



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72243

Entry Year 2023

Acreage: 1,070

County Crawford

Management Area: Camp Grayling

Revision Date: 2021-01-25

Stand Examiner: Joyanne Mittig

Legal Description:

T28N, R03W Sec 13 and Sec 14.
Maple Forest Township.

Identified Planning Goals:

To provide an area that allows for National Guard training while maintaining forest health, productivity, sustainability, species diversification, wildlife habitat, and structural diversity throughout the compartment.

Soil and topography:

The landscape is comprised of rolling hills and flat valleys with approximately 100ft difference in elevation. The two main soil types for this compartment are Kalkaska Sand (32% of the compartment) and Blue Lake loamy sand (27% of the compartment), with the rest comprised of lesser amounts of sands and loamy sands (Rubican-Graycalm, Graycalm-Klackung, Montcalm, Hartwick, etc). The stands dominated by northern hardwood species almost exclusively grow on the Blue Lake Loamy and Lindquist Sands. The aspen-dominated stands are not as limited soil-wise, and grow throughout the compartment in various soils.

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

This area is under the 1935 long-term lease agreement L-1479 (Act 154 P.A. 1935) with the Michigan National Guard, Department of Military Affairs. The agreement provides for use by the military during their encampment, with no permanent buildings or improvements to be erected. Military needs take precedence over resource management needs on long-term lease lands. The DNR will coordinate all prescribed activities with the National Guard to ensure they are compatible with military training needs.

The Ops 5 Tower and several firing points reside in this compartment.

The west side of the compartment is bordered by private property.

Underground utility lines are present.

Unique Natural Features:

Hill's Thistle found in 1992. Bald Eagles (locked talons) and Red-tailed Hawks observed flying over the compartment several times during inventory in 2021, but no nests were found within the compartment.

There is the potential for rare plant and animal species associated with the barrens or dry sand prairies in this compartment.

Archeological, Historical, and Cultural Features:

None known at this time.

Special Management Designations or Considerations:

Military Board Lands are considered special conservation areas (SCA). This compartment is adjacent to Range 40, and the area within this compartment is utilized for military operations.

Watershed and Fisheries Considerations:

None at this time. There are no water features within the compartment; Barnes Lake and Timber Lake are to the east of the compartment by approximately 0.6 to 0.8 miles.

Wildlife Habitat Considerations:

Promote the expansion of aspen and oak cover types. Protect mast producing shrubs whenever possible. Efforts should be made to enhance dead and down woody debris and standing snags.

This compartment is utilized by a variety of wildlife; coyote, hare, bobcat, passerines, grouse, deer, porcupines, squirrel.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 800 and 1,000 feet. Beneath the glacial drift is the Coldwater Shale. There is not an economic use for the Coldwater Shale. The nearest gravel pit is within two miles to the south and potential is thought to be good in the upland areas. This is part of the State Military leased land. Section 14 is leased and has been developed for Antrim Shale gas production.

Vehicle Access:

The Compartment is accessed by White Road, Marker Road, Bear Lake Road, and numerous trail roads. Current access is adequate.

Portions of trail roads are sandy and may require 4-wheel drive.

Survey Needs:

None at this time.

Recreational Facilities and Opportunities:

Dispersed recreation occurs throughout the compartment, although there are no dedicated trails or facilities.

Fire Protection:

Range 40 has frequent fire events, efforts are made to contain fires within the range complex. Grass types throughout the compartment will burn in the spring and dry weather conditions, the major cover type however is hardwood and limits fire behavior. Access for fire suppression is adequate.

Additional Compartment Information:

Written survey records dating back between the 1930's and 1940's: Land rolling and second rate sandy soils. Timber of sugar (maple), beech, w (white) pine, y (red) pine, hemlock, elm, birch, ironwood, maple, and lynn (I assume basswood; linden).

Air photos (1938): Stand 5 has always been an opening, and the areas around the roads in section 14 (stands 33 and 22) have always been open or void of contiguous canopy. Patchy forest in some areas, very obvious contiguous hardwoods in others.

Air photos (1952): Show thick hardwoods along the eastern boundary of the compartment and patchy, small trees where stands 26, 31, 10 and part of 20 are currently delineated.

Air photos (1964): It looks like hardwood stands 15, 23, 43, and 27 were thinned or the trees are just small. Also shows the openings in stand 3 (the openings are now delineated as stand 2) have always been present and never filled in, even after a harvest.

Air photos (1979): confirm the frost pockets in stand 26 and 28 have been persistent through the years, and even after the recent clearcut in 2014.

Air photos (1988): show recently cut stands 3 and 11.

Clearcuts are converting hardwoods to aspen (obvious on air photos and soil map (loamy soil delineations)), but some of the prior hardwood stands were patchy but grew back sans patches and predominantly aspen after harvest. This is not true for all stands; stand 2 was never able to fill in, nor were the frost pockets in stands 26 and 28.

The following reports from the Inventory are attached:

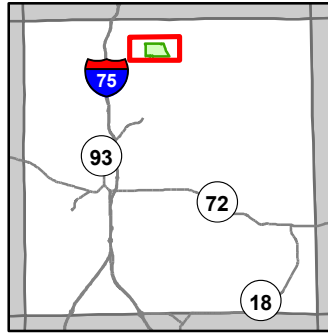
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

