



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72170

Entry Year 2022

Acreage: 1,263

County Crawford

Management Area: Grayling Outwash

Revision Date: 2020-04-07

Stand Examiner: Derek Nellis

Legal Description:

T28N, R04W, Sections 7 and 8

Identified Planning Goals:

To maintain forest health, productivity, sustainability, species diversification and structural diversity throughout the compartment while providing for multiple use and visual management.

Soil and topography:

Topography within this compartment is made mostly flat ground with some rolling hills becoming steeper as you travel through the eastern portion of the compartment. Along the river, there are steep banks which level off into flat areas. Soil types are a mixture of Rubicon, Blue Lake, Kalkaska, Croswell, Au Gres and Blue Lake Loamy Sands. There are also areas of Au Sable Bowstring Muck and Tawas Leaf-river Muck. The soils are well drained and pose minimal threat for wind throw. Soils and terrain present erosion concerns in steep areas in the compartment.

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

This compartment has very little private property within its boundaries. There is a small two acre parcel owned by a private individual and another small parcel which is currently owned by Crawford Au Sable School District. A 4077 land acquisition form has been filed to try and acquire the parcel from the school district. This property was originally owned by D. Ward and was eventually turned over to the State of Michigan shortly after the logging era was coming to a close. The small town of Deward was located in this area and some of the roads and foundations can still be seen today. The land use is somewhat restricted due to it being within the Deward Area. There are no motorized vehicles off of designated roads. However management for timber and wildlife is still an option.

Unique Natural Features:

There is a potential for dry prairie plants in grassy openings. Hill's thistle, rough fescue, Alleghany plum and pale agoseris. There is also potential for rare grassland birds such as grasshopper sparrow, Henslow's sparrow and Eastern Massasauga rattle snake. Neighboring compartments have historically had Eastern Massasauga Rattle Snake.

Archeological, Historical, and Cultural Features:

There is a historic stump field located within this compartment. There is also the historic town of Deward, which has numerous foundations within this compartment.

Special Management Designations or Considerations:

This compartment is located within the Deward Tract. It is currently designated as an HCVA (High Conservation Value Area). There are camping restrictions, motorized vehicle restrictions and road closure procedures that are to be followed in this area.

Watershed and Fisheries Considerations:

The Manistee River, which is a Natural River runs through the western portion of this compartment. There is a large woody debris project taking place along the Manistee River as well. Large amounts of woody debris is being added and anchored to the banks of the river in various locations to stabilize the soils and provide cover for fish.

Wildlife Habitat Considerations:

The main objective of this compartment is to start removing the red pine plantations while attempting to convert this area back to a natural pine and an oak dominated landscape. There are some aspen clones that can be expanded as well.

Mineral Resource and Development Concerns and/or Restrictions

No known potential exists for commercial metallic mineral production in this part of the state. The closest active sand/gravel pit is less than two miles to the southeast, and sand & gravel potential within the compartment appears to be good. The compartment lies within both the Guelph (Niagaran) reef and Antrim Shale hydrocarbon plays, and there are several past and currently producing wells in the compartment. There may be potential for additional wells within the compartment. Most of the State-owned mineral rights in the compartment are currently leased and held by production.

Vehicle Access:

There is very good access throughout the compartment by way of county roads, forest roads and gas pipeline and well access roads. The compartment contains the following county designated roads: Manistee River Rd., Post Rd. and Deward Rd. State forest trails such as Wentworth Trail.

Survey Needs:

None

Recreational Facilities and Opportunities:

This special management area does not have any designated trails or facilities within this compartment. The limited vehicle access and continuous state land provides dispersed hunting, fishing, and trapping opportunities.

Fire Protection:

The current road system is adequate, timber conversion is not needed. Topography will be limiting for equipment in certain locations.

Additional Compartment Information:**The following reports from the Inventory are attached:**

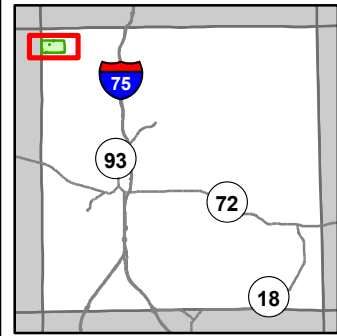
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

