



# Compartment Review Presentation

## Grayling Forest Management Unit

Compartment 274

Entry Year 2016

Acreage: 1,189

County Crawford

Management Area: Camp Grayling

### Revision Date:

Stand Examiner: Thomas Barnes

### Legal Description:

T27N R1W Sections 6, 7, & 8  
Southeast Lovells Township, Crawford County

### Identified Planning Goals:

To maintain species and structural diversity while managing for health, productivity, and sustainability throughout the compartment. To provide multiple use opportunities and incorporate any visual management needed to optimize these uses while facilitating military training needs. Several harvest were a result of the Red Pine Project, the main goal of the Red Pine Project is to adjust and balancing the red pine cover-type age-class distribution by harvesting red pine timber stands in the 40-79 year age-classes and regenerating areas to red pine.

### Soil and topography:

The majority of this compartment is comprised of Grayling sands and Graycalm sands, ranging from 0 – 20% slopes. SE corner of Stand 43 has a unique soil type when compared to the surrounding area, as it is Tawas muck, containing unique ground cover species such as the Pitcher plant and other species tolerant of acidic soil conditions. One significantly steep slope exists along high banks road near the corner of sections 5, 6, 7, & 8. The slope of this hill could limit harvesting operations in the immediate area.

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

This compartment consists of solid state ownership except for privately owned parcels in Sections 6 and 8. This compartment contains 70 acres of military board land in Section 6. The remainder of state land in the compartment is under the 20 year management agreement with the Michigan National Guard, Department of Military Affairs. The management agreement allows for military camping and maneuvers, but does not allow the use of heavy equipment or high intensity live ammunition firing. Tracked vehicles are prohibited and all vehicle use is restricted to existing trail roads.

State land located in Sections 7 and 8 are under a long term lease (L-1479) with the Michigan National Guard, DMA to provide for military usage with no permanent buildings or improvements to be erected (Act 154, P.A. 1935). Wooden military observation towers are located within Sections 7 and 8, but appear to not be in use (their condition is rapidly declining). There is also sound monitoring equipment installed in the NE ¼ SE ¼, Section 6.

Informal requests have been made from private landowners in the area for easements across state land to provide legal ingress/egress to the private lands. To date, no such requests have been granted easements.

### Unique Natural Features:

Hill's Thistle (*cirsium hillii*), Kirtland's Warbler (*Dendroica kirtlandii*), Wood turtle (*Glyptemys insculpta*).  
SE corner of stand 43 contains some unique plant species associated with acidic mucky soil conditions, as outlined above.

### Archeological, Historical, and Cultural Features:

No Archeological, Historical, or Cultural Features known.

### Special Management Designations or Considerations:

A designated Kirtland's Warbler management area lies along the south boundary of the compartment. No special needs exist within the compartment.

### Watershed and Fisheries Considerations:

There is a small portion of an unnamed lake (< 1 acre) in the south east corner of Section 8. The North Branch of the AuSable River is located within ¼ of the compartment. This compartment is in the North Branch Au Sable River watershed, and lies just to the west of that waterbody. Prescribed treatments are appropriate for the protection of that waterbody. Fisheries Division is working with local angler groups on instream habitat improvement projects in the North Branch Au Sable, and habitat work for this reach of the North Branch Au Sable River is tentatively schedule for 2019-2022. We will likely request trees from this compartment at that time.

### Wildlife Habitat Considerations:

This compartment has many cover types, with varying age classes, which provide excellent habitat for many species of wildlife. A designated Kirtland's Warbler management area lies along the south boundary of 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 400 and 600 feet. Beneath the glacial drift is the Coldwater Shale. The Coldwater does not have a current economic use. A clay pit is located in Section 7, referred to as Bald Hill Clay Pit. There is good potential for gravel mining on the upland areas. In regards to oil and gas development, there are no oil and gas leases in the compartment. The Compartment is located two miles to the northwest of Conners Marsh Field. The field has produced over 20 Bcf gas from the Ordovician Prairie du Chien.

### **Vehicle Access:**

The compartment is easily accessed through county roads of Bald Hill Road and High Banks Road. Numerous other trail roads exist in the compartment, many of which are only accessible to a 4WD vehicle. Many of these trails are used for military training purposes. There are several roads used by private landowners to access their property. Most of these are being used within the scope of the land use rules, however, one trail road is gated where it meets High Banks road.

### **Survey Needs:**

There are no survey needs for this compartment at this time.

### **Recreational Facilities and Opportunities:**

No designated recreational trails or facilities exist within the compartment.

### **Fire Protection:**

The compartment falls under the fire protection of the Lovell's Volunteer Fire Department and the Grayling MDNR. If a wildfire was to occur in this compartment, the nearest water source would be a small lake in the NE corner of Section 17, to the south of compartment 240.