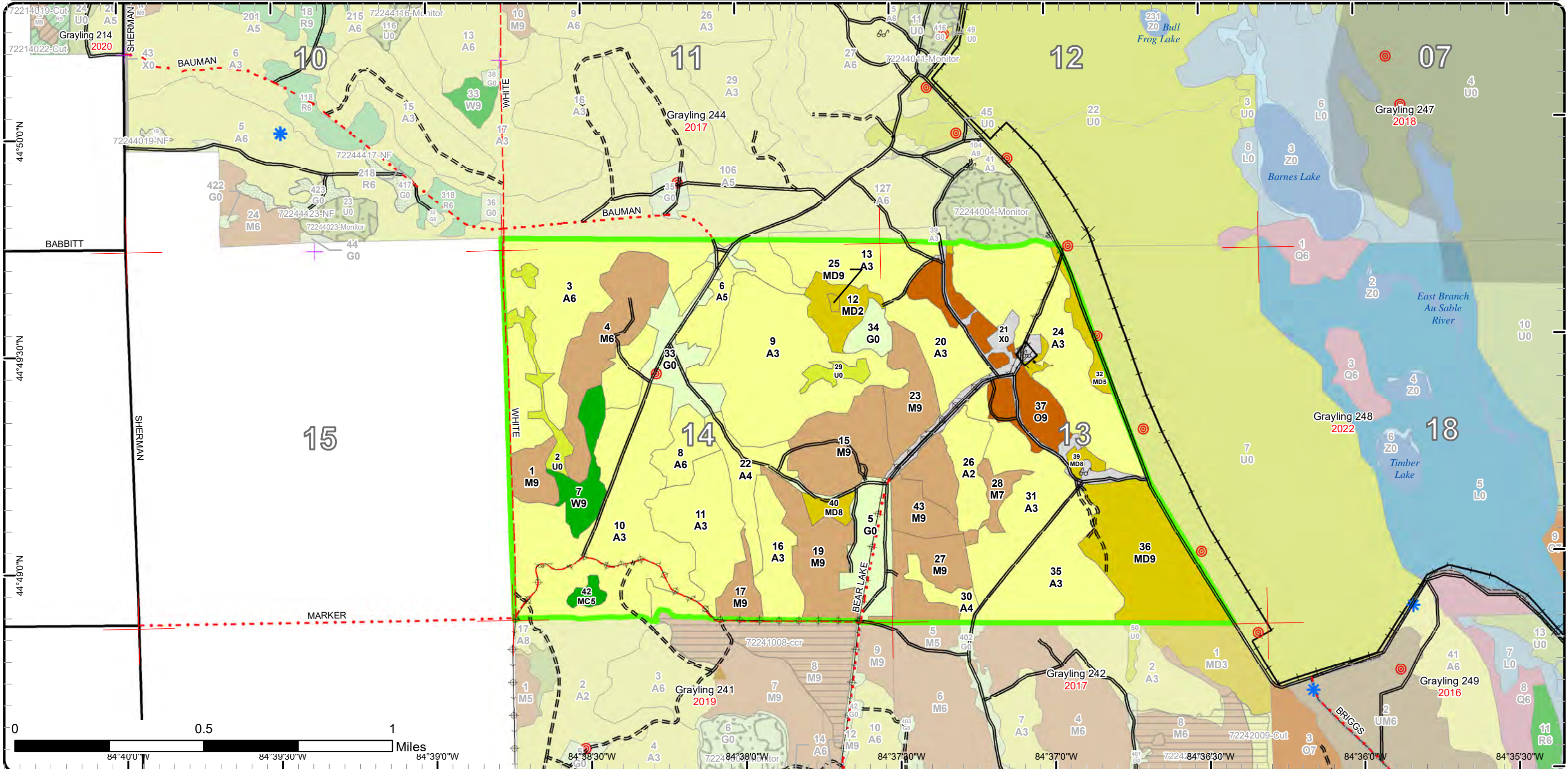
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 243
 T28N R03W 13-14
 County: Crawford
 Unit: Grayling
 Mgmt Area: Camp Grayling
 YOE: 2023
 Acres: 1070.2 GIS Calculated
 Examiner: Joyanne Mittig
 Map Revised: 9/1/2021
 Map Phase: Review

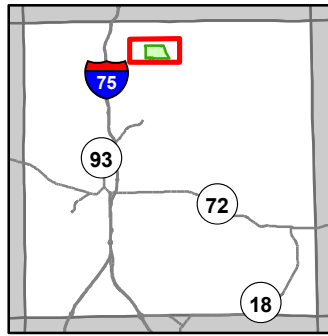


- Miris Corners
- + Remonumented Section Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Berms
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Powerline
- Compartment Boundary
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- * Camp Grayling Monitoring Wells
- o Camp Grayling Observation Point
- o Camp Grayling Firing Point
- x Camp Grayling Gates
- Camp Grayling Fence
- Camp Grayling Tank Trail
- Camp Grayling Range Area

