



Compartment Review Presentation

Grayling Forest Management Unit

Compartment 72194

Entry Year 2018

Acreage: 1,136

County Crawford

Management Area: Upper Muskegon

Revision Date: 2016-04-04

Stand Examiner: Paul Roell

Legal Description:

T25N R04W Sections 34, 35, 36

Identified Planning Goals:

Maintain forest health, productivity, sustainability, species diversification and structural diversity of the resources while providing for multiple uses of the land.

Soil and topography:

Topography varies from level to slightly rolling with some localized areas of steeper terrain present. Aside from an area of cedar/alder swamp in the southwest portion of section 34, this compartment consists mainly of upland flats, knolls and small hills dominated by oak, red pine and white pine forest types. The soils in the southern portion of section 34 are of the Tawas-Lupton-Leafriver association. This association is on low flats and depressions and in drainage ways. Major management concerns in this soil type are equipment limitation, seedling mortality, windthrow hazard and plant competition. The remaining portions of section 34, along with the majority of sections 35 and 36, consist of the Graycalm-Klacking association. This association is often found on broad upland flats, knolls and ridges, and on the side slopes of ridges. Graycalm soils are somewhat excessively drained, while Klacking soils are considered to be well drained. In the western portion of section 36, there is a small area made up of the Graycalm-Grayling association.

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

North Higgins Lake State Park borders the southern edge of the compartment. From this, a number of recreational hiking trails originate and meander northward, traversing sections 35 & 36. Because of these trails, along with an ORV trail that is located in the northern portions of section 34, and the close proximity to the state park, this area is used heavily for recreation of many kinds. Old US-27 and US-127 traverse the compartment in a north/south direction, between sections 34 & 35.

Unique Natural Features:

There is potential for Secretive Locust and the Massasauga Rattlesnake within this compartment.

Archeological, Historical, and Cultural Features:

Directly to the south of this compartment is the site of the former Higgins Lake Nursery which opened in 1903 on 3 acres, expanded in 1952 to 48 acres, and then closed in 1964. Species grown in the nursery include: Ponderosa Pine, Red Spruce, Cedar, Western Spruce, Sitka Spruce, Blue Spruce, Norway Spruce, Engleman Spruce, Scotch Pine, White Pine, European Larch, Redwood, Sequoia, Douglas Fir, Limber Pine and Catalpa. A number of these species can be found scattered about in the stands of this compartment.

Special Management Designations or Considerations:

Section 34 is leased to the military.

Watershed and Fisheries Considerations:

This compartment is split between Northern Lake Huron Management Unit (to the north) and Central Lake Michigan Management Unit (to the south). The portion in NLHMU is within the Beaver Creek watershed, which flows into the South Branch Au Sable River. There are no streams in this compartment, however, so Fisheries has no concerns at this time.

Wildlife Habitat Considerations:

Numerous species of wildlife, including deer and turkey, use this area heavily as habitat. For this reason, all obvious hollow snags and den trees should be reserved when any management activities take place in the compartment.

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 200 and 400 feet. Beneath the glacial drift is the Michigan Formation. The Michigan is quarried for gypsum elsewhere in the State. A gravel pit is located in Section 36 and potential is good. Most of the compartment is

leased for oil and gas and a small part of it is in the Beaver Creek Field. The field has produced over 21 MBO from the Devonian Richfield and over 5 Bcf gas from the Ordovician Prairie du Chien.

Vehicle Access:

Access is achieved from the county roads: Moorestown, Military, King and Oak Roads. The compartment is also accessible from County Road 200, Old 27 and the North Higgins Lake State Park exit on US-127. Within the compartment, 2-tracks help to provide access as they are located between each 40-acre parcel. All new roads created during management activities should be closed.

Survey Needs:

The NE quarter of Section 35 needs work around the private property.

Recreational Facilities and Opportunities:

Numerous recreational and educational opportunities exist throughout the compartment. There are a number of hiking trails, including the Get-Fit Fitness Trail which has detailed instructions for fitness training posted along the length of the trail. The area has high recreational value, mainly because of its proximity to North Higgins Lake State Park.

Fire Protection:

The existing 2-track system, along with the road system in the area is adequate for fire suppression to be effective.