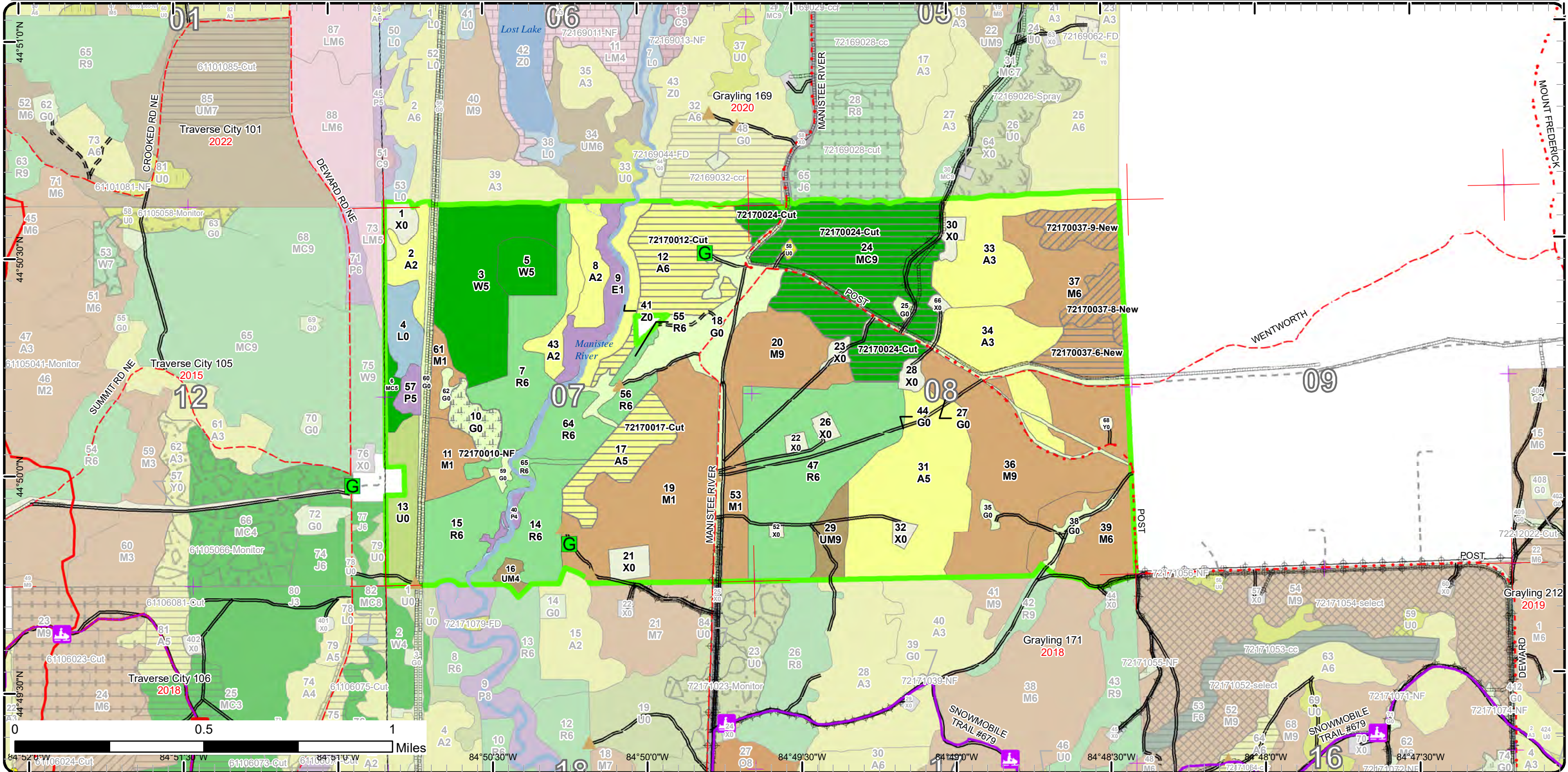
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 170
 T28N, R04W, Sec. 07-08
 County: Crawford
 Unit: Grayling
 Mgmt Area: Grayling Outwash
 YOE: 2022
 Acres: 1263.1 GIS Calculated
 Examiner: Derek Nellis
 Map Revised: 5/19/2021
 Map Phase: Post-Review



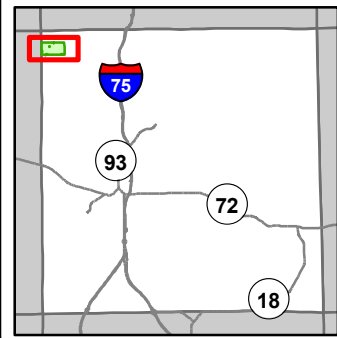
- Miris Corners
- Remonumented Section Corners
- Counties
- == DNR - Secondary Forest Road
- == DNR - Forest Access Route
- - - County - Gravel Road
- - - County - Dirt Road (Seasonal)
- - - Private - Dirt / Gravel Road
- ORV Routes
- Snowmobile Trails
- Designated ATV Trails
- Designated ORV Route
- Designated Snowmobile Trails
- Berms
- Gate
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Pipeline
- Powerline
- Compartment Boundary
- Other Treatment - See Comments
- Clearcut (w/Reserves)
- Thinning (Crown, Low, Systematic)
- 411 - Northern Hardwood
- 413 - Aspen
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 710 - Sand/Soil
- 790 - Other Bare/Sparingly Vegetated