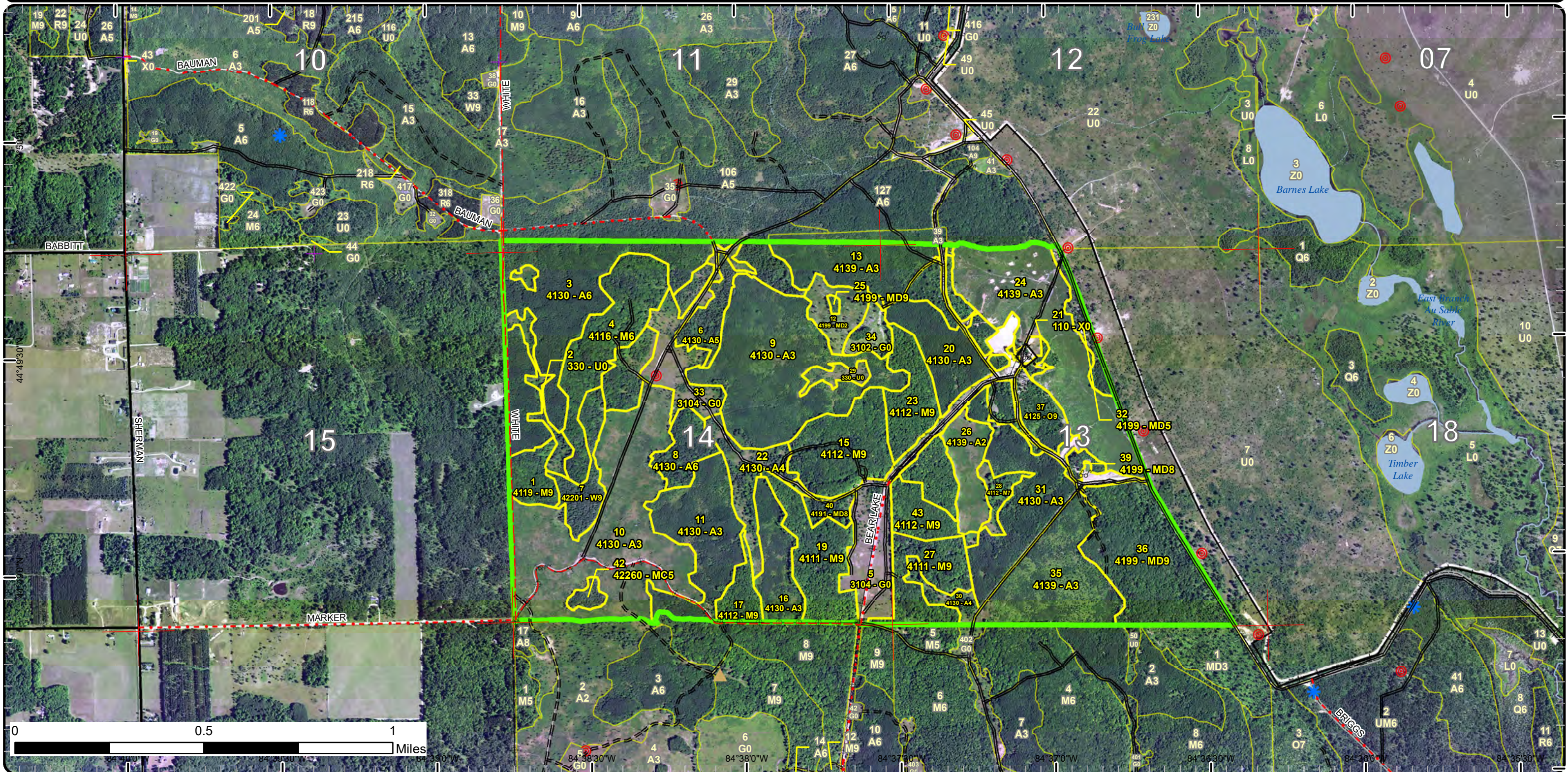


Stand Boundary Map

Compartment: 243
 T28N R03W 13-14
 County: Crawford
 Unit: Grayling
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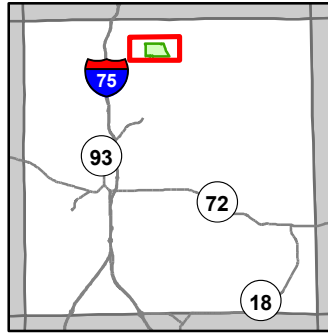


- Miris Corners
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- Counties
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- ★ Camp Grayling Monitoring Wells
- ⊗ Camp Grayling Observation Point
- ⊙ Camp Grayling Firing Point
- ✕ Camp Grayling Gates
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- Camp Grayling Tank Trail
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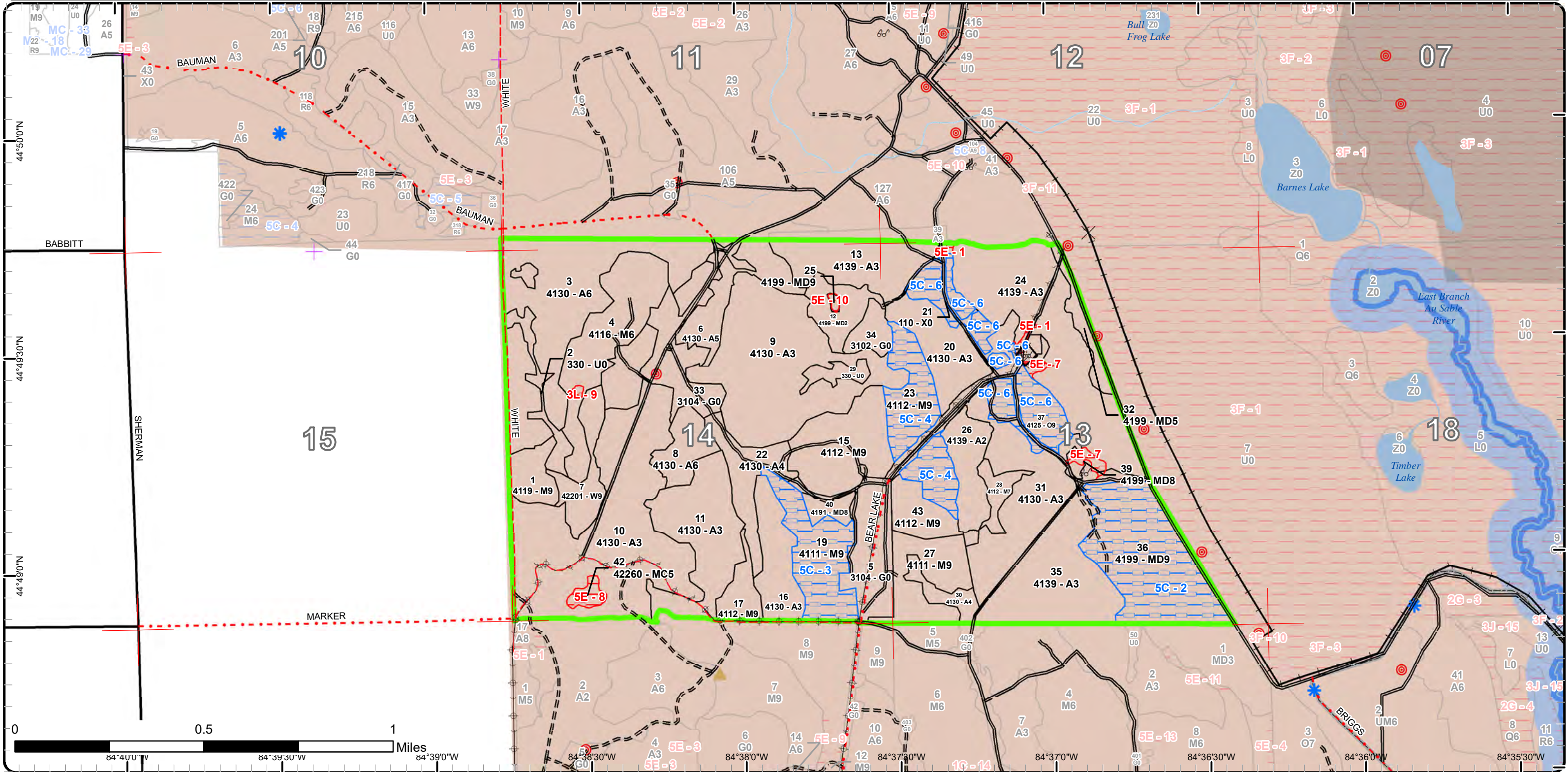


Special Conservation Areas

Compartment: 243
 T28N R03W 13-14
 County: Crawford
 Unit: Grayling
 Mgmt Area: Camp Grayling
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 Examiner: Joyanne Mittig
 Map Revised: 9/1/2021
 Map Phase: Review



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- Counties
- DNR - Secondary Forest Road
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- Federal / State / County - Paved Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- ▲ Berms
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Powerline
- Compartment Boundary
- Available w/ Constraints
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- Unavailable
- 3L: Other wildlife concerns
- 5E: Long-Term Retention
- Stand Boundaries
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Cold Water Streams
- Research, Development, and Military Lands
- ★ Camp Grayling Monitoring Wells
- ⊗ Camp Grayling Observation Point
- ⊗ Camp Grayling Firing Point
- ⊗ Camp Grayling Gates
- Camp Grayling Fence
- Camp Grayling Tank Trail
- Camp Grayling Range Area



Report 1 – Total Acres by Cover Type and Age Class



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	193	178	108	76	0	19	56	0	0	0	0	0	0	0	0	0	0	630
Herbaceous Openland	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
Low-Density Trees	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Mixed Upland Deciduous	0	13	0	0	0	0	0	5	5	0	1	0	0	0	0	0	0	67	91
Natural Mixed Pines	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
Northern Hardwood	0	0	0	0	0	0	0	0	0	200	0	0	0	0	0	0	0	0	200
Oak	0	0	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	31
Urban	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
White Pine	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	16
Total	99	206	178	108	76	0	19	61	8	216	32	0	0	0	0	0	0	67	1070



Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2023

Acres of Harvest

Compartment 243

Total Compartment Acres: 1,070

Commercial Harvest - 216
 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
Aspen	75	0	0	0	0	0	0	0	0	75
Low-Density Trees	3	0	0	0	0	0	0	0	0	3
Northern Hardwood	122	0	0	0	0	0	0	0	0	122
White Pine	16	0	0	0	0	0	0	0	0	16
Total	216	0	0	0	0	0	0	0	0	216

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	216	0	0	0	0	0	0	0	41	257
Next Step	0	138	69	0	0	138	285	0	0	630
Total	216	138	69	0	0	138	285	0	41	886



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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Proposed Treatments:

1	72243001-Cut	10.9	4119 - Mixed Northern Hardwoods	Sawtimber Well	87	111-140	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Clearcut without retention due to size. Remove all stems greater than 2". Include all military specs.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> SitePrep, Roller Chopping; SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Skidder - Release;</p> <p><u>Treatments:</u> Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)</p> <p><u>Acceptable</u> Planted red pine at a density to ensure a well stocked pine plantation.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											
2	72243002-Cut	3.1	330 - Low-Density Trees	Nonstocked			Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Clearcut without retention due to size. Remove all stems greater than 2". Include all Military specs.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> SitePrep, Roller Chopping; SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant; Pesticide, Skidder - Release;</p> <p><u>Treatments:</u> Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)</p> <p><u>Acceptable</u> Planted red pine at a density to ensure a well stocked pine plantation.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											
4	72243004-Cut	39.5	4116 - Mixed N. Hardwood - Aspen	Poletimber Well	85	111-140	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Clearcut with retention (3-10%). May use retention islands if desired. Place retention around areas with young sugar maple poles, yellow birch, eastern hemlock, or oak regeneration above the browse line. Current retention pocket is around a stick nest and hemlock sapling.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> SitePrep, Trenching; Pesticide, Skidder - Site Prep; Pesticide, Aerial - Site Prep; SitePrep, Roller Chopping; Planting, Initial Plant;</p> <p><u>Treatments:</u> Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)</p> <p><u>Acceptable</u> Well-stocked planted red pine</p> <p><u>Regen:</u></p> <p><u>Other</u> Could choose natural regen instead of red pine. Hopefully, oak and red maple do well under the future mature red pine stand, allowing for</p> <p><u>Comment:</u> natural regen when the red pine is final harvested.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
33 72243005-WLO	8.0	3104 - Degraded	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		No
<p><u>Prescription</u> Periodic opening maintenance as needed, that may include disking, chisel plowing, stump excavation, fertilizing, food plot seeding, no-till prairie grass seeding, mowing, and herbicide application. Also could include tree and shrub planting along the perimeter.</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u></p> <p><u>Other Comment:</u> This opening is FP 305 and is part of the DNR/NWTF WHG project</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2020</p>										
6 72243006-Cut	36.3	4130 - Aspen	Poletimber Medium	65	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	No
<p><u>Prescription</u> Clearcut down to 2" diameter with standard retention guidelines. Aim for placing retention around areas with native pine. Apply wildlife shrub and grouse spec. Also include all military specs.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u> Well-stocked aspen with minor components of oak, cherry, and pines.</p> <p><u>Other Comment:</u> This is to remove the mature, poorly formed aspen with the expectation that the harvest will create a denser, more continuous aspen stand that what is currently on the ground.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>										
7 72243007-Cut	15.5	42201 - Natural White Pine, Mixed Deciduous	Sawtimber Well	83	141-170	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	No
<p><u>Prescription</u> Clearcut without retention due to size Harvest all tree greater than 2" diameter. Include all military specs.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> SitePrep, Roller Chopping; SitePrep, Trenching; Pesticide, Skidder - Site Prep; Pesticide, Skidder - Release; Planting, Initial Plant;</p> <p><u>Treatments:</u> Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)</p> <p><u>Acceptable Regen:</u> Planted red pine planted at a density to ensure a well stock pine plantation.</p> <p><u>Other Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>										



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
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8	72243008-Cut	13.1	4130 - Aspen	Poletimber Well	65	81-110	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	No
<p><u>Prescription</u> Clearcut down to 2" diameter with standard retention guidelines. Aim for placing retention around areas with native pine and/or open-grown maples. Apply wildlife shrub spec and grouse spec. Include all military specs.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Well-stocked aspen with components of red maple, oak, and white pine.</p> <p><u>Regen:</u></p> <p><u>Other</u> Higher quality aspen compared to the surrounding mature aspen stands. It is also on a hill and the future sale administrator may need to install fences to prevent snowmobiles from climbing up the hill and damaging regen after harvest.</p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											

15	72243015-Cut	34.2	4112 - Maple, Beech, Cherry Association	Sawtimber Well	83	111-140	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	No
<p><u>Prescription</u> Clearcut with retention (3-10%). Remove all stems greater than 2" dbh. Retain the Xlog oak for wildlife purposes. Include all military specs.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> A well-stocked mix of aspen, maples, and red oak.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											

22	72243022-Cut	19.0	4130 - Aspen	Poletimber Poor	55	1-50	Harvest	Clearcut	413 - Aspen	Even-Aged	No
<p><u>Prescription</u> Clearcut down to 2" diameter with standard retention guidelines. Aim for placing retention around areas with native pine. Apply wildlife shrub and grouse spec. Include all military specs.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Mix of aspen and associated species meeting minimum stocking levels.</p> <p><u>Regen:</u></p> <p><u>Other</u></p> <p><u>Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>											



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
5 72243022-NF	25.5	3104 - Degraded	Nonstocked		Immature	NonForestMgt	Other - Specify	310 - Herbaceous Openland		No
<p><u>Prescription</u> Periodic opening maintenance as needed, that may include disking, chisel plowing, stump excavation, fertilizing, food plot seeding, no-till prairie grass seeding, mowing, and herbicide application. Also could include tree and shrub planting along the perimeter.</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u></p> <p><u>Other Comment:</u> This opening is LZ Z and is part of the DNR/NWTF WHG project</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 8 /1 /2018</p>										
27 72243027-Cut	24.5	4111 - S.Maple, Hard Mast Association	Sawtimber Well	85	141-170	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	No
<p><u>Prescription</u> Clearcut with retention (3-10%). Remove all stems greater than 2" dbh. Place retention around areas with sugar maple poles and saplings.</p> <p><u>Specs:</u> Retain the white pine for future stand diversity. Include all military specs.</p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u> A well-stocked mix of aspen, maples, basswood, and beech.</p> <p><u>Other Comment:</u></p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>										
30 72243030-Cut	6.9	4130 - Aspen	Poletimber Poor	60	1-50	Harvest	Clearcut	4139 - Aspen, Mixed Deciduous	Even-Aged	No
<p><u>Prescription</u> Clearcut. No retention based on small acreage. Remove all stems greater than 2" dbh. Add wildlife shrub and grouse spec. Also include all military specs.</p> <p><u>Specs:</u></p> <p><u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)</p> <p><u>Treatments:</u></p> <p><u>Acceptable Regen:</u> A well-stocked mix of aspen, maples, red oak, and conifers.</p> <p><u>Other Comment:</u> The current stand is open and sparsely treed. Hopefully a harvest will stimulate aspen root suckering from the surrounding aspen.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2022</p>										