### **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 & Treatment Map

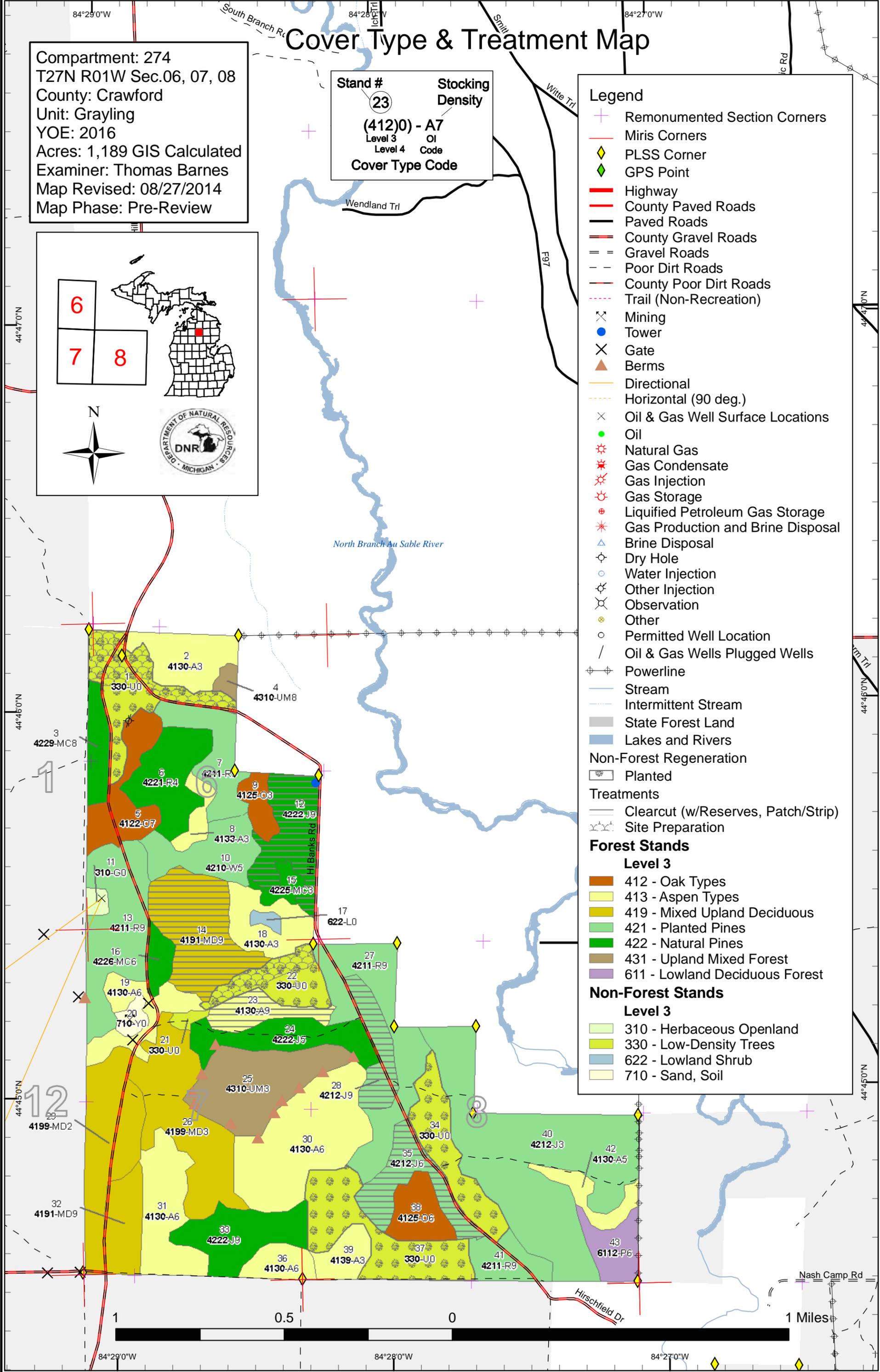
Compartment: 274  
 T27N R01W Sec.06, 07, 08  
 County: Crawford  
 Unit: Grayling  
 YOE: 2016  
 Acres: 1,189 GIS Calculated  
 Examiner: Thomas Barnes  
 Map Revised: 08/27/2014  
 Map Phase: Pre-Review

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

### Legend

- ✚ Remonumented Section Corners
- ✚ Miris Corners
- ◆ PLSS Corner
- ◆ GPS Point
- ▬ Highway
- ▬ County Paved Roads
- ▬ Paved Roads
- ▬ County Gravel Roads
- ▬ Gravel Roads
- ▬ Poor Dirt Roads
- ▬ County Poor Dirt Roads
- ▬ Trail (Non-Recreation)
- ⊗ Mining
- Tower
- ⊗ Gate
- ▲ Berms
- ▬ Directional
- ▬ Horizontal (90 deg.)
- ⊗ Oil & Gas Well Surface Locations
- Oil
- ⊗ Natural Gas
- ⊗ Gas Condensate
- ⊗ Gas Injection
- ⊗ Gas Storage
- ⊗ Liquefied Petroleum Gas Storage
- ⊗ Gas Production and Brine Disposal
- △ Brine Disposal
- ⊗ Dry Hole
- Water Injection
- ⊗ Other Injection
- ⊗ Observation
- ⊗ Other
- Permitted Well Location
- / Oil & Gas Wells Plugged Wells
- ⊕ Powerline
- ▬ Stream
- ▬ Intermittent Stream
- State Forest Land
- Lakes and Rivers
- Non-Forest Regeneration
- ☼ Planted
- Treatments
- ▬ Clearcut (w/Reserves, Patch/Strip)
- ☼ Site Preparation
- Forest Stands**
- Level 3**
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- Non-Forest Stands**
- Level 3**
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 622 - Lowland Shrub
- 710 - Sand, Soil

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# Stand Boundary Map

Compartment: 274  
 T27N R01W Sec.06, 07, 08  
 County: Crawford  
 Unit: Grayling  
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**Legend**

- ✚ Remonumented Section Corners
- Miris Corners
- ◆ PLSS Corner
- ◆ GPS Point
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- == Gravel Roads
- - Poor Dirt Roads
- - County Poor Dirt Roads
- - - Trail (Non-Recreation)
- ⊕ Powerline
- Stream
- Intermittent Stream
- × Gate
- ▲ Berms
- Stand Boundaries