Additional Compartment Information:

The following reports from the Inventory are attached:

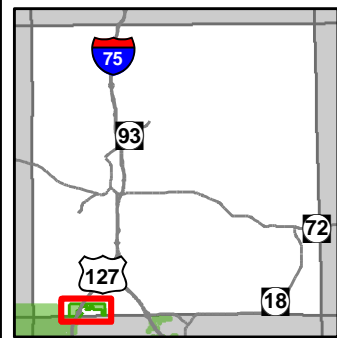
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

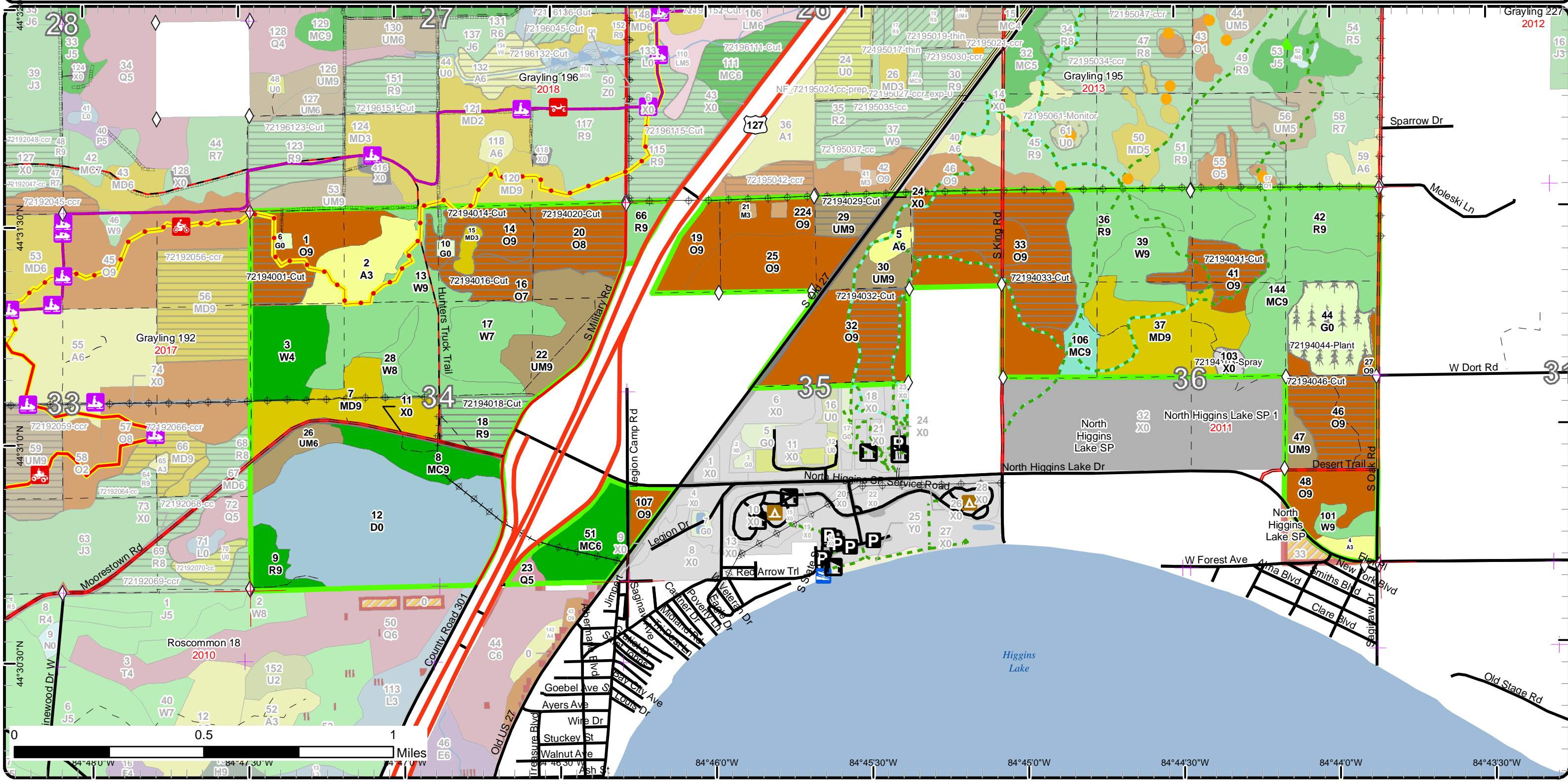
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 194
 T25N, R04W, Sec: 34-36
 County: Crawford
 Unit: Grayling
 Mgmt Area: Upper Muskegon
 YOE: 2018
 Acres: 1136 GIS Calculated
 Examiner: Paul Roell
 Map Revised: 3/9/2017
 Map Phase: Post-Review

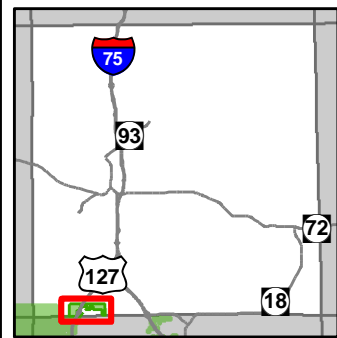


- Miris Corners
- Remonumented Section Corners
- Field Grade GPS Corners
- Berms
- Toilet
- Boating Access Site
- Campground
- OFS Human Impact
- OFS Other-Specify
- Parking Lot
- Motorcycle Trails (DNR License)
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Designated Hiking Trails
- Designated Ski Trails
- ORV License & Trail Permit
- Designated ATV Trails
- Designated ORV Route
- Designated Snowmobile Trails
- Michigan Cross Country Cycle Trail (MCCCT)
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Active Railroads
- Streams
- Lakes and Rivers All
- Pipeline
- Powerline
- Unspecified
- Compartment Boundary
- Clearcut (w/Reserves)
- Pesticide
- Planting (tree species)
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest
- 110 - Low Intensity Urban
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 622 - Lowland Shrub
- Lakes