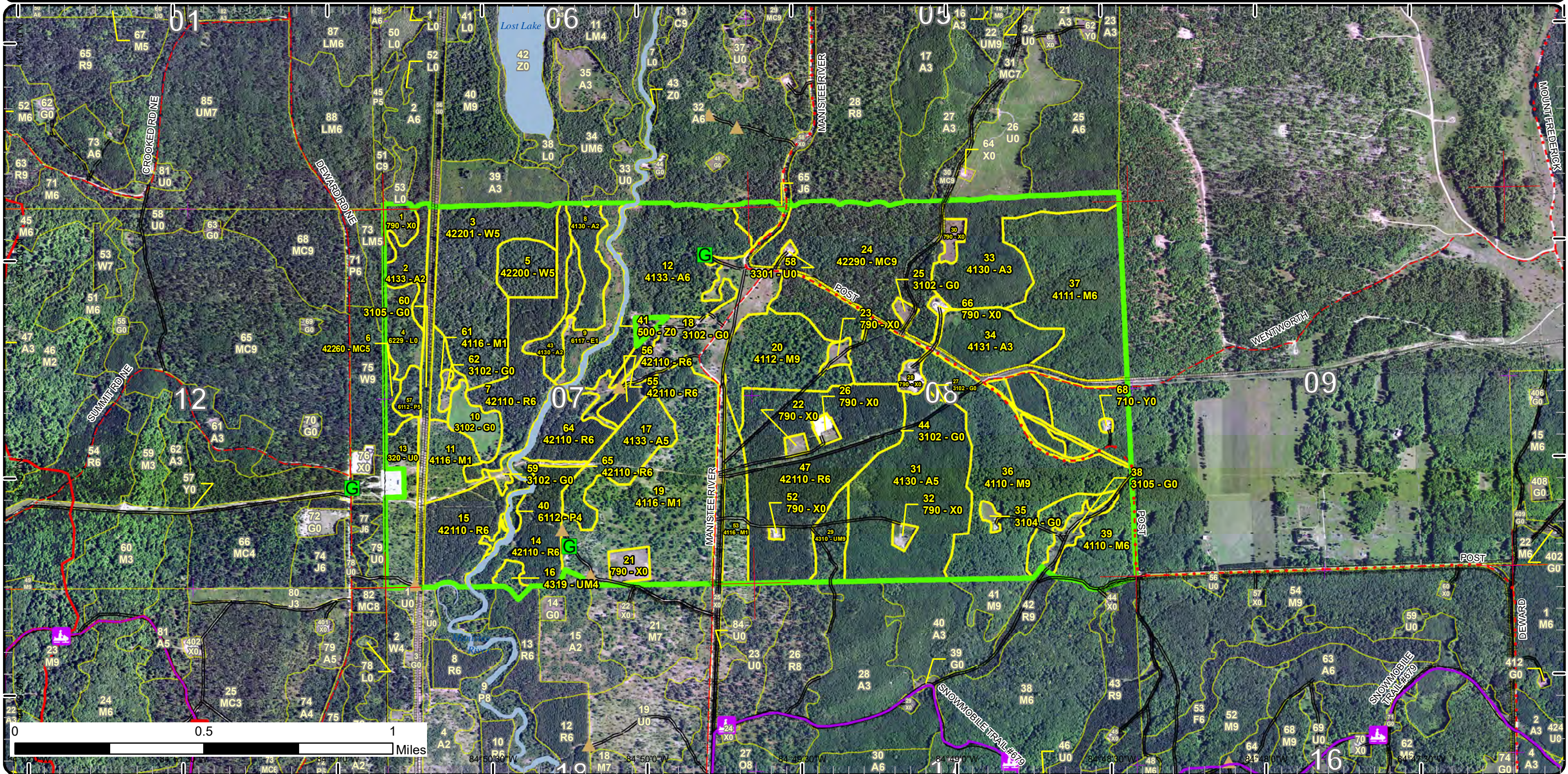
Map coordinates: 44°51'0"N, 44°50'30"N, 44°50'0"N, 44°49'30"N, 84°52'0"W, 84°51'30"W, 84°51'0"W, 84°50'30"W, 84°50'0"W, 84°49'30"W, 84°49'0"W, 84°48'30"W, 84°48'0"W

Stand Boundary Map

Compartment: 170
 T28N, R04W, Sec. 07-08
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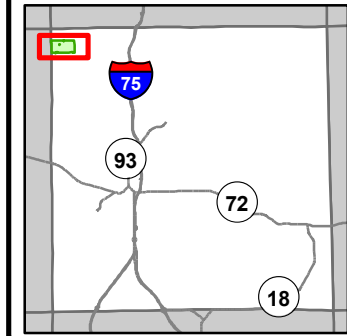


