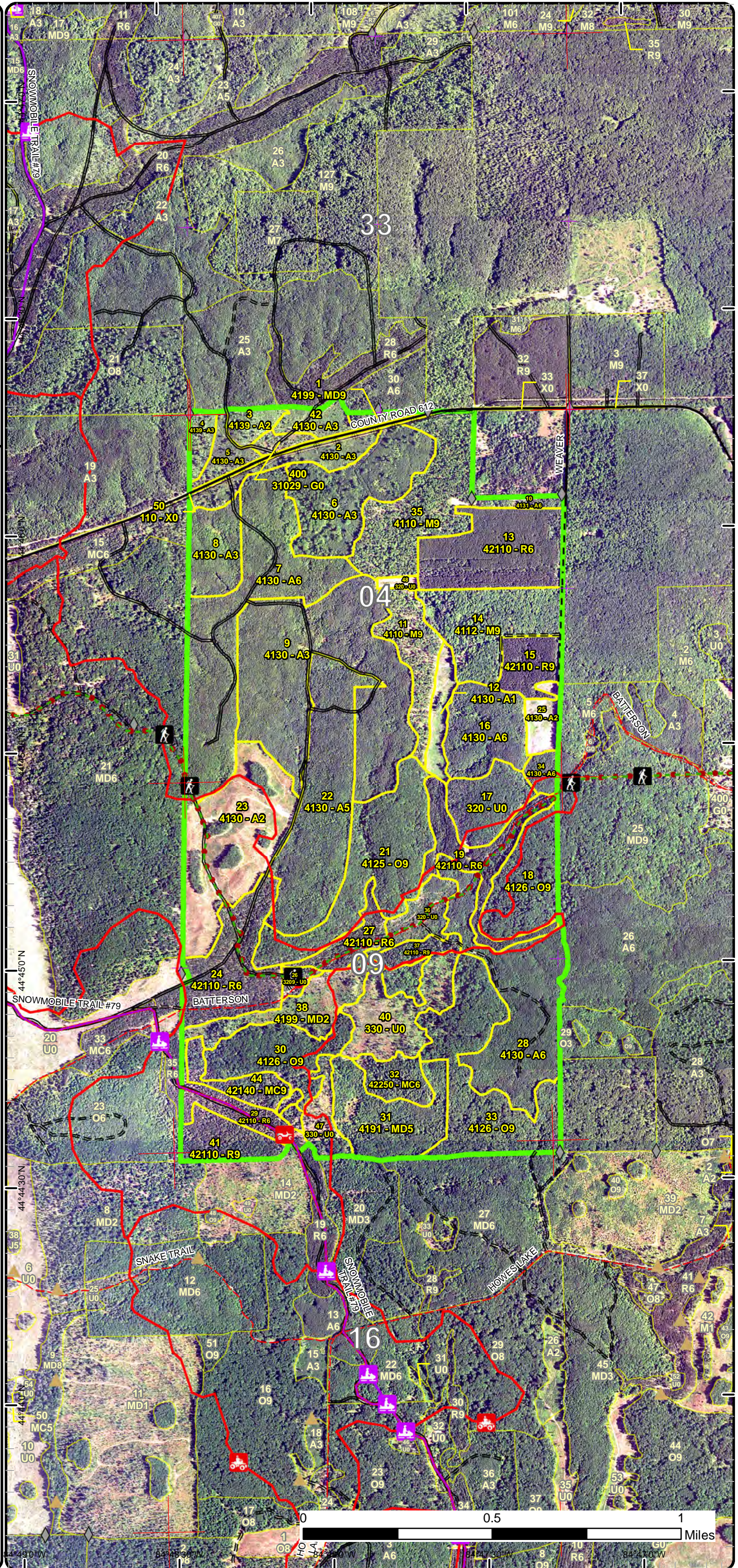
Stand Boundary Map

Compartment: 176
T27N, R04W, Sec. 4, 9

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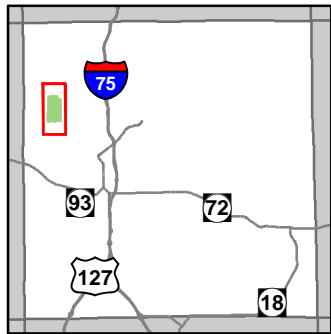
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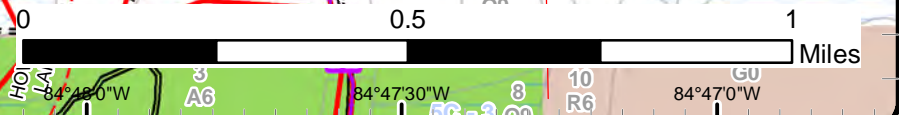
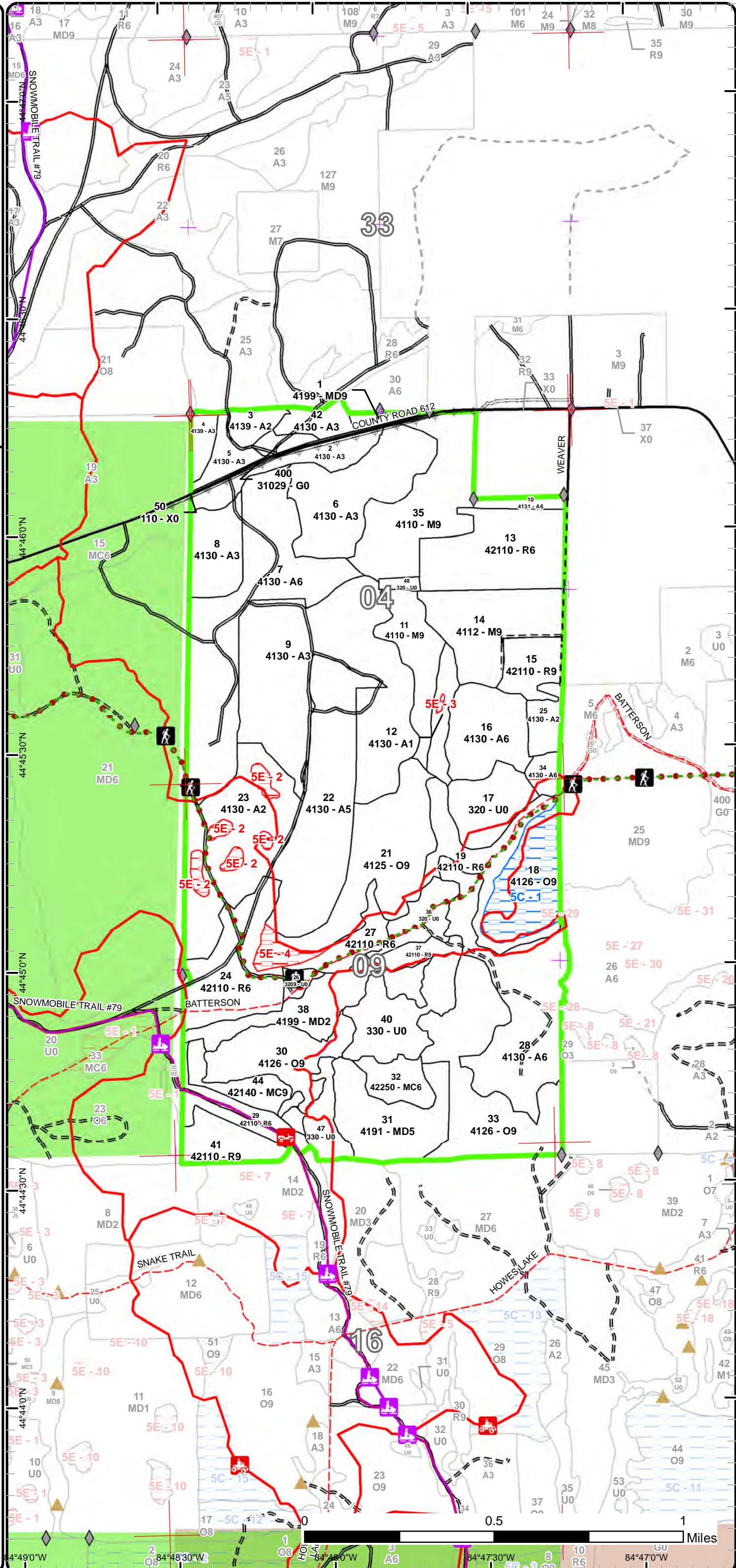
Special Conservation Areas & Site Conditions Map

Compartment: 176
T27N, R04W, Sec. 4, 9

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- Designated ATV
- Designated ORV Route
- Designated Snowmobile Trails
- ▲ Berms
- ⊘ Sign
- Pipeline
- ⊕ Powerline
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 5E: Long-Term Retention
- Stand Boundaries
- Kirtland Warbler Habitat
- Research, Development, and Military Lands





Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	134	46	198	188	0	0	0	0	0	0	0	0	0	0	0	0	0	566
Herbaceous Openland	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Low-Density Trees	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43
Mixed Upland Deciduous	0	24	0	0	36	0	0	0	0	3	0	0	0	0	0	0	0	0	63
Natural Mixed Pines	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Northern Hardwood	0	0	0	0	0	0	0	0	23	0	89	0	0	0	0	0	0	0	111
Oak	0	0	0	0	0	0	0	0	0	31	153	0	0	0	0	0	0	0	184
Planted Mixed Pines	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	14
Red Pine	0	0	0	0	0	15	78	78	7	0	0	0	0	0	0	0	0	0	178
Upland Shrub	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
Urban	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	93	158	46	198	237	15	92	78	30	31	245	0	0	0	0	0	0	0	1222



Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2020

Acres of Harvest

Compartment 176

Total Compartment Acres: 1,223

Commercial Harvest - 116
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Oak	116	0	0	0	0	0	0	0	0	116
Total	116	0	0	0	0	0	0	0	0	116

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	116	0	0	0	0	257	0	0	0	374
Next Step	0	0	0	0	0	116	0	0	0	116
Total	116	0	0	0	0	374	0	0	0	490



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
11	72176011-Monitor	23.2	4110 - Sugar Maple Association	Sawtimber Well	71	51-80	Monitoring	Natural Regen (Intermediate)	411 - Northern Hardwood	Uneven-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription check regen

Specs:

Next Step

Treatments:

Acceptable Maple-dominated northern hardwoods regen where the canopy was opened up.