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Habitat Cut
34 72243034-NF	7.6	3102 - Grass	Nonstocked	0	Unspecified	NonForestMgt	Other - Specify	3102 - Grass		No
<p><u>Prescription</u> Maintain grassy opening for Camp Grayling military operations. <u>Specs:</u> <u>Next Step</u> <u>Treatments:</u> <u>Acceptable</u> <u>Regen:</u> <u>Other</u> Recently cleared by the Military for training purposes. Camp Grayling's Environmental Office ran it by our FMU a year or two ago <u>Comment:</u> <u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2022</p>										
43 72243043-Cut	12.6	4112 - Maple, Beech, Cherry Association	Sawtimber Well	83	111-140	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	No
<p><u>Prescription</u> Clearcut with standard retention (3-10%). Remove all stems greater than 2" dbh. Place retention around areas heavy to pole-sized sugar maples. Include all military specs. <u>Specs:</u> <u>Next Step</u> Monitoring, Natural Regen (Re-Inventory) <u>Treatments:</u> <u>Acceptable</u> Well-stocked mix of aspen, sugar maple, red maple, beech, basswood, and ironwood. <u>Regen:</u> <u>Other</u> Beech are declining quickly, harvest asap. <u>Comment:</u> <u>Site Condition</u> <u>Proposed Start Date:</u> 10/1 /2022</p>										

Total Treatment Acreage Proposed: 256.7

Report 4 – Site Conditions

Grayling Mgt. Unit
Joyanne Mittig : Examiner

Compartment: 243
Year of Entry: 2023

Availability for Management

Total Acres	Acres Available	Acres Avail With Condition	Acres Not Available	Dominant Site Conditions	5E
89	89	0	0	Aspen	
	0	0	0	Herbaceous Openland	
	0	0	0	Low-Density Trees	
8	8	0	0	Mixed Upland Deciduous	
3	0	0	3	Natural Mixed Pines	3
	0	0	0	Northern Hardwood	
	0	0	0	Oak	
	0	0	0	Urban	
	0	0	0	White Pine	
101	97		3	Total Forested Acres	3
	96%		3%	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	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	59	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Cut next inventory cycle (YOE 2033) to help balance out age class in this compartment. This stand will have no trouble surviving another 10 years. Then, clearcut.							
3	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	30	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Harvesting is occurring all around this stand; retain for size class diversity in this area.							

Report 4 – Site Conditions

Grayling Mgt. Unit
Joyanne Mittig : Examiner

Compartment: 243
Year of Entry: 2023

4	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	32	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Delay harvest until next inventory cycle (2033) for age class diversity in this compartment. This stand will have no trouble surviving through the next inventory cycle.							
6	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	31	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	5E: Long-Term Retention	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Designated retention island within harvested stand 10.							
9	Unavailable	3L: Other wildlife concerns	1	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified
Comments: Area contains a stick nest in a paper birch and the only hemlock sapling found during inventory.							
10	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Designated retention islands left when the surrounding stand was cut. Scattered marked-to-leave stems within that surrounding stand are also designated retention.							

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
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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																																									
1	4119 - Mixed Northern Hardwoods	Sawtimber Well	10.9	87	111-140	N/A	Northern hardwoods stand. A few nice sugar maple logsMore open understoryVariety of SM sizes: 5" to 13" Basswood size is consistent More red maple in canopy toward the westCanopy tree size becomes more consistent to the west																																																																																									
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2	330 - Low-Density Trees	Nonstocked	10.2			No	A mix of openings and forest roads; some no more than grass, some scattered trees and shrubs. Aspen, willow, pines, red maple, cherry																																																																																									
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3	4130 - Aspen	Poletimber Well	76.0	37	51-80	N/A	Clearcut in 1983, 72-034-83. From old sale map, had several grass openings that still haven't grown in (Jan 2021) and those are their own stand now. Aspen with a hardwoods understory. Understory leans toward maple/ironwood to the SW. Northwest corner of stand has a more open canopy and is comprised of more quaking aspen than the rest of the stand.																																																																																									
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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4	4116 - Mixed N. Hardwood - Aspen	Poletimber Well	40.1	85	111-140	N/A	Basswood and yellow birch also present. A few nice stems but overall quality is poor. Aspen are general large and on their way out. The species composition starts to favor aspen and white pine in the south. Stand changes composition to more basswood, red maple, sugar maple, yellow birch, and white pine near the adjacent white pine stand.																																																		
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5	3104 - Degraded	Nonstocked	26.9	Immature	Managed Opening	Scattered trees, open areas. Mix of forest roads and opening. Birch, white pine, jack pine, cherry, scrub oak.																												
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6	4130 - Aspen	Poletimber Medium	36.3	65	51-80	N/A	A poor quality mixed stand. Aspen of various ages and sizes. Poor form. The bigtooth aspen have better form than quakingA more open canopy, younger saplings are thick under the older aspen. The older aspen (60 year old range) have internal rot and poor form. They are short and gnarly for their age. Large pine stumps present.																																			
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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7 42201 - Natural White Pine, Mixed Deciduous Sawtimber Well 15.5 83 141-170 N/A A natural white pine stand. Dense hardwood (maple, beech, ironwood) understory. Coarse woody debris. Charred old stumps.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Quaking Aspen	32	Log/Pole	12		Hazelnut (Beaked)	Medium	5 - 10 feet	Tall Shrub
White Pine	60	Log/Pole	12	83	Witch Hazel	Low	5 - 10 feet	Tall Shrub
Red Pine	5	Log	16		Hawthorn (spp.)	Medium	5 - 10 feet	Tall Shrub
Basswood	1	Log	13		Black/Red (Hybrid) Oak	Low	5 - 10 feet	Sapling
Sugar Maple	1	Pole	5		Beech	Medium	Variable	Sapling
American Elm	1	Pole	6		Red Maple	Medium	Variable	Sapling
					Ironwood	Medium	Variable	Sapling
					Serviceberry (Juneberry)	Low	10 - 20 feet	Sapling
					Sugar Maple	Medium	Variable	Sapling
					Cherry (spp.)	Low	10 - 20 feet	Sapling