- Miris Corners
- + Remonumented Section Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
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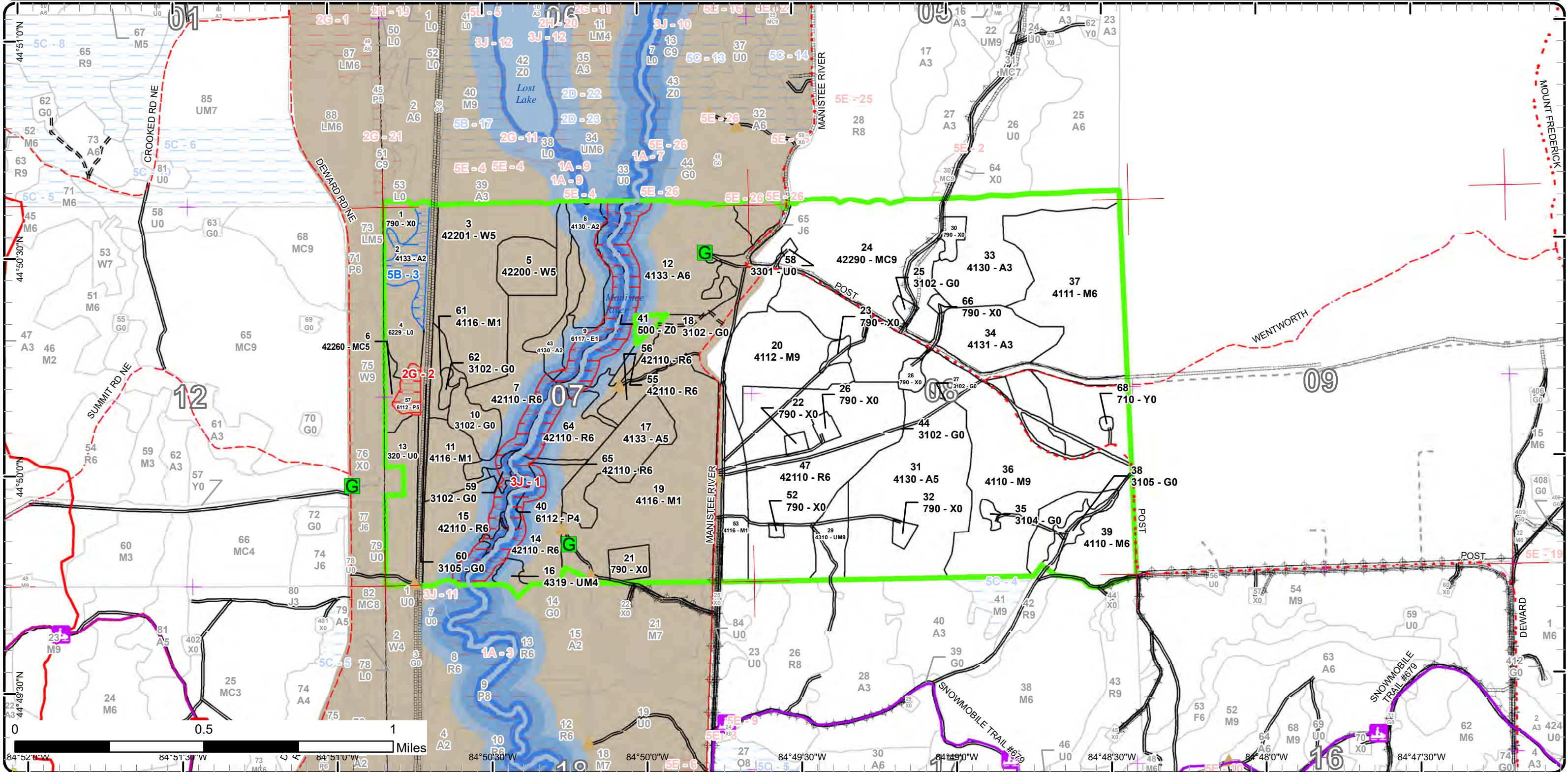


Special Conservation Areas

Compartment: 170
 T28N, R04W, Sec. 07-08
 County: Crawford
 Unit: Grayling
 Mgmt Area: Grayling Outwash
 YOE: 2022
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- Miris Corners
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- Counties
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- Gate
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers
- Pipeline
- Powerline
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- Stand Boundaries
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Dedicated Management Areas
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer



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	0	36	43	103	0	74	25	0	0	0	0	0	0	0	0	0	0	280
Bare/Sparsely Vegetated	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
Herbaceous Openland	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102
Low-Density Trees	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lowland Aspen/Balsam Poplar	0	0	0	0	0	0	5	3	0	0	0	0	0	0	0	0	0	0	8
Lowland Deciduous	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	16
Lowland Shrub	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Natural Mixed Pines	0	0	0	0	0	0	0	0	114	0	0	0	0	0	0	0	0	0	114
Northern Hardwood	0	0	0	0	0	0	217	71	0	79	0	0	0	0	0	0	0	0	367
Red Pine	0	0	0	0	0	0	0	215	0	0	0	0	0	0	0	0	0	0	215
Sand, Soil	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Upland Mixed Forest	0	0	0	0	0	0	0	3	0	11	0	0	0	0	0	0	0	0	14
Upland Shrub	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
Water	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
White Pine	0	0	0	0	0	14	0	60	0	0	0	0	0	0	0	0	0	0	74
Total	176	0	36	43	103	14	312	377	114	90	0	0	0	0	0	0	0	0	1263



Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2022

Acres of Harvest

Compartment 170

Total Compartment Acres: 1,263

Commercial Harvest - 226
 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	74	0	0	0	0	0	0	0	0	74
Natural Mixed Pines	109	0	0	0	0	0	0	0	0	109
Northern Hardwood	17	0	0	0	0	27	0	0	0	43
Total	199	0	0	0	0	27	0	0	0	226

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	226	0	0	0	0	0	0	10	0	236
Next Step	0	109	109	0	0	109	199	0	0	525
Total	226	109	109	0	0	109	199	0	10	761



Stand Name	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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Approved Treatments:

3	72170010-NF	10.1	42201 - Natural White Pine, Mixed Deciduous	Poletimber Medium	61	1-50	NonForestMgt	Other - Specify	310 - Herbaceous Openland		No
<p><u>Prescription</u> Periodic opening maintenance, as needed, that may include disking, fertilizing, food plot seeding, no-till prairie grass drill seeding, mowing, brushing, burning, mast plantings and herbicide application.</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u></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> 8 /1 /2017</p>											
12	72170012-Cut	49.6	4133 - Aspen, Mixed Pine	Poletimber Well	55	51-80	Harvest	Clearcut with Retention	4136 - Aspen, Mixed Conifer	Two-Aged	No
<p><u>Prescription</u> Final harvest stems 2"+ DBH except the xlog oak and pine. The 175' Natural Rivers buffer has been removed from the treatment area any additional retention should be located along the walking trail to the river. Include grouse log spec and protect existing regen.</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> Aspen, pine, oak that meets minimum stocking.</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 /2021</p>											
17	72170017-Cut	24.5	4133 - Aspen, Mixed Pine	Poletimber Medium	68	81-110	Harvest	Clearcut with Retention	4133 - Aspen, Mixed Pine	Two-Aged	No
<p><u>Prescription</u> Final harvest stems 2"+ DBH except the xlog oak and pine. Include grouse log spec and protect existing regen.</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> Aspen, pine, oak at levels to meet minimum stocking.</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 /2021</p>											