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 10/1 /2018

17	72176017-Monitor	22.0	320 - Upland Shrub	Nonstocked			Monitoring	Natural Regen (Re-Inventory)	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Check during inventory.

Specs:

Next Step

Treatments:

Acceptable Oak regen meeting minimum stand stocking levels.

Regen:

Other Original monitoring treatment was associated with Stand 16, that treatment was terminated and this one created. Old acceptable regen just said oak, with oak types a MO.

Comment:

Proposed Start Date: 10/1 /2019

21	72176021-Cut	51.7	4125 - Black, N. Pin Oak	Sawtimber Well	91	111-140	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Final harvest with retention follow standard retention guidelines. Place a couple of retention island within the sale. Steep area of sale SW of

Specs: ORV Trail has already been site conditioned as retention. Add recreational trail specs for hiking, horse, orv and snowmobile. Also include oak wilt restriction.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Acceptable regeneration is a mixture of maple, aspen and oak, with the oak regeneration being at least 25 - 40 percent. If oak falls below 25

Regen: percent accept regeneration as present.

Other

Comment:

Proposed Start Date: 10/1 /2019

25	72176025-Monitor	9.0	4130 - Aspen	Sapling Medium	3	Immature	Monitoring	Natural Regen (Intermediate)	4116 - Mixed N. Hardwood - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription check regen

Specs:

Next Step

Treatments:

Acceptable A moderately stocked mix of northern hardwoods and aspen.

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 10/1 /2018



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
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30	72176030-Monitor	27.8	4126 - White, Black, N. Pin Oak	Sawtimber Well	91	51-80	Monitoring	Natural Regen (Re-Inventory)	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Monitor during inventory process.

Specs:

Next Step

Treatments:

Acceptable Regeneration of Oak species, red maple, aspen and white/red pine should be considered successful following harvest.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2020

33	72176033-Cut	64.6	4126 - White, Black, N. Pin Oak	Sawtimber Well	96	81-110	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Final harvest with retention follow standard retention guidelines. Place a 3 - 4 retention island within the sale. Add recreational trail specs for

Specs: hiking, horse, orv and snowmobile. Also include oak wilt restriction.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Acceptable regeneration is a mixture of maple, aspen and oak, with the oak regeneration being at least 25 - 40 percent. If oak falls below 25

Regen: percent accept regeneration as present.

Other

Comment:

Proposed Start Date: 10/1 /2019

35	72176035-Monitor	48.8	4110 - Sugar Maple Association	Sawtimber Well	91	51-80	Monitoring	Natural Regen (Re-Inventory)	411 - Northern Hardwood	Uneven-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Check during inventory

Specs:

Next Step

Treatments:

Acceptable Acceptable regeneration will be a mixture of the Northern Hardwood species meeting minimum stocking levels.

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 10/19/2017

38	72176038-Monitor	24.5	4199 - Other Mixed Upland Deciduous	Sapling Medium	6	Immatu re	Monitoring	Natural Regen (Re-Inventory)	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Check during inventory.

Specs:

Next Step

Treatments:

Acceptable A component of oak with mixed associated species like maple, aspen and conifer meeting minimum stocking levels.

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
40	72176040-Monitor	30.3	330 - Low-Density Trees	Nonstocked		Unspecified	Monitoring	Natural Regen (Re-Inventory)	412 - Oak Types	Even-Aged	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Check during inventory
Specs:

Next Step
Treatments:

Acceptable oak
Regen:

Other Percent to Treat = 100%
Comment:

Proposed Start Date: 10/1 /2020

47	72176047-Monitor	12.9	330 - Low-Density Trees	Nonstocked		Unspecified	Monitoring	Natural Regen (Re-Inventory)	4129 - Mixed Oak	Even-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription Check during inventory.
Specs:

Next Step
Treatments:

Acceptable Regeneration of Oak species, red maple, aspen and white/red pine should be considered successful following harvest.
Regen:

Other Treatment was recreated, the original treatment was associated with stand 19 of comp 177.
Comment:

Proposed Start Date: 10/1 /2020

48	72176048-Monitor	2.3	320 - Upland Shrub	Nonstocked			Monitoring	Natural Regen (Re-Inventory)	4199 - Other Mixed Upland Deciduous	Even-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription check regen
Specs:

Next Step
Treatments:

Acceptable mixed upland species meeting minimum stocking level.
Regen:

Other Percent to Treat = 100%
Comment:

Proposed Start Date: 11/4 /2017

Total Treatment Acreage Proposed: 317.1

Report 4 – Site Conditions

Grayling Mgt. Unit

Thomas Barnes : Examiner

Compartment: 176

Year of Entry: 2020

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	5C	5E
		With Condition	Not Available			
565	556	0	9	Aspen		9
4	4	0	0	Herbaceous Openland		
43	43	0	0	Low-Density Trees		
64	64	0	0	Mixed Upland Deciduous		
13	13	0	0	Natural Mixed Pines		
112	112	0	0	Northern Hardwood		
185	147	31	6	Oak	31	6
14	14	0	0	Planted Mixed Pines		
179	179	0	0	Red Pine		0
42	42	0	0	Upland Shrub		
4	4	0	0	Urban		
1,223	1,176	31	15	Total Forested Acres	31	15
	96%	3%	1%	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
1	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	31	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Treat next inventory period.							
2	Unavailable	5E: Long-Term Retention	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	5E: Long-Term Retention	0	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Retention island left when stand 12 was cut (#002-10).							

