



# Compartment Review Presentation

## Grayling Forest Management Unit

Compartment 27

Entry Year 2015

Acreage: 2,306

County Oscoda

Management Area: Avery Hills

---

**Revision Date:** 06/25/2013

**Stand Examiner:** Thomas Barnes

**Legal Description:**

28N R03E Sections 3, 4, 5, 8, 9, 10, and 18

**Identified Planning Goals:**

Many red pine stands were treated as a result of the Red Pine Project, during the past 10 years. The emphasis of management shall be on retaining and enhancing the natural beauty and biological diversity of the area. Management will also improve wildlife habitat for both hunting and observation purposes while maintaining forest health, productivity, sustainability, species and structural diversity while accounting for visual management and multiple uses. During the last inventory cycle a land exchange was completed where a parcel of landlocked state property was exchanged for private land that is adjacent to existing state land. The state land within is compartment is readily accessible to the public.

**Soil and topography:**

Soil types within this compartment consist mostly of Emmet loamy sand, Emmet sandy loam, Rubicon sand, Roselawn sand and Houghton muck. Topography is gently rolling terrain containing ridge tops and valleys with individual kettle holes and steep hills.

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

State ownership is solid in Section 5, scattered in Sections 3, 4, 8, 9, 10 and 18. There are a few private parcels in Sections 5 and 8. The state land is heavily used for dispersed recreation, including hunting, snowmobile riding, and mushroom picking.

**Unique Natural Features:**

Potts Lake.

**Archeological, Historical, and Cultural Features:**

No Archeological, Historical, or Cultural Features known.

**Special Management Designations or Considerations:**

No occurrence at this time.

**Watershed and Fisheries Considerations:**

This compartment contains Potts Lake and Gilchrist Creek which is a cold-water designated trout stream.

**Wildlife Habitat Considerations:**

Fairly good wildlife habitat still exists, but it is increasingly being fragmented by new trail roads and pipelines related to oil and gas development and establishment of non-designated recreational trails through heavy use.

**Mineral Resource and Development Concerns and/or Restrictions**

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium, coarse-textured glacial till and an end moraine of medium-textured till. Glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift is the Coldwater Shale. There is not an economic use for the Coldwater Shale. Gravel pits are located one mile to the north and potential appears to be good. This compartment is leased for oil and gas development and most of it has been developed for the Antrim Shale gas production.

**Vehicle Access:**

Access is obtained to most of the compartment from county roads (Hill, Mount Tom, and Boiling Springs) along with a series of forest trail roads. Most of these trail roads are drivable by a two-wheel drive vehicle and many of them are plowed in the winter to access Antrim well sites year around. No existing roads need to be closed at this time. All new roads created through management activities are to be closed upon completion.

**Survey Needs:**

No occurrence at this time.

**Recreational Facilities and Opportunities:**

This compartment receives dispersed heavy recreational use, particularly from snowmobilers and hunters. Part of a designated cycle trail runs in Sections 5, 8, and 18.

**Fire Protection:**

Current road system is adequate, and no timber conversion is needed.