Standard

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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24	72170024-Cut	108.6	42290 - Natural Mixed Pine	Sawtimber Well	71	81-110	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	No
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Prescription Harvest all trees greater than 1" DBH. Retention should included the area east of the forest rd./pipeline on the eastern side of the stand or the patch west of Manistee River Rd, depending on the overall health of the overstory. If harvested, the area east of the forest rd./pipeline or the patch west of Manistee River Rd., should be allowed to regenerate naturally. The remainder of the stand will be planted to red pine. Include low stump and chipping/slash management spec.

Specs:

Next Step Monitoring, Natural Regen (Intermediate); SitePrep, Trenching; Pesticide, Skidder - Site Prep; Planting, Initial Plant

Treatments:

Acceptable Fully stocked planted red pine

Regen:

Other overstory red pine was observed to be declining through out the majority of the stand.

Comment:

Site Condition

Proposed Start Date: 10/1 /2021

37	72170037-6-New	16.6	4111 - S.Maple, Hard Mast Association	Poetimber Well	61	111-140	Harvest	Clearcut with Retention	4119 - Mixed Northern Hardwoods	Even-Aged	No
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Prescription Clearcut with retention. Clearcut 2" and above with 3-10% retention. Retention should encompass areas of pole-sized sugar maple and other unique features.

Specs:

Next Step Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable Moderately stocked stand of maple, oak, aspen, and birch.

Regen:

Other This stand is currently two aged with the majority of the volume in pole sized hardwoods.

Comment: During inventory, the majority of sugar maple poles were observed in the northern portion of the stand.

Monitor treatment 3 years post-sale closure.

Site Condition

Proposed Start Date: 10/1 /2021

37	72170037-8-New	12.1	4111 - S.Maple, Hard Mast Association	Poetimber Well	61	111-140	Harvest	Low Thinning	4119 - Mixed Northern Hardwoods	Even-Aged	No
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Prescription Thin from below using standard order of removal to a residual BA of 80.

Specs:

Next Step

Treatments:

Acceptable Moderately stocked stand of maple, oak, aspen, and birch.

Regen:

Other This stand is currently two aged with the majority of the volume in pole sized hardwoods.

Comment: During inventory, the majority of sugar maple poles were observed in the northern portion of the stand.

Monitor treatment 3 years post-sale closure.

Site Condition

Proposed Start Date: 10/1 /2021



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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
37 72170037-9- New	14.4	4111 - S.Maple, Hard Mast Association	Poletimber Well	61	111- 140	Harvest	Low Thinning	4119 - Mixed Northern Hardwoods	Even-Aged	No
<p><u>Prescription</u> Thin from below using standard order of removal to a residual BA of 80.</p> <p><u>Specs:</u></p> <p><u>Next Step</u></p> <p><u>Treatments:</u></p> <p><u>Acceptable</u> Moderately stocked stand of maple, oak, aspen, and birch.</p> <p><u>Regen:</u></p> <p><u>Other</u> This stand is currently two aged with the majority of the volume in pole sized hardwoods.</p> <p><u>Comment:</u> During inventory, the majority of sugar maple poles were observed in the northern portion of the stand.</p> <p>Monitor treatment 3 years post-sale closure.</p> <p><u>Site Condition</u></p> <p><u>Proposed Start Date:</u> 10/1 /2021</p>										

Total Treatment 235.9
Acreage Proposed:

Report 4 – Site Conditions

Grayling Mgt. Unit
Derek Nellis : Examiner

Compartment: 170
Year of Entry: 2022

Availability for Management

Total Acres	Acres Available	Acres Avail With Condition	Acres Not Available	Dominant Site Conditions		
Acres	Available	With Condition	Not Available	5B	2G	3J
280	255	11	13	Aspen	11	13
30	30	0	0	Bare/Sparsely Vegetated		
102	99	0	2	Herbaceous Openland		2
1	1	0	0	Low-Density Trees		
8	0	0	7	Lowland Aspen/Balsam Poplar		3
16	5	0	12	Lowland Deciduous		12
13	13	0	0	Lowland Shrub		
113	113	0	0	Natural Mixed Pines		
367	367	0	0	Northern Hardwood		
215	190	0	25	Red Pine		25
1	1	0	0	Sand, Soil		
15	15	0	0	Upland Mixed Forest		0
21	21	0	0	Upland Shrub		
8	0	0	8	Water		8
74	74	0	0	White Pine		
1,263	1,183	11	68	Total Forested Acres	11	64
	94%	1%	5%	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	3J: Water quality / BMPs (stream, river, or lake)	64	3D: Recreational / Scenic values	Unspecified	Unspecified	Unspecified
Comments: 175' Natural rivers corridor.							
2	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Grayling Mgt. Unit
Derek Nellis : Examiner

Compartment: 170
Year of Entry: 2022

3	Available	5B: Maintain for regeneration purposes	12	Unspecified	Unspecified	Unspecified	Unspecified
Comments: This stand is low volume aspen that will naturally convert to a pine dominated stand.							