Report 4 – Site Conditions

Grayling Mgt. Unit

Thomas Barnes : Examiner

Compartment: 176

Year of Entry: 2020

4	Unavailable	5E: Long-Term Retention	6	2F: Too steep	Unspecified	Unspecified	Unspecified
Comments: Also serves as retention for ORV Trail							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 5 – 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
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Comments



Report 6 – 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
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.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4199 - Other Mixed Upland Deciduous	Sawtimber Well	3.3	93	81-110	Small wedged shaped stand that was probably retention for sale in comp to the north. Mixed lay stand of oak, aspen and some maple. Rolling to steep terrain. Understory is medium density with witch hazel, maple and beech. Oak is present but in low density seedling. Three BA swing were taken with stand average of 100. Kotar for this stand is PArVHa. OPIC - FMD: HOLD FOR VISUAL MANAGEMENT
2	4130 - Aspen	Sapling Well	16.5	7	Immature	Young stand of aspen at the lower end of the canopy closure. Maple, oak, cherry and overstory conifer also mixed within stand. Atand also has a power line running parallel to county road 612. Kotar for this stand is PArVHa. OPIC - FMD: Final harvested in October 2012 through contract number 72-007-10-01 " 612 Aspen/Oak ". Some oak and red pine were left for visual. Any regeneration is exceptable.
3	4139 - Aspen, Mixed Deciduous	Sapling Medium	7.1	7	Immature	Young stand of maple, aspen, cherry and oak. Maple and aspen dominate site and are found in patches. Some single stem and stump sproul oak. Small component of toy sized oak left from prior harvest. Stand harvested in summer 2012 under contract 72-007-10-01 612 Aspen/Oak. 10 BA of Oak left. Kotarfor this stand is PArVHa.OPIC - FMD: Small mature stand of Aspen and Oak mixed that is found on ridge. Visible from County Rd 612. Recommend final harvest, but leave 10 BA of scattered Oak throughout the stand for mast and visual management. Stand acreage small. Aspen should regenerate naturally, but will except all species (some Oak should stump sprout) No retention. Mark the 10BA of Oak in green. 2013: Stand harvested in summer 2012 under contract 72-007-10-01 612 Aspen/Oak. 10 BA of Oak left
4	4139 - Aspen, Mixed Deciduous	Sapling Well	6.5	7	Immature	Young stand of aspen, maple and oak. Small component of loy sized oak left from prior harvest. Stand harvested in the summer of 2012 under contract 72-007-10-01 612 Aspen/Oak. Residual BA of 40 left. OPIC - FMD: Mature Oak stand somewhat visible from County Rd 612. Found on ridge top and side slopes. Recommend shelterwood seed (40% crown closure). Treat with stand 3 and 5. 2013: Stand harvested in the summer of 2012 under contract 72-007-10-01 612 Aspen/Oak. Residual BA of 40 left.
5	4130 - Aspen	Sapling Well	8.5	7	Immature	Young aspen at lower end of canopy closure. Some cherry, mapl and oak scattered about. Stem 10-20 feet tall. Stand harvested in the summer of 2012 under contract 72-007-10-01 612 Aspen/Oak. 10 BA of Red/White pine left.OPIC - FMD: Mature Aspen stand. South end of the stand borders County Rd 612. Recommend final harvest, but leave Red Pine (White Pine) in the stand. Recommend no other retention species other than Red Pine (White Pine) for the stand. Red Pine (White Pine) is for visual management and the stand will quickly regenerate to Aspen and Red Maple mixed. Stand is somewhat small and Aspen is somewhat on the poor quality side. 2013: Stand harvested in the summer of 2012 under contract 72-007-10-01 612 Aspen/Oak. 10 BA of Red/White pine left.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
6	4130 - Aspen	Sapling Well	46.4	15	Immature	Young aspen stand with good stem density and health. There is scattered residual oak and birch, however, the bird is dying out and not locking real good. OPIC - FMD: 2007 Field Notes: Immature Aspen/Birch stand located on ridge top and side slope. Visible from County Road 612. Cut previous year of entry with scattered Birch and Oak left in the overstory. Recommend nothing, continue managing for Aspen and Birch. 1997 Field Notes and Updates: LEAVE 20 B.A. OF PAPER BIRCH AND ALL OAK FOR VISUAL AND FOR REGENERATION PURPOSES. MARK TO LEAVE Harvested in summer of 2004 Rabbit Block 612 72-40-00-01. After a site visit in the summer of 2005 with Wildlife Biologist, Silviculturalist and Grayling Forest Mgt. Staff agreed to constructing deer exclosures and monitoring them in this particular stand.
7	4130 - Aspen	Poletimber Well	85.1	38	81-110	Nice stand of aspen primarily pole sized with large sapling. Maple, oak and birch are also found in this stand. Oak does have some log stems. Rolling topography. OPIC - FMD: A3 last entry year, now an A5 in 2007. Small pole size stand of Aspen mixed with Oak, Red Maple and Paper Birch.