**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**

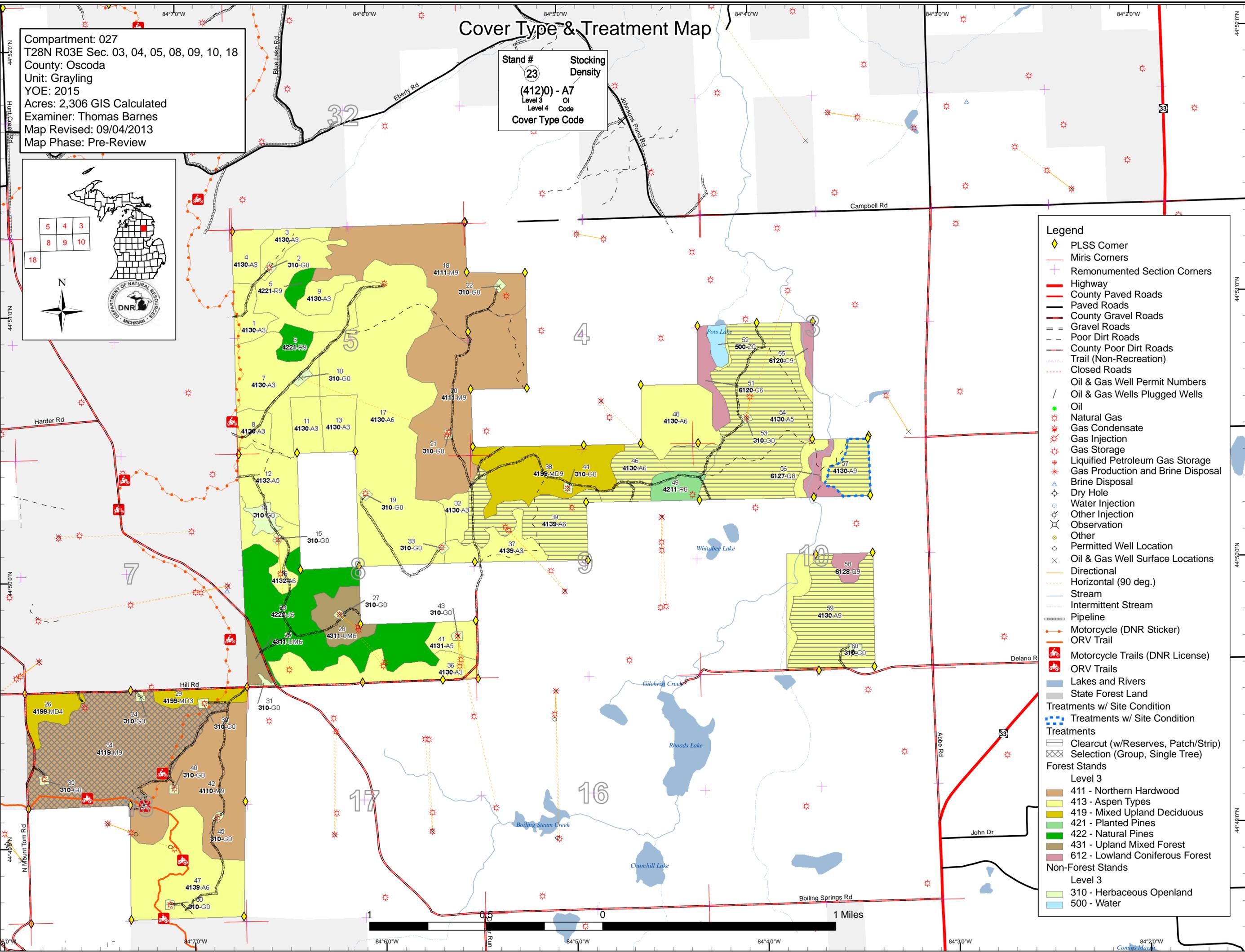
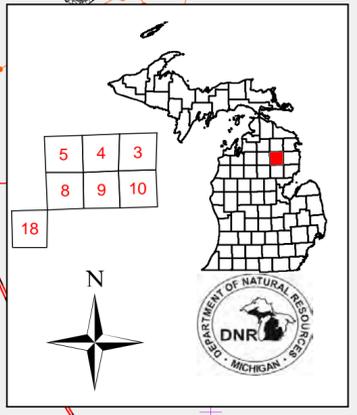
The following information is displayed, where pertinent, on the attached compartment maps:

- 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: 027  
 T28N R03E Sec. 03, 04, 05, 08, 09, 10, 18  
 County: Oscoda  
 Unit: Grayling  
 YOE: 2015  
 Acres: 2,306 GIS Calculated  
 Examiner: Thomas Barnes  
 Map Revised: 09/04/2013  
 Map Phase: Pre-Review