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				
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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 Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
HCVA	Dedicated Management Areas	Such areas are dedicated by the DNR Director for specific management uses through the promulgation of rules, as governed by Part 5, Department of Natural Resources, of the NREPA (MCL 324.502(2) and 324.504). Section 38 of the Administrative Procedures Act (MCL 24.238) provides for public requests for the promulgation of rules. This is an active program, with one proposed site currently under review by the DNR.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																
1	790 - Other Bare/Sparsely Vegetated	Nonstocked	6.2			No	lowland area, some tag alder, balsam, etc...																																
		<table border="1"> <thead> <tr> <th>Sub-Canopy Species</th> <th>Density</th> <th>Avg. Height</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>Alder</td> <td>Medium</td> <td></td> <td>Tall Shrub</td> </tr> <tr> <td>Balsam Fir</td> <td>Medium</td> <td></td> <td>Sapling</td> </tr> <tr> <td>Red Osier Dogwood</td> <td>Medium</td> <td></td> <td>Tall Shrub</td> </tr> </tbody> </table>		Sub-Canopy Species	Density	Avg. Height	Size	Alder	Medium		Tall Shrub	Balsam Fir	Medium		Sapling	Red Osier Dogwood	Medium		Tall Shrub																				
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Alder	Medium		Tall Shrub																																				
Balsam Fir	Medium		Sapling																																				
Red Osier Dogwood	Medium		Tall Shrub																																				
2	4133 - Aspen, Mixed Pine	Sapling Medium	11.5	53	1-50	N/A	lots of small aspen throughout the stand. Some larger white pine scattered throughout.																																
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3	42201 - Natural White Pine, Mixed Deciduous	Poletimber Medium	59.7	61	1-50	N/A	This stand is mostly poor quality aspen with some white pine and black cherry scattered throughout. No sense in any treatments, I am not sure you would get any regeneration.																																
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4	6229 - Mixed lowland shrub	Nonstocked	12.5		Unspecified	Managed Opening	2020 updates were made remotely. This stand was reduced in size based on the new aerial photography.																																
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5	42200 - Natural White Pine	Poletimber Medium	14.2	41	1-50	N/A	A fair amount of smaller white pine. Mostly pole sized. The maple was removed in 1994, fair amount of understory regen present.																																
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6	42260 - Natural Pine, Mixed Deciduous	Poletimber Medium	4.9	71	1-50	N/A	Poor quality 1-2 stick aspen. white pine is starting to move into aspen along the edges.																																
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7	42110 - Planted Red Pine	Poletimber Well	38.8	61	81-110	N/A	poor quality red pine. Short and limby. Third row thinned in 1998. Wait ten years and final harvest or seed tree/shelterwood.																																
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																											
8	4130 - Aspen	Sapling Medium	15.3	31	Unspecified	N/A	This stand has a fair amount of small diameter aspen and white pine mixed throughout. Some red maple as well.																																											
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9	6117 - Lowland Deciduous, Mixed Coniferous	Sapling Poor	16.1	51	Unspecified	N/A	This stand does not seem to have much growing along the river bank. Some aspen, some cherry brush, etc... It is within the natural river corridor, no prescription.																																											
10	3102 - Grass	Nonstocked	10.2		Unspecified	No	JC update: 2002 YOE FTP C72-680 opening maintenance FTP has expired. Needs to be replaced to cover 2012 YOE work.																																											
11	4116 - Mixed N. Hardwood - Aspen	Sapling Poor	14.4	51	Unspecified	N/A	U type stand. Lots of cherry brush and some pockets of poor quality aspen. Some white pine mixed in here and there.																																											
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12	4133 - Aspen, Mixed Pine	Poletimber Well	62.4	55	51-80	N/A	Size, quality, and density of aspen varies considerably throughout the stand. Scattered open grown hybrid oak. WP naturally seeding in. Some open inclusions dominated by sedge.																																											
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13	320 - Upland Shrub	Nonstocked	20.7	0	Unspecified	No	Sedge field with scattered stunted black cherry and bushy white pine. There are a few small aspen clones on the north end. Manistee river fishing access with parking area on the south end.																																											
14	42110 - Planted Red Pine	Poletimber Well	27.4	66	81-110	N/A	Poor quality, short and limby, poor site for red pine. Heavy thin. Mark to 50 along river, and mark to lower BA as you move away from river. Mark regen openings away from river. Whole tree harvest, no slash. Plant oak acorns at random spacing.																																											
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15	42110 - Planted Red Pine	Poletimber Well	29.4	61	81-110	N/A	Poor quality, short and limby, poor site for red pine. Has been third row thinned. Wait ten years, could possibly clearcut or seed tree at that point.																																											
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16	4319 - Mixed Upland Forest	Poletimber Poor	3.4	66	1-50	N/A	3.5 acre pocket of mixed forest between planted red pine.																																											
17	4133 - Aspen, Mixed Pine	Poletimber Medium	24.5	68	81-110	N/A	Aspen and white pine pole over aspen and white pine saplings. Regeneration is 5-10 ft is patches. Some red pine encroaching from the west. small aspen, poor quality. could cut in the future to get some regen. Would be low volume.																																											
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18	3102 - Grass	Nonstocked	63.3		Unspecified	No	4077 has been submitted to acquire small parcel of land that is currently owned by the Crawford AuSable School District.																																											
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19	4116 - Mixed N. Hardwood - Aspen	Sapling Poor	87.3	51	1-50	N/A	Stand swapped from Non-Forested to Forested.																																											
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20	4112 - Maple, Beech, Cherry Association	Sawtimber Well	36.2	55	51-80	N/A	The majority of the stand is multi-stem, open grown red maple intermixed with scatted white pine. There are a few clones of aspen encroaching into stand 18. The center of the stand is more open with grass, bracken fern, and shrub sized cherry dominating.																																											
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21	790 - Other Bare/Sparsely Vegetated	Nonstocked	5.9		Unspecified	No	B P AMERICA PRODUCTION CO well pad Plugged 04/15/2002 Permit # 29483 Well # 1-7																																											
22	790 - Other Bare/Sparsely Vegetated	Nonstocked	1.8			No	wellpad																																											
23	790 - Other Bare/Sparsely Vegetated	Nonstocked	2.6			No	oil wellpad																																											