8	4130 - Aspen	Sapling Well	20.9	28	Immature	Rolling terrain of nice large Sapling smart pole size aspen. Maple, oak and birch also found in this stand. OPIC - FMD: Immature Aspen stand.
9	4130 - Aspen	Sapling Well	108.0	28	Immature	Nice Stand of aspen with maple and oak. Rolling topography. Stand is primarily sapling with poles. OPIC - FMD: Immature Aspen stand starting to reach a young pole size status.
10	4131 - Aspen, Oak	Poletimber Well	4.9	31	Immature	Small narrow strip of mixed species. Dominately Aspen, but has mixed pine and paper birch. North side of stand borders private property. Two track trail traverses through the stand. When stand 13 to the south is final harvested this stand should be treated with it and planted back to red pine.
11	4110 - Sugar Maple Association	Sawtimber Well	23.1	71	51-80	Hard maple stand with a very small component of paper birch. There is also a component of red maple in the stand as well. Fair to good stem quality and stand is healthy. Heat raspberry as ground cover. Beech is dominating tree here at this time. Was thinned by spring 2016 (#002-10), cutting marked stems, with the contract modified to cut all beech except green-marked, due to BBD. Four BA Swings were taken with stand average of 80. OPIC - FMD: Notes: 2007: Even aged northern hardwood stand on side slope (east facing). Recommend a thinning as well as creating some scattered regeneration gaps throughout the stand. Leave a residual of 90 BA Work at converting the stand to an unevenaged stand. Treat with stand 35 to the north and stand 12 to the east. 1988: STAND HAS HAD RECENT TSI WORK
12	4130 - Aspen	Sapling Poor	10.8	3	Immature	Was final harvested by spring 2016 (#002-10), cutting stems 2"+ DBH except for a retention island. Kotar for this stand is PARVHa. OPIC - FMD: Aspen stand mixed with Maple and located within a valley that runs north and south. Recommend final harvest with retention guidelines. Treat with stand 11 and 35. Stand should regenerate to Aspen and Maple.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
13	42110 - Planted Red Pine	Poletimber Well	46.2	59	81-110	Healthy red pine plantation with some beech saplings. Active Goshawk nest in stand, location could not be pin pointed. Was crown-thinned by February 2017 (72-002-10-01 Comp 176 Mix), cutting marked stems. OPIC - FMD: 2007: Red Pine plantation that was row-thinned in 1991. Recommend thinning between rows or from above (crown spacing). BA goal of 90. The west finger will be final harvested to allow it to convert to hardwoods to provide a contiguous block of hardwoods that includes stand 11 and 35. Old data 1991: ROW THIN - EVERY 3RD ROW. FDF POTENTIAL.
14	4112 - Maple, Beech, Cherry Association	Sawtimber Well	39.4	91	81-110	Hard maple stand that was thinned in Tool. Primarily hard maple and beech with some oak and red maple scattered about. BBD is present in stand and some beech are starts to die out. Ironwood in midstory and beech dominating regen layer. Five DA swings taken with BA of 90. OPIC - FMD: 1997: FDF POTENTIAL. THIN TO 90 BA. USE RAPTOR GUIDELINES WHEN MARKING DUE TO A NEST IN THE STAND OR SURROUNDING STANDS. No raptor nest found on state land. Stand thinned 2001 contract #72-024-00-01 Bunch O' Beech block.
15	42110 - Planted Red Pine	Sawtimber Well	15.1	59	111-140	Healthy red pine plantation. Hardwood region of beech and mople Make up understory. Hard would regen is 20-30ft tall. There is a small aspen pocket in the stand as well. Three BA swings were taken with La stand average of 95. Was crown-thinned by Sept 2016 (72-002-10-01 Comp 176 Mix), cutting marked stems. OPIC - FMD: 2007: Red Pine Plantation row-thinned in 2000. Recommend thinning within the rows or from above (spacing). BA goal of 90. Old data 1991: ROW THIN- EVERY 3RD ROW. FDF POTENTIAL. Stand marked and harvested fall 2000, sale number 7200600-01
16	4130 - Aspen	Poletimber Well	29.8	38	81-110	Nice aspen stand with some maple and oak scattered throughout. Stand has good stem density and will be ready to r harvest next inventory cycle. OPIC - FMD: 2007 Field Notes: Immature Aspen stand on rolling terrain. Hardwoods/Paper Birch scattered throughout the stand also. A2 understory and Bracken Fern for ground cover. East side of stand borders private property. Recommend treating in 10-20 yrs and no treatment at this time.
18	4126 - White, Black, N. Pin Oak	Sawtimber Well	31.2	86	51-80	Stand was harvested in 2002-03. Appear to be traditional remove all species and marked oak. Target residual BA of 70. Understory dominated by maple and aspen a long with deciduous shrubs. Some oak seedlings present. Stand has some storm damage and in these openings some advanced oak is present, however, openings again dominated by maple. Four BA swings were taken with stand average of 75. Stand has motorized trails running thru the stand. OPIC - FMD: STAND HAS MEANDERING CYCLE TRAIL WATCH VISUAL MANAGEMENT. Stand Harvested in 2002-2003. TS#_072-019-00-01, Miscelaneous Line Block. Stand acreage dropped by two acres per GPS traverse of timber sale. (Heckman 02/04/04)