**Forest Stands**

**Level 3**

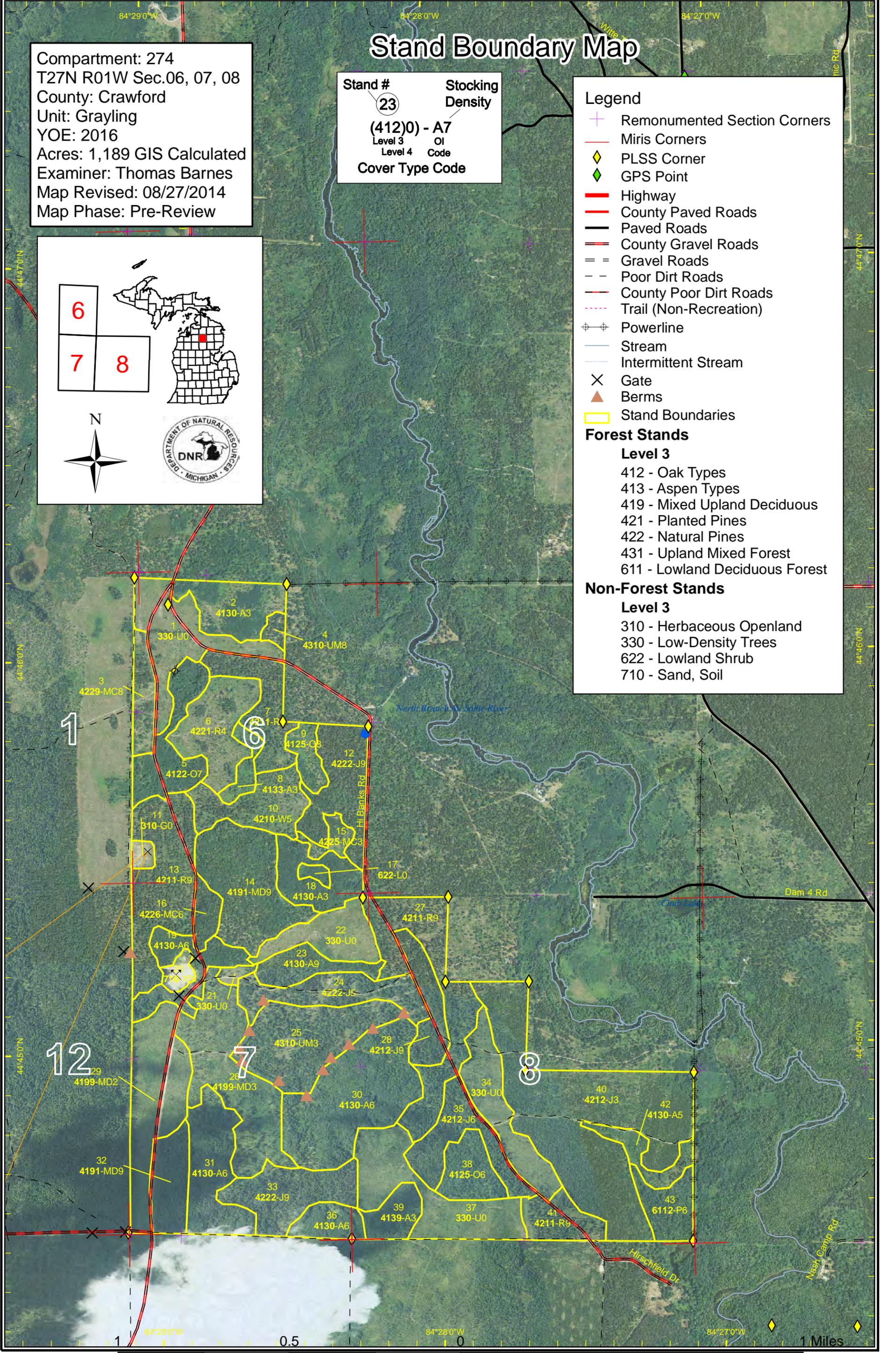
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- 413 - Aspen Types
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- 422 - Natural Pines
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**Non-Forest Stands**

**Level 3**

- 310 - Herbaceous Openland
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- 622 - Lowland Shrub
- 710 - Sand, Soil

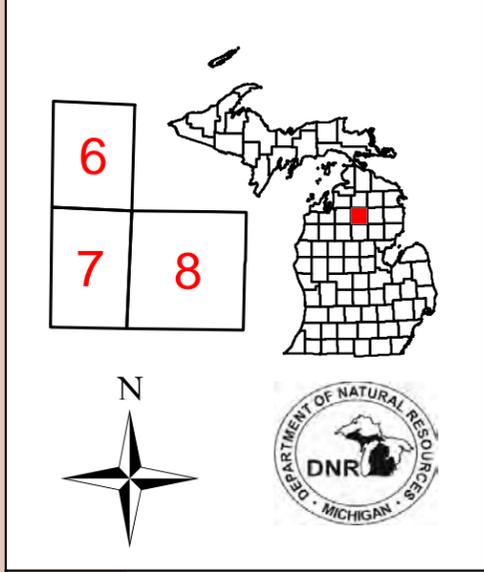
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# Special Conservation Areas & Site Conditions Map

Compartment: 274  
 T27N R01W Sec.06, 07, 08  
 County: Crawford  
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 YOY: 2016  
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**Stand #**  
 23  
**Stocking Density**  
 (412)0 - A7  
 Level 3 OI  
 Level 4 Code  
**Cover Type Code**



**Legend**

- ✚ Remonumented Section Corners
- Miris Corners
- Stand Boundaries
- Site Condition Available
- ▭ Available w/ Constraints (Factor - Number)