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																								
24	42290 - Natural Mixed Pine	Sawtimber Well	108.6	71	81-110	N/A	Red pine over jack pine with a mixed deciduous understory. The overstory is beginning to decline. This is a three part stand divided by Post Rd.																																								
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25	3102 - Grass	Nonstocked	1.7		Unspecified	No	4077 has been submitted to acquire small parcel of land that is currently owned by the Crawford AuSable School District.																																								
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26	790 - Other Bare/Sparsely Vegetated	Nonstocked	2.4		Unspecified		B P AMERICA PRODUCTION CO oil well. Plugged on 4/18/2003 Permit # 37756 Well # 6-8																																								
27	3102 - Grass	Nonstocked	0.0		Unspecified	No	4077 has been submitted to acquire small parcel of land that is currently owned by the Crawford AuSable School District.																																								
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28	790 - Other Bare/Sparsely Vegetated	Nonstocked	3.1		Unspecified		SWEPI LP well Plugging completed 3/18/2002 Permit # 39783 Well # 10A-8 Multiple wells using two pads: wells are directionally drilled and include the State Frederic B 13-8 HD, State Frederic B 13-8P and State Frederic XI B2-8.																																								
29	4310 - Pine, Oak Mix	Sawtimber Well	11.4	86	51-80	N/A	Red pine and oak log over aspen and jack pine pole. Lower site index with most log size trees only 4-5 sticks.																																								
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30	790 - Other Bare/Sparsely Vegetated	Nonstocked	3.7		Unspecified	No	B P AMERICA PRODUCTION CO well primary well plugged on 9/9/1998 Directional line to the east - well was plugged on 4/18/2003 Permit # 38116 and 30235 well # 8-8 and 2-8																																								