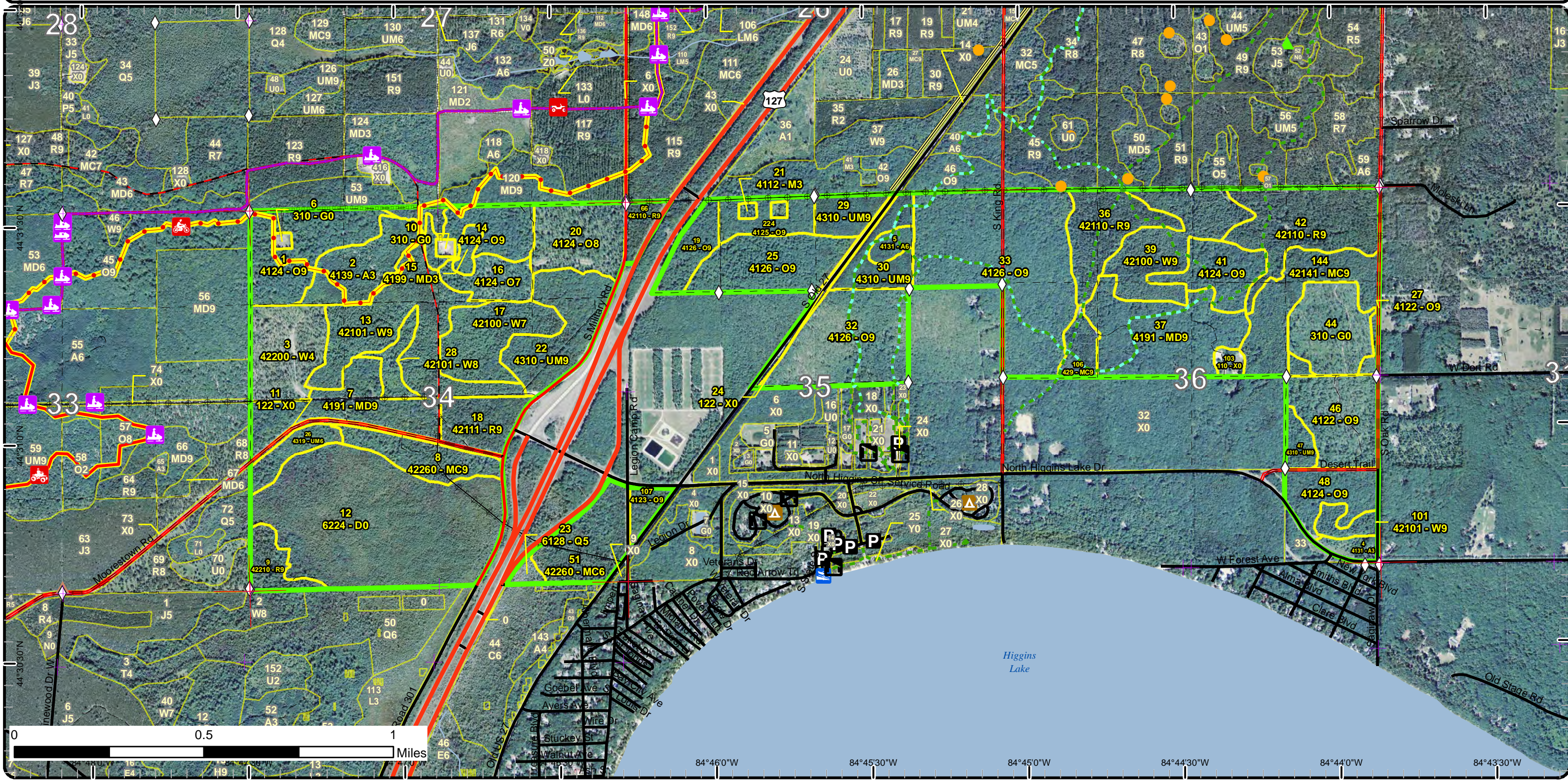


Stand Boundary Map

Compartment: 194
 T25N, R04W, Sec: 34-36
 County: Crawford
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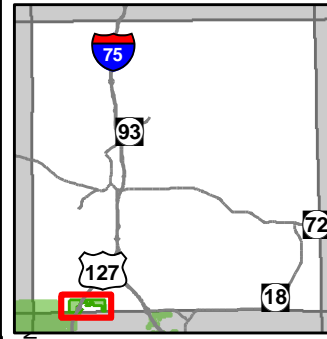