8 4130 - Aspen Poletimber Well 13.1 65 81-110 N/A Stand on a hill. Red maple saplings in understory, some larger (16"+) open grown looking ones in the canopy.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	22	Log/Pole	12		White Pine	Low	Variable	Sapling
Bigtooth Aspen	65	Pole	7	65	Cherry (spp.)	Medium	Variable	Tall Shrub
Paper Birch	2	Pole/Log	9		Black/Red (Hybrid) Oak	Low	Variable	Sapling
White Pine	6	Log	13		Serviceberry (Juneberry)	Low	10 - 20 feet	Sapling
Sugar Maple	1	Pole/Log	9		Ironwood	Low	Variable	Sapling
Basswood	1	Pole	7		Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub
Quaking Aspen	3	Log	10		Beech	Low	5 - 10 feet	Sapling
					Witch Hazel	Low	5 - 10 feet	Tall Shrub
					Hawthorn (spp.)	Low	5 - 10 feet	Tall Shrub

9 4130 - Aspen Sapling Well 79.9 15 Immature N/A Payment Unit 2 of Range 40 Aspen 72-015-03, clearcut 2005

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	4	Sapling	2		Cherry (spp.)	Medium	5 - 10 feet	Sapling
Quaking Aspen	10	Sapling	3		Beech	Low	5 - 10 feet	Sapling
Bigtooth Aspen	80	Sapling	3	15	Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub
Northern Pin Oak	2	Sapling	2					
Black Cherry	4	Sapling	2					



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																					
10	4130 - Aspen	Sapling Well	105.6	6	Immature	N/A	Was final harvested (all trees 2"+ DBH) in Dec 2014-Jan 2015 under 72-615-13-01 by S. Muma F.P. A retention island (new stand 42) was left. Pre-harvest stand comments: Excellent wildlife understory. Hilly. Many trees with dead tops. White pine is starting to establish throughout. Stand varies in size and quality and age. Several open areas. Jack pine and red pine also present. White pine present and is seeding in northern portions. A pocket of white pine also present in the southwest also. There is aspen throughout these pine areas and they should be managed for aspen.Oak and pine more numerous on hilltops																																																																					
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12	4199 - Other Mixed Upland Deciduous	Sapling Medium	13.2	7	Immature	N/A	Post-harvest update: was clearcut with reserves in Dec 2014-Jan 2015 under 72-615-13-01. The designated retention that was left includes two ~half-acre retention islands and ~5 sq. ft. of marked-to-leave stems. Scattered trees were also marked with orange paint to be felled and left on the ground for coarse woody debris. Original inventory comments: A poor quality hwd stand. Rolling topo. Birch is declining. Poor understory. Basswood, oak, and white pine also present. BA's 160, 80, 160, 100, Scattered canopy trees left after harvest. Stump sprouting regen doing well. Oak saps in canopy well above browse line. Smaller regen is browsed.																																																																					
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15	4112 - Maple, Beech, Cherry Association	Sawtimber Well	34.2	83	111-140	N/A	Log-sized hardwood stand with very mature aspen. Aspen are declining, especially the quaking. Beech is doing ok, not much mortality (as of winter 2021), unlike the adjacent stand to the southeast (#43). Heavier to bigtooth aspen around the southern edges, but quaking aspen is found internally. A pocket of the stand has a significant number of poles, but the majority is clearly log-sized. Understory is almost completely beech brush.																																																																									
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17	4112 - Maple, Beech, Cherry Association	Sawtimber Well	9.1	83	81-110	N/A	Payment Unit #1 of Range 40 Hardwoods (72-016-03). Thinned 2004/05 (mark to cut) (originally stand 8 at the time of harvest) BA after harvest was 71 Thinned 1983, 72-072-83 (possibly 72-52-83); product: fuelwoodThick beech brush and ironwood in understory. Did not get maple regen.Not much scale on beech, but beech bark is cracking. Most of the beech are still alive. There are a few sapling/pole ironwood and sugar maple that reach into the canopy. A few (5 or less) large, straight and tall relatively limb-free white pines. Obviously not cut 83 years ago with the rest of the stand, but grew up among competition for most of its life.																																																																									
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19	4111 - S.Maple, Hard Mast Association	Sawtimber Well	29.5	83	111-140	N/A	Payment Unit #2 of Range 40 Hardwoods (72-016-03). Thinned 2004/05 (mark to cut) (stand 15 at the time of harvest) BA after harvest was 91 Thinned 1983; 72-072-83 (possibly 72-52-83); product: fuelwood Sugar maple logs (14") and poles (5" to 9") and saps (3") in canopy Massive red maples A few large yellow birch Stand much more sugar maple heavy to the south (80%) becomes more like 50% to the north (more beech)																																																																									
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21	110 - Low Intensity Urban	Nonstocked	23.5			No	Bear Lake Road and Ops tower.																																																									
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24	4139 - Aspen, Mixed Deciduous	Sapling Well	70.8	7	Immature	N/A	Stand harvested during the summer to 2014, under contract 72-621-13-01 Stand was likely clearcut in 1969, sale # 72-011-69; mostly aspen pulp but some white birch and red maple too. Currently 10' to 15' tall. 40% of this stand is log-sized, 60% is sapling-sized There are a few open areas to the north; appears to be military practice areas of some kind.																																																									
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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25 4199 - Other Mixed Upland Deciduous Sawtimber Well 0.8 90 111-140 N/A Retention pockets for sale 72-615-13-01. The designated retention that was left includes two ~half-acre retention islands.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	47	Log/Pole	12	90	Beech	High	5 - 10 feet	Sapling
Bigtooth Aspen	38	Log/Pole	12		Black/Red (Hybrid) Oak	Low	5 - 10 feet	Sapling
Beech	5	Pole/Log	9		Hazelnut (Beaked)	Medium	5 - 10 feet	Tall Shrub
Paper Birch	10	Log/Pole	11		Sugar Maple	Low	>20 feet	Sapling
					White Pine	Low	>20 feet	Sapling
					Witch Hazel	Low	5 - 10 feet	Tall Shrub
					Sugar Maple	Low	< 5 feet	Seeding

26 4139 - Aspen, Mixed Deciduous Sapling Medium 17.1 7 Immature N/A Stand harvested in the summer of 2014 under contract 72-621-13-01.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Black/Red (Hybrid) Oak	10	Sapling	1	7	White Pine	Low	< 5 feet	Sapling
Quaking Aspen	54	Sapling	1	7	Black/Red (Hybrid) Oak	Medium	< 5 feet	Sapling
Paper Birch	1	Sapling	2		Red Maple	Medium	< 5 feet	Sapling
Red Maple	25	Sapling	1		Beech	Low	< 5 feet	Sapling
Black Cherry	1	Sapling	1		Scotch Pine	Low	< 5 feet	Sapling
White Pine	1	Sapling	1		Hawthorn (spp.)	Low	5 - 10 feet	Tall Shrub
Sugar Maple	1	Sapling	2					
Balsam Fir	1	Sapling	1					
White Ash	1	Sapling	1					
Ironwood	1	Sapling	1					
Beech	4	Sapling	1					