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	42110 - Planted Red Pine	Poletimber Well	26.6	63	81-110	stand was thinned in 2007. Healthy red pine plantation of large poles and small logs. Understory is made up of oak and maple a bout 10-20ft tall. Four BA swings we re taken with a stand average of 100. Stand has both motorized and non-motorized trails running thru the stand. Treat in next yew of entry. OPIC - FMD: 1991: RIDING HIKING TRAIL THROUGHSTAND. 1997: Red Pine plantation with 70 B.A. of Red Pine pulpwood and the remainder in hardwoods (aspen & red maple). REMOVE ALL ASPEN AND HARDWOOD WITH IN THE STAND. Saddle Red Pine Block, Sale # 720070001 - harvested. (02/04/04)... Added two acres to stand according to GPS traverse from Misc Line Block TS_072-019-00-01.Heckman
21	4125 - Black, N. Pin Oak	Sawtimber Well	57.7	91	111-140	Mixed oak stand with hybrid oak and white oak. Red maple and aspen are also present. Rolling to steep terrain, but l be live all is logable. stems range from large sapling to Xlog. Understory is sparse and made up of primarily deciduous shrubs, some oak seedlings. Beech is also present in the understory. Five BA swings taken with stand average of 112. Hybrid oak BA was 74. ' OPIC - FMD: 1997: ORV trail runs through south end of stand. Also, southwest end of stand, the ridge is unlogable.
22	4130 - Aspen	Poletimber Medium	67.8	38	111-140	Nice aspen stand of Small pole size. Associated species include red maple, Oak, cherry and conifer. Stand looks healthy. Kotar for this stand is PArVHa.OPIC - FMD: Immature Aspen stand. Now in small pole size status.
23	4130 - Aspen	Sapling Medium	65.3	5	Immature	Young aspen stand with some oak and maple stump sprouts. Listed MO is oak types, stand will fail the regen survey. Recommend accepting present regen and change MO to aspen. Stand 23 was final harvested in September 2014. The sale number was 72-036-16-01 Stand has both motorized and non-motorized trails running thru the stand. Kotar for this stand is PArVHa. OPIC - FMD: 2007 Field Notes: Mature Oak stand found on ridge top and side slopes and valley with old two track an horse trail traversing through the stand. ORV trail also traverses through the stand. Recommend final harvest with large two acre patches left scattered throughout the stand for mast, visual and retention. Protect all trails within the stand. 1997: ORV trail runs through stand as well as riding/hiking trail. 2 acres of dead oak salvaged in SW corner in 1997 contract # 32-94-01
24	42110 - Planted Red Pine	Poletimber Well	39.5	63	81-110	Red pine plantation of good stem quality and health. ORU/snowmobile trail runs thru the stand as does a two track. Five BA swings taken with stand average of 106. Red pine average of 98. Stand has both motorized and non-motorized trails running thru the stand. Kotar for this stand is PArVHa.OPIC - FMD: 2007 Field Notes: Red Pine plantation located in a valley. Two tracks traverse through portions of the stand a long with Batterson Road, a seasonal county road. Level to slightly rolling terrain, blueberry and pine needles for ground cover. Third row thinned under contract number 72-029-10-01 "Valley Pine". Shore to Shore Riding and Hiking trail traverses through a portion of this stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
25	4130 - Aspen	Sapling Medium	9.3	3	Immature	Was final harvested by spring 2016 (#002-10), cutting stems 2"+ DBH. Good regen of aspen with some maple. OPIC - FMD: 2007 Field Notes: Small mature hardwood stand. Poor quality and Wolf trees. M2 understory with a small grass patch in the middle. Stands east side borders private property. Rolling terrain and Braken Fern for ground cover. Recommend final harvest and manage for a mixed stand (mixed stand should be Aspen/hardwoods). Private line may need survey work done. 1988: COMBINES WITH 5 ACRES IN COMPARTMENT 208 - 1992 YOE.
27	42110 - Planted Red Pine	Poletimber Well	12.3	63	81-110	Red Pine plantation thinned in 2013. Stand is healthy with good stem quality. Kotar for this stand is PARVHa.OPIC - FMD: Third row thinned under contract number 72-029-10-01 "Valley Pine".
28	4130 - Aspen	Poletimber Well	63.3	25	Immature	Young aspen stand with Some cherry, oak and other hardwood. Rolling topography. Good Stem density. Stand was harvested in 03/04. OPIC - FMD: 2007 Field Notes: Immature Aspen stand approaching small pole size. Used old site index and not of the same species. Site index should be better than the old site index for Aspen. Stand doing good. 1997: USED OLD SITE INDEX. ORV TRAIL RUNS THROUGH NORTHERN PART OF THE STAND. One acre added to stand per adjacent timbersale (TS#_072-019-01-01) Traverse Map. Heckman 02/04/04
29	42110 - Planted Red Pine	Poletimber Well	15.0	42	81-110	Red pine plantation that was thinned in 2010. stand K healthy and doing well. Decent oak regen in the understory. Three BA Swings were taken with stand average of 107. Red pine average BA of 93. Stand has motorized trails running thru the stand. Kotar for this stand is PARVHa.OPIC - FMD: Third row thinned under contract number 72-029-10-01 "Valley Pine".