- Miris Corners
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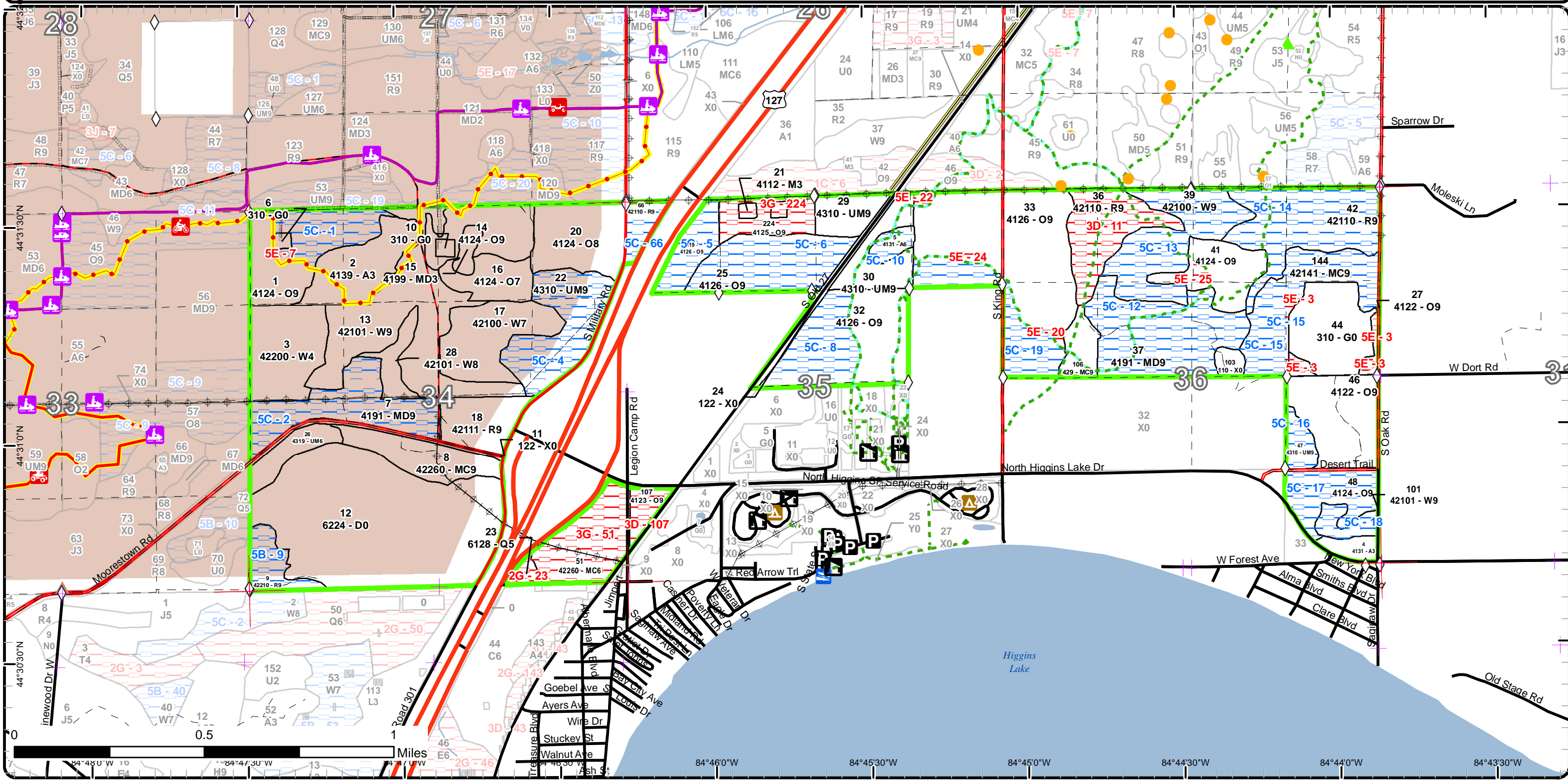


Special Conservation Areas & Site Conditions Map

Compartment: 194
 T25N, R04W, Sec: 34-36
 County: Crawford
 Unit: Grayling
 Mgmt Area: Upper Muskegon
 YOE: 2018
 Acres: 1136 GIS Calculated
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- Miris Corners
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- Gravel Roads
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- Poor Dirt Roads
- Active Railroads
- Streams
- Lakes and Rivers All
- Pipeline
- Unspecified
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 3D: Recreational / Scenic values
- 3G: Other Influence zones - See comments
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- Research, Development, and Military Lands