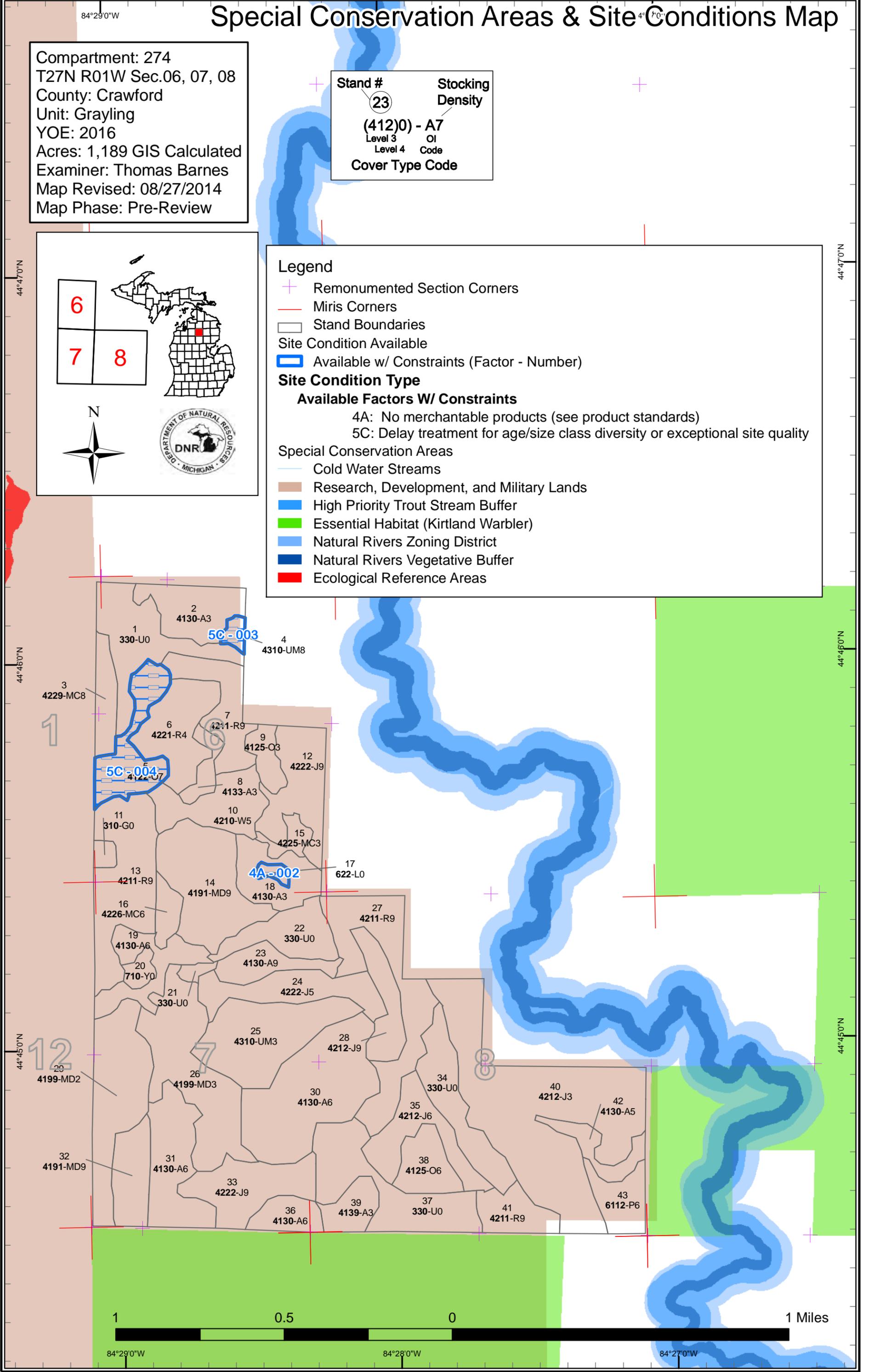
**Site Condition Type**

**Available Factors W/ Constraints**

- 4A: No merchantable products (see product standards)
- 5C: Delay treatment for age/size class diversity or exceptional site quality

**Special Conservation Areas**

- Cold Water Streams
- Research, Development, and Military Lands
- High Priority Trout Stream Buffer
- Essential Habitat (Kirtland Warbler)
- Natural Rivers Zoning District
- Natural Rivers Vegetative Buffer
- Ecological Reference Areas



Report 1 – Total Acres by Cover Type and Age Class



	Age Class														Total
	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +	Uneven Age	
Aspen	8	26	164	22	0	15	0	0	0	0	0	0	0	0	235
Herbaceous Openland	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Jack Pine	0	0	128	0	0	90	52	0	0	0	0	0	0	0	269
Low-Density Trees	141	0	0	0	0	0	0	0	0	0	0	0	0	0	141
Lowland Aspen/Balsam Poplar	0	0	0	0	17	0	0	0	0	0	0	0	0	0	17
Lowland Shrub	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Mixed Upland Deciduous	106	0	0	0	0	0	0	20	0	50	0	0	0	0	176
Natural Mixed Pines	0	6	0	8	0	0	13	0	0	0	0	0	0	0	28
Oak	0	9	0	18	0	0	0	0	0	27	0	0	0	0	55
Red Pine	0	0	0	0	0	33	129	17	0	0	0	0	0	0	178
Sand, Soil	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Upland Mixed Forest	0	49	0	0	0	0	0	0	0	0	4	0	0	0	53
White Pine	0	0	0	27	0	0	0	0	0	0	0	0	0	0	27
<b>Total</b>	<b>266</b>	<b>91</b>	<b>291</b>	<b>76</b>	<b>17</b>	<b>138</b>	<b>194</b>	<b>37</b>	<b>0</b>	<b>77</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1189</b>