30	4126 - White, Black, N. Pin Oak	Sawtimber Well	30.8	91	51-80	Three BA swings were taken with a stand average of 70. Oak stumps are sprouting as well as individual oak stems, maple is also regenerating. Leaving monitoring treatment on to be rechecked in 2021. Stand was harvested 16/17 under Comp 176 Oak & Salvage, 72-009-14-01. Two areas of this stand were impacted by a storm, those areas were salvaged and split into stand 47. Kotar for this stand is PARVHa.OPIC - FMD: 2007 Field Notes: Mature Oak stand with some pine mixed within the stand. Pockets of Red and White Pine scattered within the west portion of the stand. Also scattered pockets of White Pine regeneration. ORV trail traverses through the stand. Recommend Selection cut. Cut canopy gaps throughout the stand in order to obtain oak regeneration in these openings. Between canopy gaps, pockets can be thinned based on timber quality and composition as well as to improve access through stand for equipment. Residual BA following harvest will be variable with some areas higher based on quality and species composition. Regeneration of Oak species, red maple, aspen and white/red pine should be considered successful following harvest. Protect ORV trail. Rolling terrain. (
31	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	36.0	36	1-50	Good clump sprouting by oak and Maple. Oak will be a large component of this stand. Large residual white pine, log size. Four BA Swings were taken with stand average of 53. Kotar for this stand is PARVHa. OPIC - FMD: 2007 Field Notes: Immature Oak stand with pine and other hardwood species mixed through it. Old two track traverse through a portion of the stand. Slightly rolling terrain.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	42250 - Pine, Oak	Poletimber Well	12.6	38	81-110	Appears stand was treated by removing all merch stems while leaving white pine. white pine is approximately 75yrs old; while hardwoodr of about 37. Good advanced regen of oak and maple. Pole sized stems of oak and maple that were nut cut. Three BA swings with stand average 85. Kotar for this stand is PARVHa. OPIC - FMD: Harvested under contract number 72-029-10-01 "Valley Pine". Two retention pockets left to the south. Some pockets of advanced Oak regeneration. Protected during harvest. Natural regeneration will occur of mixed species.
33	4126 - White, Black, N. Pin Oak	Sawtimber Well	64.8	96	81-110	Species removal of all species and some oaks. Pine species were left. Stem of fair to good quality. Very little oak regenerating in the undrstory. Six BA swings were taken with stand average 95. Kotar for this stand is PARVHa. OPIC - FMD: 1988: WAS W1/2 OF STAND 28 BEFORE COMPARTMENT REVIEW. CUT ALL ASPEN. 1997: STAND HAS FDF POTENTIAL. Stand Harvested in 2002- 2003. TS#_072-019-00-01, Miscelaneous Line Block. Stand acreage dropped by one acre per GPS traverse of timber sale. (Heckman 02/04/04)
34	4130 - Aspen	Poletimber Well	5.4	28	Immature	Nice aspen stand of good stem density and Stem quality Some paper birch in stand. ORV trail runs along southern edge OPIC - FMD: 2007 Field Notes: Small immature Aspen stand. Stand has some red maple and birch scattered throughout it. Stand extends into the next compartment to the east. ORV trail traverses through a portion of the stand.
35	4110 - Sugar Maple Association	Sawtimber Well	49.1	91	51-80	Hard maple stand of poles and logs. Some stump regen, but most has been heavily browsed. Understory dominated by beech, Some maple in midstory stand that was not cut during last treatment. Stem quality is fair to good. Rasperry is also dominating the understory/ground cover. Five BA swings were taken with stand average of 70 when nut taking regen gaps in to consideration otherwise BA of 50. Was thinned in 2015 (72-002-10-01 Comp 176 Mix), cutting marked stems, with the contract amended to cut all beech except green-marked, due to BBD. OPIC - FMD: 2008 Even aged Northern hardwood stand. Dominantly Sugar Maple Poles with Beech understory. Some sawlogs. Average diameter in 9 inches. Northwest portion of the stand borders private property and the north end of the stand borders County Road 612. Level to slightly rolling terrain.. Recommend thinning stand to 70-90 BA with scattered regeneration gaps created. 1997: ?? FDF POTENTIAL. ??
37	42110 - Planted Red Pine	Sawtimber Well	7.2	73	81-110	Red Pine with Healthy red pine plantation that was last treated in 2007. Good Stern quality and should be treated in next inventory cycle. Three BA swings taken stand average of 95. Aspen/Maple understory. OPIC - FMD: 2007 Field Notes: Treated last entry year. 1998: REMOVE ALL SPECIES EXCEPT RED PINE. TREAT WITH STAND 33. Saddle Red Pine Block, Sale # 720070001
38	4199 - Other Mixed Upland Deciduous	Sapling Medium	24.4	6	Immature	Stand harvest in 2013. Stand lower end of Canopy closure. Stand is made up of cherry, oak, maple and pine. Kotar for this stand is PARVHa. OPIC - FMD: Harvested under contract number 72-029-10-01 "Valley Pine". Two retention pockets left to the south. Some pockets of advanced Oak regeneration. Protected during harvest. Natural regeneration will occur of mixed species.