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	6	25	0	0	5	0	0	0	0	0	0	0	0	0	0	0	36
Herbaceous Openland	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31
Lowland Conifers	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
Mixed Upland Deciduous	0	0	0	4	0	0	0	0	0	0	0	50	35	0	0	0	0	0	89
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	28	0	20	0	0	0	0	48
Northern Hardwood	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Oak	0	0	0	0	0	0	0	0	0	14	113	144	116	0	0	0	0	0	387
Planted Mixed Pines	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0	0	0	0	34
Red Pine	0	0	0	0	0	0	0	0	0	0	26	82	0	0	0	0	0	0	108
Treed Bog	123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	123
Upland Conifers	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
Upland Mixed Forest	0	0	0	0	0	10	0	0	0	0	7	46	0	0	0	0	0	16	78
Urban	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
White Pine	0	0	0	0	0	30	0	0	0	0	97	45	0	0	0	0	0	0	172
Total	169	0	8	29	0	49	5	0	3	14	277	395	151	20	0	0	0	16	1135



Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2018

Acres of Harvest

Compartment 194

Total Compartment Acres: 1,136

Commercial Harvest - 235
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Oak	206	0	0	0	0	0	0	0	0	206
Red Pine	18	0	0	0	0	0	0	0	0	18
Upland Mixed Forest	11	0	0	0	0	0	0	0	0	11
Total	235	0	0	0	0	0	0	0	0	235

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	235	0	28	0	0	4	0	0	0	267
Next Step	0	18	18	0	0	18	348	0	0	402
Total	235	18	46	0	0	22	348	0	0	669



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
1	72194001-Cut	15.2	4124 - Red with White Oak	Sawtimber Well	106	81-110	Harvest	Clearcut	412 - Oak Types	Even-Aged	Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription Cut all trees two inches and larger in diameter. Protect ORV trail during harvest. Only treating a portion on this stand is retention is captured in the remaining portion.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable A moderately stocked mix of oak, RM, aspen & pine.
Regen:

Other
Comment:

Proposed Start Date: 11/15/2016

14	72194014-Cut	20.3	4124 - Red with White Oak	Sawtimber Well	94	81-110	Harvest	Clearcut with Retention	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Final harvest all trees 2 inches and larger in diameter.

Specs: Minimal retention near the recreational trail.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Mixed oak, red maple and white pine.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

16	72194016-Cut	14.4	4124 - Red with White Oak	Sawtimber Poor	84	1-50	Harvest	Clearcut	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Final harvest all trees 4 inches and larger in diameter. Protect established regeneration. Don't allow whole tree skidding. No retention to maximize regeneration.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Mixed oak, red maple and white pine.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

18	72194018-Cut	18.0	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Well	96	111-140	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Clear cut all trees 2 inches and larger in diameter, low stump heights and chip tops to facilitate planting operations.

Specs: Leave minimal retention along the edge of the stand.

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); Pesticide, Aerial
Treatments:

Acceptable A fully stocked stand of red pine.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
20	72194020-Cut	28.1	4124 - Red with White Oak	Sawtimber Medium	116	1-50	Harvest	Clearcut	4122 - Oak, Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Clear cut all trees four inches and larger in diameter. Don't allow whole tree skidding to take place. Leave all white pine. No retention to maximize regeneration.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Oak, red maple, and established advance pine regeneration.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

29	72194029-Cut	11.2	4310 - Pine, Oak Mix	Sawtimber Well	109	81-110	Harvest	Clearcut	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clear cut all trees 2 inches and larger in diameter. No retention to maximize regeneration.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable oak, red maple, aspen, and mixed pine.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

32	72194032-Cut	18.9	4126 - White, Black, N. Pin Oak	Sawtimber Well	91	81-110	Harvest	Clearcut with Retention	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clear cut all trees 4 inches and larger in diameter. Leave minimal retention along the hiking trail. Protect regeneration that is currently present with in the stand.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Oak, red maple, mixed hardwoods and white pine.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

33	72194033-Cut	60.4	4126 - White, Black, N. Pin Oak	Sawtimber Well	109	111- 140	Harvest	Clearcut with Retention	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Clear cut all trees 2 inches in diameter and larger. Place retention along the recreational trail in the northwest corner of the stand and in other locations along the trails totaling 3-10 percent of treated area.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Oak, red maple and mixed pine.
Regen:

Other Retention islands are already established and removed from the treatment shape.
Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
41	72194041-Cut	16.7	4124 - Red with White Oak	Sawtimber Well	111	81-110	Harvest	Clearcut with Retention	412 - Oak Types	Even-Aged	Draft Field Boundary

Habitat Cut: No **Site Condition:**

Prescription Clear cut all trees 4 inches and larger in diameter. Protect the established oak and white pine regeneration present. Focus retention islands along the trail.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Oak, red maple and mixed pine.
Regen:

Other Retention is already designated and removed from treatment area.
Comment:

Proposed Start Date: 10/01/2017

44	72194044-Plant	28.3	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Planting	Initial Plant	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription plant RP
Specs:

Next Step Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)
Treatments:

Acceptable Red pine
Regen:

Other Percent to Treat = 100%
Comment:

Proposed Start Date: 04/20/2017

46	72194046-Cut	31.9	4122 - Oak, Pine	Sawtimber Well	99	51-80	Harvest	Clearcut with Retention	412 - Oak Types	Even-Aged	Draft Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription Clear cut all trees two inches and larger in diameter.
Specs:
Place retention along the county road where there is an uncut area from the last harvest.