## Report 2 – Proposed Treatment Summaries

**Grayling Mgt. Unit**  
**Year of Entry 2016**

**Compartment 274**  
**Total Compartment Acres: 1,189**

### Acres by Treatment Type

Commercial Harvest - 145    Tree Planting - 79    Other - 36  
 Habitat Cut - 0    Opening Maintenance - 0

### Cover Type by Harvest Method

	<i>Clearcut</i>	<i>Selection</i>	<i>Seed Tree</i>	<i>Shelterwood</i>	<i>Thinning</i>	<i>Other - Specify</i>	<i>Total Acres</i>
<b>Aspen Types</b>	15	0	0	0	0	0	15
<b>Mixed Upland Deciduous</b>	50	0	0	0	0	0	50
<b>Natural Pines</b>	33	0	0	0	0	0	33
<b>Planted Pines</b>	46	0	0	0	0	0	46
<b>Total</b>	<b>145</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>145</b>



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
12 72274012-Cut	33.5	42220 - Natural Jack Pine	High Density Log	63		Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Clearcut with retention, follow standard retention guidelines focusing retention along High Banks Rd. Spec for low stump heights as well as use the military spec. Do not follow Woody Biomass Guidelines. Old road in stand should be trenched and planted.

Other Comments: A fair amount of coarse woody debris is on the ground and very little understory. Stand is half PARVHa/PArVVb and half PVCd. Depending on how stand responds following harvest, if pocket of oak regeneration then avoid these areas when planting.

Next Steps: Site prep as needed trench and replant to red pine. Old road in stand should be trenched and planted.

Proposed Start Date: 10/01/2015

14 72274014-Cut	50.0	4191 - Mixed Upland Deciduous with Conifer	High Density Log	95	51-80	Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
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Prescription Final harvest with retention, follow standard retention guidelines. Remove all species 2" DBH and greater. Specs should include, low stump, military restriction, chipping and do not follow standard woody biomass guideline. Add drumming log spec and or brush pile spec

Other Comments: Kotar for this site is PVCd.

Next Steps: Monitor the success of the natural regeneration during the next treatment period. Acceptable regenerations is medium to well stocked stand of oak, aspen and mixed conifer. If natural regeneration fails to meet the acceptable level then site prep as needed, trench and plant to jack pine.

Proposed Start Date: 10/01/2015

23 72274023-Cut	15.4	4130 - Aspen	High Density Log	56		Harvest	Clearcut	413 - Aspen	Cmpt. Review Proposal
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Prescription Final harvest with no retention to maximize regeneration. Remove all aspen and jack pine greater than 2"DBH, do not harvest any pine or oak. Specs should include, low stump, military restriction, chipping and do not follow standard woody biomass guideline. Add drumming log and or brush pile spec.

Other Comments: Stand is PARVHA/PArVVb and relatively flat ground.

Next Steps: Monitor the success of the regeneration during the next treatment period. Acceptable regeration is a medium to well stocked stand of aspen with a component of jack pine and oak.

Proposed Start Date: 10/01/2015

28 72274028-Cut1	18.4	42120 - Planted Jack Pine	High Density Log	61		Harvest	Clearcut	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription Final harvest with out retention do to the small size of the stand. Harvest all species greater than 2" DBH. Specs should include, low stumps, military restriction, chipping and harvest does not have to follow the woody biomass guidelines.

Other Comments: Northern third of stand is PVCd and the remainder is PARVHa/PArVVb.

Next Steps: Site prep as needed including herbicide, trench and replant to red pine. Avoid planting area of heavy oak regeneration.

Proposed Start Date: 10/01/2015



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
35 72274035-Cut	27.3	42120 - Planted Jack Pine	High Density Pole	57		Harvest	Clearcut with Reserves	4212 - Planted Jack Pine	Cmpt. Review Proposal

Prescription Final harvest with retention, follow standard retention guidelines. Remove all species greater than 2" DBH. Focus retention along High Banks Rd. Specs should include, low stump, military restriction, chipping and do not follow standard woody biomass guideline.

Other Comments: Nice oak regeneration thru out the stand. Stand is a mixture of PVCd, PARVVb and PARVHa/PARVVb.

Next Steps: Site prep as needed and trench and plant to jack pine. If pocket of dense oak regen occur avoid planting in those areas.

Proposed Start Date: 10/01/2015

1 NF_72274001-Prep	23.9	3302 - Low Density Conifer Trees				Site Prep	Trenching	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription North half of stand has FTP 72-648 which covers Old OI Stands 1, 5, and 101. Old OI stand 6 is also to be trenched and planted to red pine.  
Specs: This stand needs the appropriate site prep to facilitate a successful planting of red pine. Site prep would include but not limited to roller chopping, herbiciding, etc. Following site prep work, trench and plant to red pine.

Other Comments:

Next Steps: Following site prep work, trench and plant to red pine. Follow-up with a regen survey at the appropriate time.

Proposed Start Date: Unspecified

22 NF_72274022-Prep	11.8	3302 - Low Density Conifer Trees				Site Prep	Trenching	4211 - Planted Red Pine	Cmpt. Review Proposal
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Prescription This stand needs the appropriate site prep to facilitate a successful planting of red pine. Site prep would include but not limited to roller chopping, herbiciding, etc. Following site prep work, trench and plant to red pine.

Other Comments: This portion of the stand is currently under FTP 72-649. May want to consider expanding into other portion of stand.

Next Steps: Following site prep work, trench and plant to red pine.

Proposed Start Date: Unspecified

**Total Treatment Acreage Proposed: 180.2**



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Type! #Type!

Prescription  
Specs:

Other  
Comment:

Next  
Steps:

Proposed  
Start Date: #Type!