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

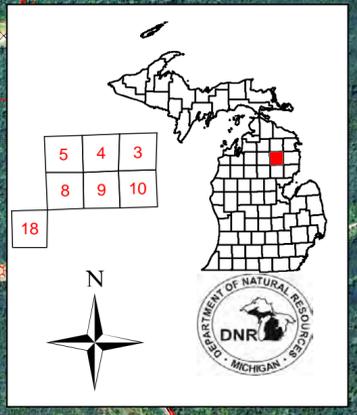


- ### Legend
- PLSS Corner
  - Miris Corners
  - Remonumented Section Corners
  - Highway
  - County Paved Roads
  - Paved Roads
  - County Gravel Roads
  - Gravel Roads
  - Poor Dirt Roads
  - County Poor Dirt Roads
  - Trail (Non-Recreation)
  - Closed Roads
  - Oil & Gas Well Permit Numbers
  - Oil & Gas Wells Plugged Wells
  - 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 Well Surface Locations
  - Directional
  - Horizontal (90 deg.)
  - Stream
  - Intermittent Stream
  - Pipeline
  - Motorcycle (DNR Sticker)
  - ORV Trail
  - Motorcycle Trails (DNR License)
  - ORV Trails
  - Lakes and Rivers
  - State Forest Land
  - Treatments w/ Site Condition
  - Treatments
  - Clearcut (w/Reserves, Patch/Strip)
  - Selection (Group, Single Tree)
  - Forest Stands**
  - Level 3**
  - 411 - Northern Hardwood
  - 413 - Aspen Types
  - 419 - Mixed Upland Deciduous
  - 421 - Planted Pines
  - 422 - Natural Pines
  - 431 - Upland Mixed Forest
  - 612 - Lowland Coniferous Forest
  - Non-Forest Stands**
  - Level 3**
  - 310 - Herbaceous Openland
  - 500 - Water

# Stand Boundary Map

Compartment: 027  
 T28N R03E Sec. 03, 04, 05, 08, 09, 10, 18  
 County: Oscoda  
 Unit: Grayling  
 YOE: 2015  
 Acres: 2,306 GIS Calculated  
 Examiner: Thomas Barnes  
 Map Revised: 09/04/2013  
 Map Phase: Pre-Review

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



### Legend

- ◆ PLSS Corner
- Miris Corners
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- = Gravel Roads
- - Poor Dirt Roads
- - County Poor Dirt Roads
- - - Trail (Non-Recreation)
- - - - Closed Roads
- Directional
- Horizontal (90 deg.)
- x 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
- o Permitted Well Location
- / Oil & Gas Wells Plugged Wells
- / Oil & Gas Well Permit Numbers
- Stream
- Intermittent Stream
- Pipeline
- Motorcycle (DNR Sticker)
- ORV Trail
- \* Motorcycle Trails (DNR License)
- \* ORV Trails
- Stand Boundaries