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable oak, red maple and mixed pine
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

103	72194103-Spray	3.5	110 - Low Intensity Urban	Nonstocked		Unspecified	Pesticide	Hand Application	122 - Road/Parking Lot		Draft Field Boundary
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Habitat Cut: No **Site Condition:**

Prescription Invasive species management
Specs:

Next Step Monitoring, Herbicide Use; Monitoring, Herbicide Use; Monitoring, Herbicide Use; Monitoring, Herbicide Use; Monitoring, Herbicide Use;
Treatments: Monitoring, Herbicide Use; Monitoring, Herbicide Use; Monitoring, Herbicide Use; Monitoring, Herbicide U

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 01/01/2017

Total Treatment Acreage Proposed: 266.9

Report 4 – Site Conditions

Grayling Mgt. Unit
Paul Roell : Examiner

Compartment: 194
Year of Entry: 2018

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions						
		With Condition	Not Available		5B	5C	2G	3D	3G	5E	
36	31	5	0	Aspen		5					
31	31	0	0	Herbaceous Openland							0
3	0	0	2	Lowland Conifers			2				
88	4	84	0	Mixed Upland Deciduous		84					
48	20	0	28	Natural Mixed Pines					28		
2	0	0	2	Northern Hardwood					2		
387	219	139	29	Oak		139		7	14	9	
34	1	32	1	Planted Mixed Pines		32					1
108	18	63	27	Red Pine	11	52		27			
123	123	0	0	Treed Bog							
9	9	0	0	Upland Conifers							
78	38	41	0	Upland Mixed Forest		41					
15	15	0	0	Urban		0					
172	127	45	0	White Pine		45					
1,136	636	409	90	Total Forested Acres	11	398	2	33	44	10	
	56%	36%	8%	Relative Percent							

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	35	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Grayling Mgt. Unit
Paul Roell : Examiner

Compartment: 194
Year of Entry: 2018

3	Unavailable	5E: Long-Term Retention	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	34	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	34	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	26	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Grayling Mgt. Unit
Paul Roell : Examiner

Compartment: 194
Year of Entry: 2018

9	Available	5B: Maintain for regeneration purposes	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
10	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
11	Unavailable	3D: Recreational / Scenic values	27	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Parks and Rec's request							
12	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	50	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
13	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	38	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
14	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	44	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Grayling Mgt. Unit
Paul Roell : Examiner

Compartment: 194
Year of Entry: 2018

15	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	33	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
16	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
17	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
18	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
19	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	25	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
20	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Grayling Mgt. Unit
Paul Roell : Examiner

Compartment: 194
Year of Entry: 2018

22	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
23	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
24	Unavailable	5E: Long-Term Retention	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
25	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
51	Unavailable	3G: Other Influence zones - See comments	28	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
66	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
107	Unavailable	3D: Recreational / Scenic values	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Grayling Mgt. Unit
Paul Roell : Examiner

Compartment: 194
Year of Entry: 2018

224	Unavailable	3G: Other Influence zones - See comments	16	Unspecified	Unspecified	Unspecified	Unspecified
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Comments:

Oak/pine regeneration research area

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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 Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.