Limiting Factor

**Total Treatment**  
**Acreage Proposed: 0.0**

## Report 5 – Site Conditions

Grayling Mgt. Unit

Thomas Barnes : Examiner

Compartment 274

Year of Entry 2016

### Availability for Management

Total Acres	Acres		Dominant Site Conditions	No	5C
	Available	Not Available			
235	235		Aspen	235	
269	269		Jack Pine	269	
17	17		Lowland Aspen/Balsam Poplar	17	
176	176		Mixed Upland Deciduous	176	
28	28		Natural Mixed Pines	28	
55	55		Oak	28	27
178	178		Red Pine	178	
53	53		Upland Mixed Forest	49	4
27	27		White Pine	27	
1,037	1,037		Total Forested Acres	1,006	31
	100%		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
002	Available	<b>4A: No merchantable products (see product standards)</b>	3				
<b>Comments:</b> Small isolated pocket of Tag Alder in the middle of the aspen clone, want to protect stand when aspen is treated in the future.							
003	Available	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	4				
<b>Comments:</b> Small stand of poorly formed oak and red pine. Provides some age and structure diversity to the area.							
004	Available	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	27				
<b>Comments:</b> This stand provides good structure diversity at this time. Stand is still growing well and treatment can be held off till the next year of entry.							



### Report 6 – PROPOSED SPECIAL CONSERVATION AREA\* (SCA) DETAILS

\* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

<b>SCA Name</b>	<b>SCA Category</b>	<b>Detail Type</b>	<b>Recommendation</b>	<b>Acres</b>
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**Comments**