### Forest Stands

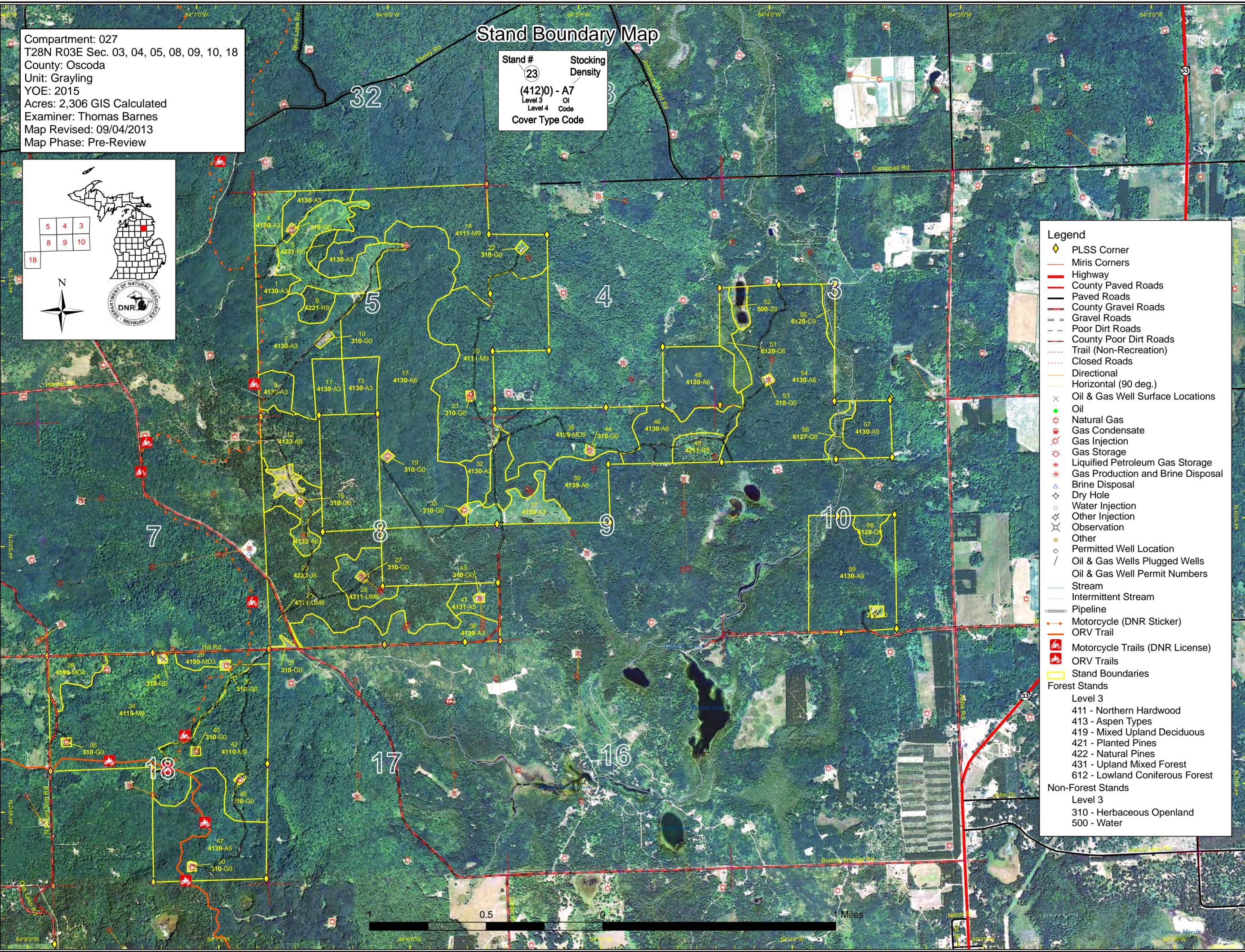
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest