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Grayling Mgt. Unit

Report 7 – Forested Stands

Compartment: 194
Year of Entry: 2018

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4124 - Red with White Oak	Sawtimber Well	36.6	106	81-110	Stand thinned 1990.
2	4139 - Aspen, Mixed Deciduous	Sapling Well	25.0	26	Immature	Final harvested 1991. Scattered white pine residual and a few larger oak remaining from the harvest.
3	42200 - Natural White Pine	Poletimber Poor	30.0	47	81-110	Stand was harvested leaving all white pine and red pine.
4	4131 - Aspen, Oak	Sapling Well	5.5	18	51-80	
5	4131 - Aspen, Oak	Poletimber Well	5.0	51	51-80	
7	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	34.7	111	51-80	
8	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	20.1	126	111-140	
9	42210 - Natural Red Pine	Sawtimber Well	11.3	106	111-140	
13	42101 - Planted White Pine, Mixed Deciduous	Sawtimber Well	59.9	95	111-140	
14	4124 - Red with White Oak	Sawtimber Well	20.3	94	81-110	Stand thinned 1990 sale # 720658801.
15	4199 - Other Mixed Upland Deciduous	Sapling Well	3.9	27	Immature	Stand was final harvested 1990 sale # 720658801.
16	4124 - Red with White Oak	Sawtimber Poor	14.4	84	1-50	stand cut 1999. Sale # 720209801
17	42100 - Planted White Pine	Sawtimber Poor	29.2	94	1-50	Stand harvested 1988, sale # 720628801.
18	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Well	18.0	96	111-140	
19	4126 - White, Black, N. Pin Oak	Sawtimber Well	13.1	111	51-80	Stand harvested Sale # 720309801, finished Sept. 2001. Thinning with 80 BA left.
20	4124 - Red with White Oak	Sawtimber Medium	28.1	116	1-50	
21	4112 - Maple, Beech, Cherry Association	Sapling Well	2.3	15	Immature	Two of eight plots established as part of the Hartman-Buckley-Sharik oak/pine regen study.
22	4310 - Pine, Oak Mix	Sawtimber Well	34.3	106	111-140	In 1978 all aspen, maple and Jp were harvested. Red and white pine make up about 50% of the total BA. There are planting records for white pine in 1919.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
23	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Medium	2.9	76	1-50	Wet stand with scattered white pine logs and cedar poles to the far west. All jack pine was harvested in 1978. Numerous cedar and red maple poles with thick fir in understory. Scattered hemlock saplings exist along edge of powerline at northern border of stand. A few large beech can be found in this area as well. Standing water in majority of stand, black spruce present in most areas of stand.
25	4126 - White, Black, N. Pin Oak	Sawtimber Well	34.0	111	81-110	Stand sheltered wood 1989 under sale # 720588801.
26	4319 - Mixed Upland Forest	Poletimber Well	10.3	40	51-80	in 1979 ash, spruce, balsam, jack pine and mixed hardwood were harvest, also white pine, red pine and oak trees marked to cut. Some really big diameter oak and pine in the stand.
27	4122 - Oak, Pine	Sawtimber Well	4.6	99	111-140	Retention areas left on the edges of stand 44. OPIC - FMD: Shelterwood red and white oak, focusing on leaving the highest quality of both species. Target 60 BA for oak residual following harvest. Leave a few uncut islands, 1-3 acres in size along adjacent Oak rd for aesthetics and structural diversity. Some areas of this stand, as well as stand 46 should be thinned to a target BA slightly higher than 60 square ft/acre in order to enhance diversity and develop areas of high quality oak management. Also BA should be left higher along road for visual reasons. Leave all red and white pine 6" or less using caution while harvesting to protect advanced pine regeneration. Some white pine may need to be marked to cut in order to remove marked oak. Oak and white/red pine is the overall management objective, however due to areas of heavy, advanced red maple understory, along with portions of the stand that have a heavier aspen component, a mixed stand with all above mentioned species present in respectable numbers should be expected. WP in SW corner. Heavy understory of red maple and some oak with aspen being a major component of understory in open areas. Larger aspen is beginning to fall in aspen stand that runs n/s along WP stand (104) in SW corner of stand. (old) Extremely variable due to past cutting. Some areas were cut heavily with heavy regen resulting. Other areas are a mix of white pine and oak. White pine is quite poor quality with a high percentage showing weevile damage. Scattered red pine sawlogs of good quality. Some patch cutting was performed in the past (firewood theft) which resulted in good regen. 1/27/11 stand treated under East Side Oak 72-037-08-01.
28	42101 - Planted White Pine, Mixed Deciduous	Sawtimber Medium	8.2	95	51-80	
29	4310 - Pine, Oak Mix	Sawtimber Well	11.2	109	81-110	
30	4310 - Pine, Oak Mix	Sawtimber Well	16.1	109	81-110	
32	4126 - White, Black, N. Pin Oak	Sawtimber Well	49.4	91	81-110	Stand harvested Sale # 720309801, finished sept 2001. Old RX was to cut all aspen, white pine and red maple. Thinning with 80 BA left. /Recreational trail through stand. Relatively open understory with oak regen that has been heavily browsed.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
33	4126 - White, Black, N. Pin Oak	Sawtimber Well	93.8	109	111-140	Stand thinned 1981 Some dead standing oak with scattered traces of norway spruce, balsam fir, some scotch pine, red and white pine.
36	42110 - Planted Red Pine	Sawtimber Well	27.0	104	81-110	Stand thinned 1989 sale # 720638801
37	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	49.8	106	81-110	Portions of the stand were thinned 1978 and 1991. There are planted strips of pine and spruce in the stand.
39	42100 - Planted White Pine	Sawtimber Well	38.1	104	111-140	There is about a 3 acre area planted with Norway spruce. There has been two different thinning's done on this stand about ten years apart
41	4124 - Red with White Oak	Sawtimber Well	20.3	111	81-110	STAND THINNED 1979 HAS GOOD OAK REGENERATION WITH POCKETS OF ASPEN. Heavy WP understory, growing well. Some oak regen in openings with scattered scotch pine. Nicely formed oak. Scattered traces of red pine.
42	42110 - Planted Red Pine	Sawtimber Well	44.0	104	81-110	2008 timbersale closure update: 720700401 (Oak Road Red Pine) was thinned by Lutke in Oct-Nov 2007.
46	4122 - Oak, Pine	Sawtimber Well	31.9	99	51-80	Stand treated under East Side Oak 72-037-08-01. Strip along the road left for visual management. Basal area is around 100 square feet.
47	4310 - Pine, Oak Mix	Sawtimber Well	6.5	92	141-170	Stand planted 1925. Isolated WP stand with a mixture of WP logs and poles. Scattered large red pine also present.
48	4124 - Red with White Oak	Sawtimber Well	20.1	110	81-110	
51	42260 - Natural Pine, Mixed Deciduous	Poletimber Well	28.3	107	51-80	
66	42110 - Planted Red Pine	Sawtimber Well	7.6	97	81-110	
101	42101 - Planted White Pine, Mixed Deciduous	Sawtimber Well	6.8	104	111-140	Stand was thinned 1999.
106	429 - Mixed Upland Conifers	Sawtimber Well	8.9	49	81-110	Stand could be broke up into 8 different one acre stands, extremely variable, of oak aspen poles, red pine sawlogs, norway spruce of varied size and WP. Pockets of thick aspen, some good oak regen and some scattered scotch pine throughout.
107	4123 - Red Oak	Sawtimber Well	6.5	98	81-110	
144	42141 - Planted Mixed Pine, Mixed Deciduous	Sawtimber Well	34.4	98	111-140	Extremely variable due to past cutting. Some areas were cut heavily with heavy regeneration.