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## Report 7 – 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	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
SCA	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.
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	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
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	General Comments:
2	4130 - Aspen	High Density Sapling	26.0	16		Stand is at the low end of the canopy closure, the open areas are being occupied by cherry brush. Stand is PARVHa/PArVVb. Site index is 50.
3	42290 - Natural Mixed Pine	Medium Density Log	13.3	67	51-80	Mixed stand of red and jack pine. Red pine of good quality. Smaller diameter jack pine is mixed throughout the stand. North half heavier to Red pine. Three BA swings were taken jack pine averaged 16 and red pine 40. Kotar is PARVHa/PArVVb. Site index is 45.
4	4310 - Pine, Oak Mix	Medium Density Log	3.5	103	81-110	Mixed stand of log sized Red pine and oak, not much for form or quality but a good stand for diversity. Two BA swings were taken, Stand average 100, 55 for oak and 45 for pine. Stand is PVCd and site index is 40.
5	4122 - Oak, Pine	Low Density Log	27.2	95	1-50	All aspen was removed, enough of a residual overstory left to be the featured canopy. Stand should convert to an aspen stand within the next twenty years. Gypsy moth egg masses on the overstory oak. Four BA swings were taken stand average was 30, 20 for mixed oak and 10 for Red pine. Stand has mixtures of PARVHa and PArVVb and site index is 45. Stand was harvested in 1997 under contract 72-046-96-01 southern third of stand had a salvage cut for dead oak in 1998 (72-037-98-02) as per old OI comments.
6	42210 - Natural Red Pine	Low Density Pole	32.6	57	1-50	Three retention islands were left within this stand. The trees left behind do not seemed to be responding to the harvest. No understory or ground cover to report due to snow depth. This stand was harvested in 2010/11 under 72-620-08-01 (Military RPP), all trees 6" and under as well as all white oak were left. Site index was 60 and Kotar is PARVHa. Regen survey was conducted on Old OI stand 8, stand had a MO of red pine, when considering the advanced regeneration the stand does pass its regen survey.
7	42110 - Planted Red Pine	High Density Log	26.0	67	51-80	This stand was treated at the same time as stand 11, however this stand had a higher BA for residual pine species, so it was split out. Pine look in good shape. Three BA swings were taken stand average was 76, Red pine was 53 and white pine was 23. Site index 55. Stand is a mixture of PVCd, PARVHa/PArVVb and PArVVb. Stand was harvested in 2009 under 72-607-06-01 (274 Pine). Harvest removed all Jack pine and oak and left all red pine and white pine of approximately 30 BA as per old OI comments.
8	4133 - Aspen, Mixed Pine	High Density Sapling	7.8	4		Young stand regenerating to aspen with white pine and red maple. Stand was harvested in 2009 under 72-607-06-01 (274 Pine). This stand includes old OI stands 112 and 108, stand 112 passes it regen survey while stand 108 didnt not pass with MO of white pine, white pine will be a componet but not the dominate species. North half of stand is PARVHA, south half is PVCd. Site index is roughly 50. Recommend accepting conversion of stand 108 to aspen.
9	4125 - Black, N. Pin Oak	High Density Sapling	9.5	16		There is an aspen pocket in the NW corner of this stand to small to be delinated remainder of stand is oak sprouts with some jack pine. Stand was harvested in 1997. Stand is 1/3 PARVHa/PArVVb (north) and 2/3 PVCd. Site index is 50.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
10	42100 - Planted White Pine	Medium Density Pole	27.3	33	1-50	This stand and stand 7 were treated at the same time, however, stand 7 has a greater density of pine then this stand so they were split. The residual red and white pine were not the dominate cover type, the pole sized red and white pine were. There was too much snow to see any planted regeneration. Stand is primarily PVCd, with a couple veins of PArVHa. There is a nice diversity of understory species in low densities. Stand was harvested in 2009 under 72-607-06-01 (274 Pine). Harvest removed all Jack pine and oak and left all red pine and white pine of approximately 30 BA as per old OI comments. Regen survey was conducted on the old OI stand 12, Stand 12 had a white pine MO, the regen survey when including the advanced regen passes for the MO of white pine.
12	42220 - Natural Jack Pine	High Density Log	33.5	63		Dense stand of log/pole sized stems, stems are just entering the log size category. A fair amount of coarse woody debris is on the ground and very little understory. Stand is half PArVHa/PArVvb and half PVCd. Site index 55.
13	42110 - Planted Red Pine	High Density Log	50.8	69	81-110	Thinned stand of Red Pine, understory comprised of oak stump sprouts. Snow too deep to see anything else. Six BA swings were taken ranging from 50 to 120 with a stand average of 90. Site index of 55. Stand looks in good shape. This stand is a mixture of PArVHa, PArVHa/PArVvb, PVCd and PArVvb. Stand was treated in winter of 09/10 under 72-605-06-01 (Bald Hill High Banks RP), all Jack Pine and Oak were removed and Red Pine was marked down to 80 BA.
14	4191 - Mixed Upland Deciduous with Conifer	High Density Log	50.0	95	51-80	Mixed stand dominated by oak with components of conifer and a few pockets of aspen. Five BA swings were taken with a stand average of 75, individual species were mixed oak 40, Aspen 10, R Maple 5, J Pine 15, R pine 10. Site index was 45. Kotar for this site is PVCd.
15	42250 - Pine, Oak	High Density Sapling	6.3	17		Young regenerating stand of a mixture of jack pine and oak. Northern portion is predominately jack pine while the southern half is oak and jack pine. Lower end of the canopy closure. Stand is pretty much PVCd. Stand was final harvested 1996.
16	42260 - Natural Pine, Mixed Deciduous	High Density Pole	8.1	37	81-110	Mixed stand of conifer with aspen and oak. Aspen is of poor quality with fungus forming. Three BA swings were taken with stand average of 83. Jack pine 35, aspen 30, oak 5, red pine 13. Site index is 45 and stand is PVCd.
18	4130 - Aspen	High Density Sapling	22.4	26		Young aspen stand with some oak, red maple and red pine scattered throughout. Snow depth too great to record ground species. Stand is PArVHa. Site index is 50. Stand was final harvested in 1987 under 72-05-87-01.
19	4130 - Aspen	High Density Pole	22.0	36		Aspen stand surrounding county gravel pit. Portion of stand along north edge of stand was harvested in late fall early winter of 2013 for gravel pit extension. Stand is PArVvb and site index was 65.
23	4130 - Aspen	High Density Log	15.4	56		Mature aspen stand with fairly good quality of log size. Stand is PArVHa/PArVvb.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
24	42220 - Natural Jack Pine	Medium Density Pole	29.5	57		Mixed jack pine stand with sapling, pole and log sized trees. Stand is not densely packed several small open area exist which has lead to poor form from being open grown. Stand is PARVHa/PArVVb and site index of 48.
25	4310 - Pine, Oak Mix	High Density Sapling	49.2	16		Mixed stand of oak, red and jack pine in the sapling to pole size class, lower end of the canopy closure. Stand is PARVHa/PArVVb. Old military range impact area- not in use any more, stand has birm all the way around it, found one wood tower. Stand was harvested in 1996.
26	4199 - Other Mixed Upland Deciduous	High Density Sapling	58.1	4		Mixed stand of aspen and oak regeneration. Areas where solid pockets of either oak or aspen. Residual BA for oak is roughly 15, thus the regeneration was the featured layer not the residual mature oak. Snow depth to great to document ground cover. There is evidence of a fair amount of deer browse in this stand. Stand was harvested in 2008/09 under 72-609-06-01. Roughly 10-20 BA of oak was left from this harvest, if natural regen fails then plant to pine as per old OI. Stand is PARVHa/PArVVb. Regen surveys were conducted in this stand for Old OI 21, 26 and 28 with MO of jack pine, oak, jack pine respectively, stands 21 and 28 failed MO regen but passes with other species and stand 26 passed, Accepting mixed regeneration for this stand for future management.
27	42110 - Planted Red Pine	High Density Log	51.8	67	51-80	Stand was thinned in the winter of 2009/10 under 72-605-06-01 (Bald Hill High Banks RP). All Jack Pine were removed and Red Pine was thinned down to either 80 or 100 BA. No understory to speak of and what is present mostly oak stump sprouts. NE corner of stand BA is roughly 30-50, rest of stand ranged between 80 and 110. Stand looks good stems are healthy and of good quality. Stand is a mixture of PVCd and PARVHa/PArVVb. Site index is 65.
28	42120 - Planted Jack Pine	High Density Log	18.4	61		Mixed stand with Jack pine, oak and red pine, Stand has enough log material to classify overall size as log. Stand is along High Banks Rd. Northern third of stand is PVCd and remainder is PARVHa/PArVVb. Site index is 50.
29	4199 - Other Mixed Upland Deciduous	Medium Density	47.8	4		Stand was harvested in 2008/09 under 72-609-06-01. Replanted in 2010, snow depth to great to visually see any planted stems. Stand has regenerated to a mixed upland deciduous stand with some scattered mature red maple and pine trees. Stand is mixture of PARVVb and PARVHa/PArVVb.
30	4130 - Aspen	High Density Pole	68.3	26		Mixed regen of aspen red maple, and pin oak, stand was final harvested in 86', just entering pole size and enough to warrant pole size. Snow depth to great to view any ground vegetation. Stand is PARVHa/PArVVb.
31	4130 - Aspen	High Density Pole	35.8	27		Stand was harvested in 1986, young aspen stand regenerating very well with a mixture of pole and sapling sized stems. Southern portion has larger diameter stems for all species found in this stand. Majority of the stand is just entering the pole size class. Stand is a mixture of PARVHa/PArVVb and PARVVb.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	4191 - Mixed Upland Deciduous with Conifer	High Density Log	20.4	74	111-140	Stand has filled in with competition from RM, Aspen, and Oak. Scattered large aspen, primarily in the northern portion of stand. Fairly well developed understory. Three BA swings were taken, stand average was 127 individual average were RP 50, mixed oak 23, R Maple 27 and Aspen 27. Northern 2/3 of stand is PARVVb and the southern third is PARVHa/PArVVb. Site index was 60.
33	42220 - Natural Jack Pine	High Density Log	32.9	51		Jack Pine primarily pole sized but enough have reached saw diameter to meet log as overall size, some Oak inclusions, mostly Pin.. Hold, let mature, stand is healthy, little to no budworm damage, growing well. Stand is a mixture of PARVVb and PARVHa/PArVVb.
35	42120 - Planted Jack Pine	High Density Pole	27.3	57		Pole to log sized JP- sparse in some areas, not much sign of mortality. Nice oak regeneration thru out the stand. Stand is a mixture of PVCd, PARVVb and PARVHa/PArVVb.
36	4130 - Aspen	High Density Pole	12.3	26		Big tooth aspen regen, stand was final harvested in 1987. There is some oak and maple scattered throughout the stand. Stand is PARVHa/PArVVb. Stand is borderline on being either sapling or pole size going to call it pole size.
38	4125 - Black, N. Pin Oak	High Density Pole	18.0	35	1-50	regeneration is 20-30 feet tall, mostly pin oak, red maple, and a few aspen, red and jack pine. Dense stand, consisting of mostly poles with still some sapling sizes. Too much snow to record ground cover. Site is PARVHa/PArVVb.
39	4139 - Aspen, Mixed Deciduous	High Density Sapling	12.7	25		Stand was final harvested in 2008/09 under 72-608-06-01, this harvest removed residual red pine, majority of stand was harvested in 1987. Young mixed aspen and red maple stand with some oak. Stand is PARVHa/PArVVb. Regen survey was conducted for this small stand Old OI 36, majority of stand was large sapling, regen layer was oak and maple. Stand failed the regen MO of aspen but passes as oak, maple. Recommending accepting present regen.
40	42120 - Planted Jack Pine	High Density Sapling	127.5	27		Young jack pine stand harvested in 1986 and planted in 1987. There is an aspen clone of pole sized stems in the NE corner adjacent to the private land. Not enough to delineate out. Stand is PVCd.
41	42110 - Planted Red Pine	High Density Log	16.9	72	51-80	Stand was thinned in the winter of 2009/10. Red Pine thinned down to 80BA. Log sized stand with little to no understory. Three BA swings were taken ranging from 20 to 100, portion of stand along Stand 39 very low BA. Stand average was 70. Site index was 55 and stand is primarily PVCd.
42	4130 - Aspen	Medium Density Pole	11.9	24		Young small clones of aspen between jack pine plantation and mature aspen stand. Small area of xlog red and white pine of 170 plus years old. This pine area is very open and appears to be used as a deer camp, roughly 2 acres in size. There area also small areas of nothing but chery brush with no commercial value. Stand is half PVCd and PARVCo.