### Non-Forest Stands

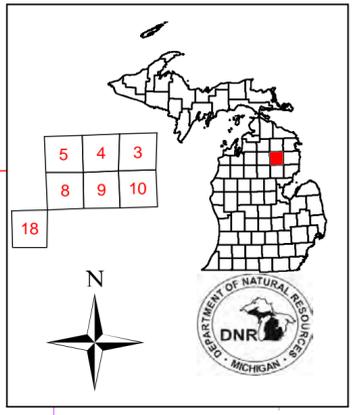
Level 3

- 310 - Herbaceous Openland
- 500 - Water



# Special Conservation Areas & Site Conditions Map

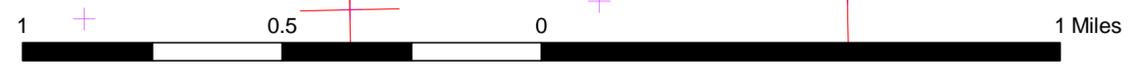
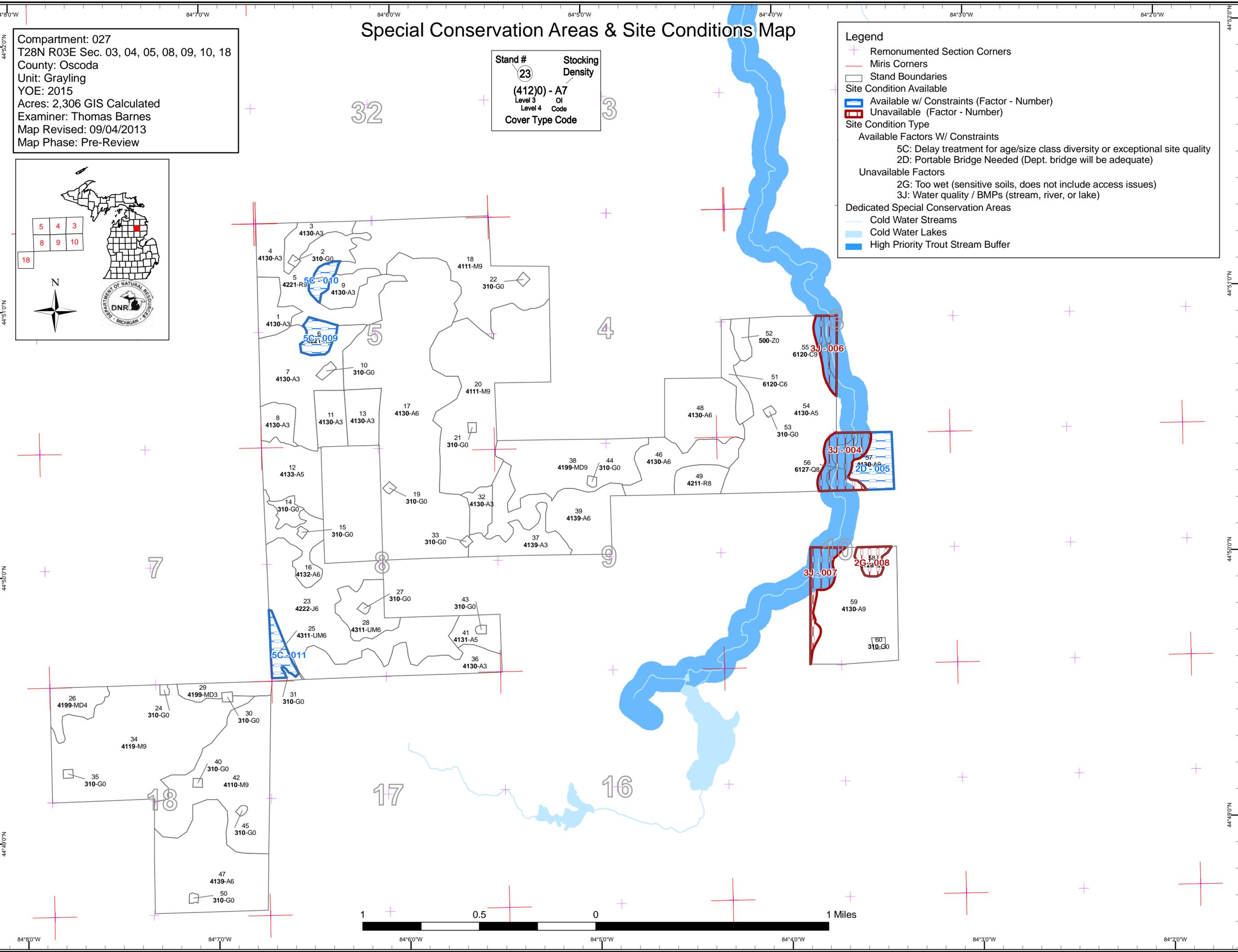
Compartment: 027  
 T28N R03E Sec. 03, 04, 05, 08, 09, 10, 18  
 County: Oscoda  
 Unit: Grayling  
 YOE: 2015  
 Acres: 2,306 GIS Calculated  
 Examiner: Thomas Barnes  
 Map Revised: 09/04/2013  
 Map Phase: Pre-Review



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

**Legend**

- + Remonumented Section Corners
- Miris Corners
- Stand Boundaries
- Site Condition Available
- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)
- Site Condition Type
- Available Factors W/ Constraints
  - 5C: Delay treatment for age/size class diversity or exceptional site quality
  - 2D: Portable Bridge Needed (Dept. bridge will be adequate)
- Unavailable Factors
  - 2G: Too wet (sensitive soils, does not include access issues)
  - 3J: Water quality / BMPs (stream, river, or lake)
- Dedicated Special Conservation Areas
  - Cold Water Streams
  - Cold Water Lakes
  - High Priority Trout Stream Buffer