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Grayling Mgt. Unit

Report 7 – Forested Stands

Compartment: 194
Year of Entry: 2018



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
224	4125 - Black, N. Pin Oak	Sawtimber Well	14.0	106	141-170	Oak/Pine Research Plots. Stand was prescribe burned for research in 2000.



Stand	Cover Type	Acres	Managed Site	General Comments:
6	310 - Herbaceous Openland	1.3	No	Well Pad
10	310 - Herbaceous Openland	1.4	No	Well Pad
11	122 - Road/Parking Lot	5.4	No	
12	6224 - Treed Bog	122.7	No	STAND WAS CUT IN 1980 AND HAS COVERTED TO A MARSH WITH TAG ALDER. Thick tag alder with scattered fir and spruce species. Almost called this a forested stand.
24	122 - Road/Parking Lot	6.5	No	OPIC - FMD: Stand harvested Sale # 720309801, finished sept 2001. Thinning with 80 BA left. /Recreational trail through stand. Relatively open understory with oak regen that has been heavily browsed. White pine regeneration is growing well. Maple regeneration is beginning to take over in some areas. Some beech in understory with scattered white pine poles throughout mid-canopy.
44	310 - Herbaceous Openland	28.7		Harvested under 72-019-14-01, scheduled to be planted to red pine. Four retention areas left on the edges of the stand. C72-777 chopped & trenched in 2015, herbicided in 2016. OPIC - FMD: Shelterwood red and white oak, focusing on leaving the highest quality of both species. Target 60 BA for oak residual following harvest. Leave a few uncut islands, 1-3 acres in size along adjacent Oak rd for aesthetics and structural diversity. Some areas of this stand, as well as stand 46 should be thinned to a target BA slightly higher than 60 square ft/acre in order to enhance diversity and develop areas of high quality oak management. Also BA should be left higher along road for visual reasons. Leave all red and white pine 6" or less using caution while harvesting to protect advanced pine regeneration. Some white pine may need to be marked to cut in order to remove marked oak. Oak and white/red pine is the overall management objective, however due to areas of heavy, advanced red maple understory, along with portions of the stand that have a heavier aspen component, a mixed stand with all above mentioned species present in respectable numbers should be expected. WP in SW corner. Heavy understory of red maple and some oak with aspen being a major component of understory in open areas. Larger aspen is beginning to fall in aspen stand that runs n/s along WP stand (104) in SW corner of stand. (old) Extremely variable due to past cutting. Some areas were cut heavily with heavy regen resulting. Other areas are a mix of white pine and oak. White pine is quite poor quality with a high percentage showing weevile damage. Scattered red pine sawlogs of good quality. Some patch cutting was performed in the past (firewood theft) which resulted in good regen. 1/27/11 stand treated under East Side Oak 72-037-08-01.
103	110 - Low Intensity Urban	3.5	No	A old borrow pit. Lot's of stumps and brush have been dumped in this location.