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Grayling Mgt. Unit

Report 8 – Forested Stands

Compartment: 274  
Year of Entry: 2016



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	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
43	6112 - Lowland Aspen	High Density Pole	16.6	40		Aspen stand at the upper end of pole entering into log size. Southern edge of stand has a small area of lowland occupied by b fir and b spruce. Aspen quality is not that great, however, no evidence of fungus yet. Snow depth to great to see any ground cover, Calling a lowland as kotar for this area is primarily unclassified lowland, western edge is PVCd.

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Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	3302 - Low Density Conifer Trees	38.1	Plantation	Red Pine	Stand harvested in 2010 under contract 72-607-06-01 274 Pine. FTP C72-648/649. Could not see any regen because of snow depth, sapling to pole sized Jack pine on site in very low density. Regen survey conducted on Old OI 6 with Jack pine MO, regen survey failed on MO and other regen as well.
11	3102 - Grass	3.3	No	Unspecified	Old well pad site. To much snow for any ground cover.
17	6229 - Mixed lowland shrub	2.6	No	Unspecified	No management at this time. Wanted to delineate stand to keep equipment out of when treated next.
20	710 - Sand, Soil	5.0	No	Unspecified	Crawford County Gravel Pit, surrounding trees were harvested in the winter of 2013 for pit expansion.
21	3303 - Mixed Low Density Trees	2.8	No	Unspecified	Small opening with scattered jack pine and aspen. Stand is PARVHa/PArVVb.
22	3302 - Low Density Conifer Trees	23.5	Plantation	Red Pine	Stand harvested in 2009 under contract 72-607-06-01 274 Pine. Old OI stand 44 has FTP C72-648/49 and has yet to be planted or trenched. Old OI Stand 46 failed regen for MO of Red Pine but has good mixture of oak, maple and aspen with some jack and red pine. Recommend expanding FTP to cover old stand 46.
34	3303 - Mixed Low Density Trees	30.7	Plantation	Red Pine	Stand was harvested in 2008. Scattered Jack pine, red pine and oak were left for visual issues. Stand planted in 2011 to red pine then replanted in 2013. Snow depth to great to see any seedlings. Northern third of stand is PARVHa/PArVVb and remainder of stand is PVCd.
37	3301 - Low Density Deciduous Tree	45.9	Plantation	Red Pine	Stand was harvested in 2008 and planted to red pine in 2011, area of advanced oak regen were planted around. Oak sprouting is very good throughout this stand, Snow to deep to see any of the planted stock. Stand is primarily PARVHa/PArVVb.