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	107	161	411	177	132	326	0	0	0	0	0	0	0	0	1314
Cedar	0	0	0	0	0	0	0	0	7	16	0	0	0	0	23
Herbaceous Openland	30	0	0	0	0	0	0	0	0	0	0	0	0	0	30
Jack Pine	0	0	0	0	0	131	0	0	0	0	0	0	0	0	131
Lowland Conifers	0	0	0	0	0	0	11	9	0	0	0	0	0	0	20
Mixed Upland Deciduous	0	16	0	0	21	0	0	0	82	0	0	0	0	0	119
Northern Hardwood	0	0	0	0	0	0	0	0	404	0	0	0	181	585	
Red Pine	0	0	0	0	0	0	17	12	7	0	0	0	0	36	
Upland Mixed Forest	0	0	0	0	28	11	0	0	0	0	0	0	0	39	
Water	8	0	0	0	0	0	0	0	0	0	0	0	0	8	
<b>Total</b>	<b>145</b>	<b>177</b>	<b>411</b>	<b>177</b>	<b>181</b>	<b>468</b>	<b>0</b>	<b>28</b>	<b>28</b>	<b>510</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>181</b>	<b>2306</b>



## Report 2 – Proposed Treatment Summaries

**Grayling Mgt. Unit**  
**Year of Entry 2015**

**Compartment 027**  
**Total Compartment Acres: 2,306**

### Acres by Treatment Type

Commercial Harvest - 581	Tree Planting - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	

### Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
<b>Aspen Types</b>	400	0	0	0	0	0	400
<b>Northern Hardwood</b>	0	181	0	0	0	0	181
<b>Total</b>	400	181	0	0	0	0	581



S  
t  
a  
n  
d

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

<b>34</b>	<b>72027034-Cut</b>	180.6	4119 - Mixed Northern Hardwoods	High Density	95	111-140	Harvest	Single Tree Selection	Cmpt. Review Proposal
-----------	---------------------	-------	---------------------------------	--------------	----	---------	---------	-----------------------	-----------------------

Prescription Thin stand down to 70-80 sqft of BA, targeting clumped basswood, beech, white ash and poor quality maple. Stand does have the Mio ORV trail within its boundaries make sure spec is included to protect the trail.

Other Comments: Stand does have the Mio ORV trail within its boundaries make sure spec is included to protect the trail. There is also oil and gas wells and pipelines within this stand as well. Openings should help create small regen pockets.

Next Steps: Monitor regeneration within the stand, should regenerate to a northern hardwood species mix.

Proposed Start Date: 10/01/2014

<b>39</b>	<b>72027039-Cut</b>	71.5	4139 - Aspen, Mixed Deciduous	High Density Pole	48	81-110	Harvest	Clearcut with Reserves	Cmpt. Review Proposal
-----------	---------------------	------	-------------------------------	-------------------	----	--------	---------	------------------------	-----------------------

Prescription Final harvest follow standard retention guidelines focusing retention in areas with higher white pine densities. Leave all Red Pine greater than 18" DBH. Use drumming log spec. Stand can be chipped if desired follow standard woody biomass guidelines.

Other Comments:

Next Steps: Monitor regeneration success during next treatment cycle. Stand should regenerate to a moderate to fully stocked stand of Aspen, maple, oak and conifer.

Proposed Start Date: 10/01/2014

<b>46</b>	<b>72027046-Cut</b>	43.7	4130 - Aspen	High Density Pole	49		Harvest	Clearcut with Reserves	Cmpt. Review Proposal
-----------	---------------------	------	--------------	-------------------	----	--	---------	------------------------	-----------------------

Prescription Final harvest follow standard retention guidelines. Leave red pine great than 16" DBH. Use drumming log spec. Chipping is acceptable, follow standard woody biomass harvesting guidelines

Other Comments: Stand is steep in areas make sure sale is setup so that the equipment is capable of harvesting from top to bottom if needed.

Next Steps: Monitor regeneration success during next treatment cycle. Stand should regenerate to a moderate to well stocked aspen mixed hardwood stand.

Proposed Start Date: 10/01/2014

<b>54</b>	<b>72027054-Cut</b>	170.3	4130 - Aspen	Medium Density Pole	53		Harvest	Clearcut with Reserves	Cmpt. Review Proposal
-----------	---------------------	-------	--------------	---------------------	----	--	---------	------------------------	-----------------------

Prescription Final harvest follow standard retention guidelines plus leave all oak & conifer. Leave appropriate Riparian zone along Gilchrist creek where needed. Use drumming log spec. Chipping is acceptable follow standard woody biomass harvesting guideline.