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Grayling Mgt. Unit

Report 7 – Forested Stands

Compartment: 176
Year of Entry: 2020

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
41	42110 - Planted Red Pine	Sawtimber Well	17.1	56	81-110	Red pine plantation with healthy stems. Low to medium oak seedling/sapling present with blue berry and grass ground cover. Four BA Swings with stand average of 105. Red pine BA average is 73. Kotar for this stand is PArVHa.OPIC - FMD: OI Stand Year Origin was 1963
42	4130 - Aspen	Sapling Well	9.2	7	Immature	Young aspen stand of fair to good stem density. Some maple Chery and oak mixed throughout. Kotar for this stand is PArVHa. OPIC - FMD: 1997: STAND IS FOUND ALONG COUNTY ROAD 612. Leave no retention due to small stand size. Stand should regenerate naturally to Aspen and probably Red Malple. 2013: Stand was harvested in summer of 2012 under contract 72-007-10-01 612 Aspen/Oak.
44	42140 - Planted Mixed Pine	Sawtimber Well	13.7	56	81-110	Mixed pine stand consisting mostly of red and white pine, there some oak scattered about. Stand looks healthy. Rolling terrain. OPIC - FMD: OI Stand Year Origin was 1963



Stand	Cover Type	Acres	Managed Site	General Comments:
17	320 - Upland Shrub	22.0		<p>Stand #17 was cut under sale Number 72-036-10-01. It was finished in November of 2017. Regeneration is present at this time northeastern side has good aspen regen, while the western side has Some oak stump sprouting. . There were retention islands that were not mapped pick up during next inventory cycle.</p> <p>OPIC - FMD: Mature Oak stand found on ridge top and side slopes. M1 understory. Recommend a final harvest with retention. (Could also thin the stand or shelterwood (seed cut).</p>
26	3209 - Upland Shrub (OI)	3.7	No	<p>Kotar for this stand is PARVHa.OPIC - FMD: 1988: RESERVED AREA HAS HORSE TRAIL. 1997: SNOWMOBILE TRAIL ON BATTERSON ROAD RUNS THROGH STAND.</p>
36	320 - Upland Shrub	13.7	No	<p>Stand is a mixture of hawthorne, cherry and oak. There is an aspen presence along edge and some scattered jack pine Kotar for this stand is PARVHa.OPIC - FMD: 2007 Field Notes: Upland brush stand Stand was final harvested in 2000. 1997: CLEAR CUT AND DIRECT SEED TO JACK PINE. PRESCRIBE BURN BEFORE DIRECT SEEDING.. Saddle Red Pine Block, Sale # 720070001. Sale completed and site was to be burned and then direct seeded under FTP 72-440 and 72-439. Burn was never completed due to weather, lack of staff, and lack of funding. Evaluation in 2007 revealed we have lost our window to burn and seed. So FTPs cancelled. Changed mgt obj from JP to upland brush per vairiance approved in 1/2008. Agreed to leave and manage for upland brush as stand us surrounded by oak, jp,rp, and aspen regen- so U type added needed diversity for wildlife. SJT</p>
40	330 - Low-Density Trees	29.9		<p>Stand is regenerating to more of a maple dominated with a component of oak. Leaving monitoring treatment on this stand to recheck in 2021. Oaks are stump sprouting. There is a small component of residual overstory in the NE portion of stand.This stand was blown down by a tornado and salvaged under contract 72-005-15-02. Should come back to an oak stand mixed with some red maple and white pine. Kotar for this stand is PARVHa.</p>
47	330 - Low-Density Trees	13.0		<p>Stand is slowly starting to regenerate with oak via stump sprouts and individual seedlings. Maple is regenerating better from stump sprouts. Leaving regen treatment on to be rechecked in 2021. Stands used to part of stand 30, however, severe wind throw as a result of a storm impacted these areas, they were split from stand 30. Harvested as a salvage under 72-009-14-01. Kotar for this stand is PARVHa.</p> <p>OPIC - FMD: 2007 Field Notes: Mature Oak stand with some pine mixed within the stand. Pockets of Red and White Pine scattered within the west portion of the stand. Also scattered pockets of White Pine regeneration. ORV trail traverses through the stand. Recommend Selection cut. Cut canopy gaps throughout the stand in order to obtain oak regeneration in these openings. Between canopy gaps, pockets can be thinned based on timber quality and composition as well as to improve access through stand for equipment. Residual BA following harvest will be variable with some areas higher based on quality and species composition. Regeneration of Oak species, red maple, aspen and white/red pine should be considered successful following harvest. Protect ORV trail. Rolling terrain. (</p>
48	320 - Upland Shrub	2.2		<p>Keeping monitoring treatment on (resurvey in 2021. Very little hard word rayon present. This peninsula of stand 13 was final harvested summer of 2015 (72-002-10-01 Comp 176 Mix), cutting stems 2"+ DBH. OPIC - FMD: 2007: Red Pine plantation that was row thinned in 1991. Recommend thinning between rows or from above (crown spacing). BA goal of 90. The west finger will be final harvested to allow it to convert to hardwoods to provide a contiguous block of hardwoods that includes stand 11 and 35. Old data 1991: ROW THIN - EVERY 3RD ROW. FDF POTENTIAL.</p>
50	110 - Low Intensity Urban	4.1	No	<p>County Road 612</p>



Stand	Cover Type	Acres	Managed Site	General Comments:
400	31029 - Grass (O)	4.1	No	Open area with scattered trees. Stand adjacent to Co Rd 612, might have been landing. Kotar for this stand is PArVHa. OPIC - FMD: 1998: GRASSY OPENING.