27 4111 - S.Maple, Hard Mast Association Sawtimber Well 24.5 85 141-170 N/A White ash snags present.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	48	Log/Pole	10	85	Beech	High	Variable	Sapling
Beech	10	Log/Pole	11	85	Ironwood	High	Variable	Sapling
Quaking Aspen	3	Log	11		Black/Red (Hybrid) Oak	Low	>20 feet	Sapling
Bigtooth Aspen	8	Log	14					
Basswood	27	Log/Pole/XLog	14					
Ironwood	1	Pole	6					
White Pine	1	Log	11					
Black/Red (Hybrid) Oak	1	Pole	6					
Paper Birch	1	Pole	9					

Aspen throughout, but usually within a chain or two of an edge.
Some single-stem basswood. Most basswood in the southern 2/3 of the stand. Beech more common in the north 1/3.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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28	4112 - Maple, Beech, Cherry Association	Sawtimber Poor	7.2	80	1-50	N/A	Mature trees and open area. Possible frost pocket.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	49	Log/XLog/Pole	14	80	Quaking Aspen	Low	5 - 10 feet	Sapling
Sugar Maple	49	Log/Pole	11		Black/Red (Hybrid) Oak	Low	Variable	Sapling
White Pine	1	Pole	8		White Pine	Low	>20 feet	Sapling
Black/Red (Hybrid) Oak	1	Pole	6		Bracken Fern	High	Unspecified	Non-Wood

29	330 - Low-Density Trees	Nonstocked	5.0		Immature	No	Part of Payment Unit 2 of Range 40 Aspen, but did not regenerate.
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30	4130 - Aspen	Poletimber Poor	6.9	60	1-50	N/A	An open valley w/ road running through it. The stand is slowly filling in.
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	5	Pole/Log	8		Cherry (spp.)	Medium	Variable	Sapling
Beech	5	Pole/Log	9		Black/Red (Hybrid) Oak	Low	Variable	Sapling
Quaking Aspen	80	Pole/Sap/Log	6	60	Willow spp.	Low	5 - 10 feet	Sapling
Black Cherry	10	Pole/Log/Sap	8		White Pine	Low	Variable	Sapling
					Beech	Low	5 - 10 feet	Sapling
					Red Pine	Low	5 - 10 feet	Sapling
					Ironwood	Low	< 5 feet	Sapling
					Hawthorn (spp.)	Low	5 - 10 feet	Tall Shrub

Would be a good stand to include in a harvest if harvesting adjacent stands; use as landing. A few mature trees among scraggly cherry and various saplings. Open areas have goldenrod, rubus, bracken fern, knapweed, various asters and grasses. Willows have pinecone galls.

31	4130 - Aspen	Sapling Well	41.9	26	Immature	N/A	Observation Tower Aspen 72-032-93 Payment Unit 3 Harvested 1993 Some stem exclusion occurring Trees approximately 30' to 40' tall
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Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	10	Sapling	3		Ironwood	Medium	< 5 feet	Sapling
Paper Birch	5	Sapling	3		Beech	High	< 5 feet	Sapling
Quaking Aspen	45	Sapling	3	26	White Pine	Low	Variable	Sapling
Bigtooth Aspen	20	Sapling	3		Sugar Maple	Low	5 - 10 feet	Sapling
Northern Pin Oak	10	Pole/Sapling	5		Balsam Fir	Trace	5 - 10 feet	Sapling
White Pine	2	Sapling	4		Witch Hazel	Low	5 - 10 feet	Tall Shrub
Red Pine	1	Sapling	3					
Ironwood	1	Sapling	2					
Jack Pine	1	Sapling	4					
Sugar Maple	5	Sapling	3					



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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32 4199 - Other Mixed Upland Deciduous Poletimber Medium 8.2 60 1-50 N/A South 1/3 is mostly 2" bigtooth aspen saplings with some pole and log hybrid oak. Canopy is a mix of sizes, ages, species.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	15	Pole/Log/Sap	6		Red Maple	Medium	Variable	Sapling
Bigtooth Aspen	30	Pole/Sap/Log	6		Witch Hazel	Low	5 - 10 feet	Tall Shrub
Black/Red (Hybrid) Oak	44	Pole/Log/Sap	8	60	Black/Red (Hybrid) Oak	Medium	5 - 10 feet	Sapling
Red Pine	10	Log/Pole	10		White Pine	Low	Variable	Sapling
Black Cherry	1	Sapling	3		Cherry (spp.)	Low	5 - 10 feet	Sapling
					Red Pine	Low	< 5 feet	Sapling

33 3104 - Degraded Nonstocked 25.5 Unspecified Managed Opening FP 305

Sub-Canopy Species	Density	Avg. Height	Size
Willow spp.	Trace	5 - 10 feet	Tall Shrub
Cherry (spp.)	Trace	10 - 20 feet	Tall Shrub
Aspen (spp.)	Trace	>20 feet	Sapling

Scattered trees, open areas. Mix of forest roads, openings, and single trees.

34 3102 - Grass Nonstocked 7.6 0 Unspecified Managed Opening Post-harvest update: was clearcut with reserves in Dec 2014-Jan 2015 under 72-615-13-01.

This stand was recently cleared by the Military for training purposes. Camp Grayling's Environmental Office ran it by Grayling's FMU a year or two ago (approx 2019).

Inventory notes: open area, full of grass and forbs. Piled logs along the edge of the harvest.

35 4139 - Aspen, Mixed Deciduous Sapling Well 47.2 12 Immature N/A 72-020-05, Air to Ground Aspen, cut in 2009.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	1	Sapling	2		Willow spp.	Low	< 5 feet	Sapling
Red Maple	30	Sapling	2	12	Cherry (spp.)	Low	5 - 10 feet	Sapling
Red Oak	10	Sapling	3		Beech	Medium	< 5 feet	Sapling
Paper Birch	2	Sapling	1		White Pine	Low	< 5 feet	Sapling
Quaking Aspen	40	Sapling	2	12				
Bigtooth Aspen	16	Sapling	2	12				
Jack Pine	1	Sapling	2					



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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36 4199 - Other Mixed Upland Deciduous Sawtimber Well 58.9 80 111-140 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Sugar Maple	1	Log/Pole	11	
Red Maple	25	Log/Pole/Sap	10	80
Beech	20	Pole/Log/Sap	7	
Red Oak	13	Log/Pole	12	80
Paper Birch	15	Log/Pole	12	
Quaking Aspen	1	Log/Pole	10	
Bigtooth Aspen	3	Log	13	
Black/Red (Hybrid) Oak	20	XLog/Log	18	110
Ironwood	1	Pole/Sapling	5	
Red Pine	1	Pole	7	

Sub-Canopy Species	Density	Avg. Height	Size
Red Maple	Medium	Variable	Sapling
Beech	Full	Variable	Sapling
Witch Hazel	Medium	5 - 10 feet	Tall Shrub
Black/Red (Hybrid) Oak	Low	5 - 10 feet	Sapling
Red Pine	Low	>20 feet	Pole
Ironwood	Medium	< 5 feet	Sapling
Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub

Undulating hills (25% slope) along west side all run down towards range 40 and flatten at the bottom.