Other Comments:

Next Steps: Monitor regeneration success during next treatment period. Stand should regenerate to a moderate to fully stocked aspen, mixed hardwood stand.

Proposed Start Date: 10/01/2014



S  
t  
a  
n  
d

Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
59 72027059-Cut	92.8	4130 - Aspen	High Density Log	53		Harvest	Clearcut with Reserves		Cmpt. Review Proposal

Prescription Specs: Final harvest follow standard retention guidelings, focus retention around cedar and all oak for mast production. Use drumming log spec. Use the rabitat and grouse spec.

Other Comments: Majority of oak is found in the SW corner of the stand.

Next Steps: Monitor regeneration succes druing the next treatment period. Stand should regenerate to a moderate to fully stocked stand of aspen and mixed hardwoods.

Proposed Start Date: 10/01/2014

**Total Treatment Acreage Proposed: 558.9**



S  
t  
a  
n  
d

Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
57 72027057-Cut	21.9	4130 - Aspen	High Density Log	54		Harvest	Clearcut		Cmpt. Review Proposal

Prescription Specs: Final harvest leave Red pine, cedar and white pine. No retention due to size and to maximize regen. Use RMZ where needed to buffer Gilchrist Creek. Use drumming log spec. Chipping acceptable follow standard woody biomass guidelines.

Other Comment: Either a portable bridge will be needed to access this stand or the purchaser will need to acquire permission from pvt landowner to access this sale.

Next Steps: Monitor regeneration success during next treatment period. Stand should regenerate to a moderate to well stocked stand of aspen and mixed hardwoods.

Proposed Start Date: 10/01/2014

Limiting Factor 2D: Portable Bridge Needed (Dept. bridge will be adequate)

**Total Treatment Acreage Proposed: 21.9**

## Report 5 – Site Conditions

Grayling Mgt. Unit

Thomas Barnes : Examiner

Compartment 027

Year of Entry 2015

### Availability for Management

Total Acres	Acres		Dominant Site Conditions	No	5C	3J	2G	2D
	Available	Not Available						
1314	1275	39	Aspen	1,253		39		22
23	16	7	Cedar	16		7		
131	131		Jack Pine	131				
20		20	Lowland Conifers			11	9	
119	119		Mixed Upland Deciduous	119				
585	585		Northern Hardwood	585				
36	36		Red Pine	17	19			
39	39		Upland Mixed Forest	28	11			
2,267	2,201	66	Total Forested Acres	2,149	30	58	9	22
	97%	3%	Relative Percent					

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
004	Not Available	3J: Water quality / BMPs (stream, river, or lake)	26				
<b>Comments:</b> Land within RMZ, as per Fisheries requirement of 300' no cut buffer along Gilchrist Creek, Blue Ribbon Trout Stream.							
005	Available	2D: Portable Bridge Needed (Dept. bridge will be adequate)	22				
<b>Comments:</b> Private property borders this stand only access from state land will require the crossing of Gilchrist Creek.							
006	Not Available	3J: Water quality / BMPs (stream, river, or lake)	15	2D: Portable Bridge Needed (Dept. bridge will be adequate)			
<b>Comments:</b> Most of stand would fall within the RMZ requirements and a bridge would be needed to access portion of stand across Gilchrist Creek. 300' no cut buffer for Gilchrist Creek as per the requirement for Blue Ribbon Trout Stream.							

## Report 5 – Site Conditions

Grayling Mgt. Unit

Thomas Barnes : Examiner

Compartment 027

Year of Entry 2015

007	<b>Not Available</b>	<b>3J: Water quality / BMPs (stream, river, or lake)</b>	17	2D: Portable Bridge Needed (Dept. bridge will be adequate)
-----	----------------------	--	----	--

**Comments:**

Riparian area along Gilchrist Creek and tributary flowing into creek. Would need portable bridge to access the other side of creek in NW corner. This will also provide a nice wildlife corridor as well. Land within RMZ, as per Fisheries requirement of 3

008	<b>Not Available</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	9	3H: Deer Wintering Areas	3L: Other wildlife concerns
-----	----------------------	--	---	-----------------------------	--------------------------------

**Comments:**

Lowland conifer site with saturated soils, operating in here would be difficult and only nine acres. Better suited for wildlife useage.