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																																																						
31	4130 - Aspen	Poletimber Medium	78.1	31	81-110	N/A	small poor quality aspen. some of it is reaching merchantable size. Could cut in the future to try and get better quality regen.																																																																						
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32	790 - Other Bare/Sparsely Vegetated	Nonstocked	2.2			No	wellpad																																																																						
33	4130 - Aspen	Sapling Well	43.0	28	Immature	N/A	Clearcut in 1993 under the Deward 8 Aspen sale. A handful of aspen have now reached merchantable (5" diameter) size. Hilly terrain, very good regeneration.																																																																						
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34	4131 - Aspen, Oak	Sapling Well	35.5	17	Immature	N/A	Clearcut in 2004 as part of the Manistee River Red Pine - Deward Tract sale. Ground vegetation of: rubus spp, bracken fern, wintergreen, acer-leaved viburnum, hawthorn, and ribes spp. Stand becomes more maple-dominant along stand 37.																																																																						
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35	3104 - Degraded	Nonstocked	1.6		Unspecified	No	Well pad covered in spotted knapweed.																																																																						
36	4110 - Sugar Maple Association	Sawtimber Well	78.9	81	81-110	N/A	Wild sarsaparilla, sedge, star flower, spinulose wood fern, maple leaved viburnum, sambucus spp. Rolling hills. Tree species more diverse around edged of stand, until a few chains in. Found a large, healthy beech with large crown and little scale surrounded by much less healthy and dead beech. More beech and sugar maple regen to the south; trees get smaller to the south as well..																																																																						
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37	4111 - S.Maple, Hard Mast Association	Poletimber Well	70.7	61	111-140	N/A	Rolling hills of nice sugar maple. This is a two-aged stand, but the current programming of our system does not allow me to show this data. 40% of the sugar maple in the canopy are 4-6 DBH at 60 years old, and 20% of the sugar maple in the canopy are 10-12" DBH and 90 years old. Size, density, and age of canopy sugar maple varies throughout stand (5" to 12" sugar maple). In the southwest quarter of the stand: larger trees, more red maple & beech, less sugar maple poles, more ironwood and beech regeneration. Variable beech tree sizes throughout. The oldest and largest beech is declining. Yellow birch are declining but will make excellent nurse logs. A few legacy red oak trees are present. Ground vegetation of: wild lily of the valley, ground pine, sedge, Indian cucumber root, partridge berry, .																																																																		
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38	3105 - Mixed Upland Herbaceous	Nonstocked	6.1		Unspecified	No	Mostly shrubs, forbs, and grasses. Pin cherry, balsam poplar, staghorn sumac, red pine, jack pine are clumped here and there.																																																																		
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39	4110 - Sugar Maple Association	Poletimber Well	56.2	51	81-110	N/A	Found a few clumps of stump sprouted mature basswood. Ground pine, sedge, wild sarsap. Dense, small diameter sugar maple. Falls between sap and pole size, but leans a little more to pole. The younger, smaller beech is doing well, older beech is dying. More of a maple monoculture than the surrounding maple stands. Also had much smaller trees.																																																																		
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40	6112 - Lowland Aspen	Poletimber Poor	3.0	66	1-50	N/A	natural rivers corridor, on banks of manistee, some larger aspen, mostly small red maple and aspen regen.																																																																		
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41	500 - Water	Nonstocked	8.1		Unspecified	No																																																																			
43	4130 - Aspen	Sapling Medium	9.7	31	Unspecified	N/A	This stand has a fair amount of small diameter aspen and white pine mixed throughout. Some red maple as well.																																																																		
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Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Managed Site	General Comments																																		
44	3102 - Grass	Nonstocked	0.0		Unspecified	No	4077 has been submitted to acquire small parcel of land that is currently owned by the Crawford AuSable School District.																																		
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47	42110 - Planted Red Pine	Poletimber Well	89.9	66	141-170	N/A	Low vigor red pine plantation with some oak recruits. Variable density with higher density south of stands 22 and 26. More of an oak component to the north and east.																																		
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52	790 - Other Bare/Sparsely Vegetated	Nonstocked	0.9	0	Unspecified	No																																			
53	4116 - Mixed N. Hardwood - Aspen	Sapling Poor	17.0	51	1-50	N/A	Stand swapped from Non-Forested to Forested.																																		
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55	42110 - Planted Red Pine	Poletimber Well	3.1	66	81-110	N/A	Poor quality, short and limby, poor site for red pine. Heavy thin. Mark to 50 along river, and mark to lower BA as you move away from river. Mark regen openings away from river. Whole tree harvest, no slash. Plant oak acorns at random spacing.																																		
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56	42110 - Planted Red Pine	Poletimber Well	5.7	66	81-110	N/A	Poor quality, short and limby, poor site for red pine. Heavy thin. Mark to 50 along river, and mark to lower BA as you move away from river. Mark regen openings away from river. Whole tree harvest, no slash. Plant oak acorns at random spacing.																																		
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57	6112 - Lowland Aspen	Poletimber Medium	4.6	51	1-50	N/A	Aspen pole stand with significant dieback due to high water.																																		
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58	3301 - Low Density Deciduous Trees	Nonstocked	0.9		Unspecified		4077 has been submitted to acquire small parcel of land that is currently owned by the Crawford AuSable School District.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Deciduous Saplings	Medium		Log	
								Black Cherry	Low		Sapling	
59	3102 - Grass	Nonstocked	2.0		Unspecified	No	JC update: 2002 YOE FTP C72-680 opening maintenance FTP has expired. Needs to be replaced to cover 2012 YOE work.					
60	3105 - Mixed Upland Herbaceous	Nonstocked	14.8			Managed Opening	some aspen, cherry brush, some pine mixed in.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								White Pine	Low		Sapling	
								Quaking Aspen	Low		Sapling	
								Black Cherry	Medium		Sapling	
Jack Pine	Low		Sapling									
61	4116 - Mixed N. Hardwood - Aspen	Sapling Poor	6.4	51	Unspecified	N/A	U type stand. Lots of cherry brush and some pockets of poor quality aspen. Some white pine mixed in here and there.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Quaking Aspen	10	Sapling/Pole	1	
								Bigtooth Aspen	10	Sapling/Pole	1	
								White Pine	5	Sapling	1	
Black Cherry	75	Sapling	4	51								
62	3102 - Grass	Nonstocked	1.9		Unspecified	No	JC update: 2002 YOE FTP C72-680 opening maintenance FTP has expired. Needs to be replaced to cover 2012 YOE work.					
64	42110 - Planted Red Pine	Poletimber Well	18.2	66	81-110	N/A	Poor quality, short and limby, poor site for red pine. Heavy thin. Mark to 50 along river, and mark to lower BA as you move away from river. Mark regen openings away from river. Whole tree harvest, no slash. Plant oak acorns at random spacing.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Red Maple	3	Sapling/Pole	1	
								Red Pine	97	Pole	6	66
65	42110 - Planted Red Pine	Poletimber Well	2.8	66	81-110	N/A	Poor quality, short and limby, poor site for red pine. Heavy thin. Mark to 50 along river, and mark to lower BA as you move away from river. Mark regen openings away from river. Whole tree harvest, no slash. Plant oak acorns at random spacing.					
								Canopy Species	% Cover	Size Class	DBH	Age
								Red Maple	3	Sapling/Pole	1	
								Red Pine	97	Pole	6	66
66	790 - Other Bare/Sparsely Vegetated	Nonstocked	1.2		Unspecified		4077 has been submitted to acquire small parcel of land that is currently owned by the Crawford AuSable School District.					
								Sub-Canopy Species	Density	Avg. Height	Size	
								Deciduous Saplings	Medium		Log	
								Black Cherry	Low		Sapling	
68	710 - Sand, Soil	Nonstocked	0.7	0	Unspecified							