Good log quality oak.

Three aged: previous harvest left large oak, hardwoods grew up around them. Looks like 3 ages: the x/log (18", 110yrs) oak. Log (11", 80yrs) oak/redmaple/beech/birch, which make up the majority of the stand. Pole (5", 30yr) beech/red maple.

Stump sprouted red maple, birch, beech

Most of the pole sized trees in this stand are 6" beech.

North 1/4 of stand dominated by red maple logs, beech poles, and xlog red oak, Transitions southward to birch log and oak dominated, with lesser components of red maple and beech.

Turns to a few areas of oak and aspen saplings and more red pine, lower density of mature trees next to east boundary. Small area, I did not bother to delineate. Previous forester that did inventory said he remembers fires from Range 40 slopped over into that section of the stand.

The xlog oak have massive crowns, thick upper limbs.

A few sections of this stand have nearly 100% oak canopy.

Most of the birch is still alive, but being the short-lived tree that it is, it's on its way out.

37 4125 - Black, N. Pin Oak Sawtimber Well 31.4 91 1-50 N/A

Canopy Species	% Cover	Size Class	DBH	Age
Paper Birch	31	Log/Pole	10	91
Red Pine	8	Log	13	
Black/Red (Hybrid) Oak	60	Log	13	91
White Pine	1	Log/Pole	10	

Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	Low	5 - 10 feet	Sapling
Beech	High	< 5 feet	Sapling
Cherry (spp.)	Medium	Variable	Tall Shrub
Black/Red (Hybrid) Oak	Medium	Variable	Sapling
Witch Hazel	Medium	5 - 10 feet	Tall Shrub
Hazelnut (Beaked)	Low	5 - 10 feet	Tall Shrub
Bigtooth Aspen	High	>20 feet	Sapling
Quaking Aspen	Low	>20 feet	Sapling
Red Maple	Medium	>20 feet	Sapling
Paper Birch	Low	>20 feet	Sapling
Red Pine	Low	Variable	Sapling
White Pine	Low	Variable	Sapling

Birch supercanopy (a few oak and pine) with a fully stocked understory of mixed deciduous

Payment Unit #4 of Range 40 Hardwoods (72-016-03). Seed tree 2004/05, remove all hardwood, mark birch to 40BA (stand 28 at time of harvest) BA after harvest was 22

Stand may also have been thinned for paper birch cords in 1979, sale #72-27-79

Regenerated saplings under birch are varied in size. Some places have regen nearly 30ft, others is 15ft.

Meets silvicultural criteria; but not much timber, around 10 BA or less. Nice red pine, a few nice oak than most of the compartment. The birch is dying out; previous inventory (10 yrs) showed more birch in canopy, some have turned over to snags. With the way the DNR codes stands, in another 10 years more of the birch will die out (already stressed, older trees, epicormic branching), and this stand can be classified as a sapling stand.

The log-sized trees are technically a super canopy, and they make up roughly 60% of the canopy due to large crowns. They are not evenly distributed, either.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments
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39 4199 - Other Mixed Upland Deciduous Sawtimber Medium 5.2 75 1-50 N/A Long term retention left following timber sale 72-621-13-01.

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Black/Red (Hybrid) Oak	50	XLog/Log/Pole	20	75	Beech	Low	< 5 feet	Sapling
Paper Birch	20	Pole/Log	8		Black/Red (Hybrid) Oak	Low	< 5 feet	Sapling
Red Maple	20	Log	12					
Bigtooth Aspen	10	Log	13					

40 4191 - Mixed Upland Deciduous with Conifer Sawtimber Medium 5.0 65 111-140 N/A Mix of species, ages, and sizes

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Red Pine	5	Log	14		Ironwood	Low	Variable	Sapling
White Pine	30	Pole	9		White Pine	Medium	Variable	Sapling
Red Maple	20	Log/Pole	13		Cherry (spp.)	Low	5 - 10 feet	Sapling
Sugar Maple	10	Log/Pole	13					
Paper Birch	5	Log	14					
Quaking Aspen	30	Pole	8	65				

42 42260 - Natural Pine, Mixed Deciduous Poletimber Medium 3.4 70 111-140 N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
White Pine	54	Log/Pole	10	70	White Pine	Low	Variable	Sapling
Quaking Aspen	40	Pole/Sap/Log	7	70	Cherry (spp.)	High	5 - 10 feet	Sapling
Red Pine	5	Log	17		Black/Red (Hybrid) Oak	Low	5 - 10 feet	Sapling
Jack Pine	1	Pole/Sapling	7		Hawthorn (spp.)	Low	5 - 10 feet	Tall Shrub
					Jack Pine	Low	>20 feet	Sapling

Post-harvest update: this part of the original stand 10 was left as a retention island that mostly encompasses a pocket of WP. Canopy data update is a rough extrapolation from the original stand 10 data. Original inventory comments: Excellent wildlife understory. Hilly. Many trees with dead tops. White pine is starting to establish throughout. Stand varies in size and quality and age. Several open areas. Jack pine and red pine also present. White pine present and is seeding in northern portions. A pocket of white pine also present in the southwest also. There is aspen throughout these pine areas and they should be managed for aspen. Large historical pine stumps present. Widely varying BA due to open areas.

43 4112 - Maple, Beech, Cherry Association Sawtimber Well 12.6 83 111-140 N/A

Canopy Species	% Cover	Size Class	DBH	Age	Sub-Canopy Species	Density	Avg. Height	Size
Sugar Maple	40	Pole/Log	9		Beech	Full	Variable	Sapling
Beech	50	Log/Pole	10	83	Ironwood	Low	Variable	Sapling
Quaking Aspen	5	Log	12					
Red Maple	4	Log/Pole	13					
Basswood	1	Log	15					

At least half of the previously alive aspen (from inventory 10 years ago) is dead. Beech declining; I noticed beech snap throughout, as well as surface shelf mushrooms on the boles of living beech trees and more scale than I've seen on beech in surrounding stands. Northwest portion lower basal area, more maple poles, less beech. Understory of nearly pure beech brush.