009	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	12	
-----	------------------	---	----	--

**Comments:**

Stand is isolated pocket of retention from prior treatment in 1987, no good access to this stand. Surrounded by aspen should be left for size and species diversity.

010	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	7	
-----	------------------	---	---	--

**Comments:**

No management consideration since this stand was left as retention from the most recent treatment in 1968. Small in size and is surrounded by regenerating aspen stands.

011	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	11	
-----	------------------	---	----	--

**Comments:**

Harvest stand when Stand 23 is treated. This stand is small in size.



### 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.

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



**Report 7 – DEDICATED CONSERVATION AREA DETAILS**

\* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

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	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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	High Density Sapling	19.3	25		Stand was final harvested in 1987. Stand is on the edge between sapling and pole errored on the side of caution and left in the sapling stage. Stand is entirely PARVHa/PARVVb.
3	4130 - Aspen	High Density Sapling	16.6	25		Stand was final harvested in 1987. Young aspen stand with good stem density and mixture of other hardwood species. Stand is primarily PARVHa/PARVVb with one small patch of AFO in the NE corner of stand.
4	4130 - Aspen	High Density Sapling	77.8	4		Stand harvested in 2008 #72-073-05-01. Stand is regenerating nicely to aspen and red maple mix. There is a small oak component. Stand passes regen check for aspen. Regen average was 2050/acre for aspen and 1060 for red maple. Hilly terrain with exposed rock in places. There is overstory component of pole to xlog size red pine. Residual pine is less than 10sqft/acre. Stand is primarily PARVHa/PARVVb with patches of AFO in the easter portions of the stand.
5	42210 - Natural Red Pine	High Density Log	7.4	91	141-170	Mature red pine stand with a mixture of hardwood species. Rolling terrain. According to previous inventory comments stand was last treated in 1968 and small pockets of red pine were left as retention, this is one of those stands. Stand is entirely PARVHa/PARVVb.
6	42211 - Natural Red Pine, Mixed Deciduous	High Density Log	11.9	85	111-140	According to previous inventory comments stand was last treated in 1987 and small pockets of red pine were left as retention, this is one of those stands. Stand is entirely PARVHa/PARVVb.
7	4130 - Aspen	High Density Sapling	73.6	15		Young aspen stand with some pole sized stems scattered throughout. Previous inventory has stand as an A5 with average DBH of 7 inches at 8 years. Stand is entirely PARVHa/PARVVb.
8	4130 - Aspen	High Density Sapling	15.3	25		Young aspen stand, not much different in stand characteristics then stand 7, only 10 years older. Stand could be lumped together. Rolling to steep terrain. Stand is entirely PARVHa/PARVVb.
9	4130 - Aspen	High Density Sapling	15.9	25		Nice stand of Aspen, good stem density on the boarder between sapling and pole. Stand was harvested in 1987 Stand is primarily AFO with a small patch of PARVHa/PARVVb along the south boundary.
11	4130 - Aspen	High Density Sapling	20.1	25		Stand was harvested in 1987 per old OI notes. Stand is bording on pole size but just not there yet. Good mixture of associated species with rolling to steep terrain. Stand is entirely PARVHa/PARVVb.
12	4133 - Aspen, Mixed Pine	Medium Density Pole	42.4	34		Ground cover sweet fern and ribes. Open stand in places with mixture of aspen, pine and cherry. Pocket of mature red pine as well as scattered red pine. Not good quality stand. Previous OI comments - Stand was harvest in 1978 (Red Pine Improvement) all aspen and jack pine was cut. Stand has mature red pine scattered throughout. Also aspen pockets throughout. Over-all stand is still an A3 poor site with a lot of abuse .Stand is entirely PARVHa/PARVVb.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
13	4130 - Aspen	High Density Sapling	22.5	15		Stand was harvested in 1997, previous OI has BA of 60 with ave DBH of 7", didn't see those conditions when inventoried. Young aspen stand with rolling to steep terrain. Stand is entirely PARVHa/PArVVb.
16	4132 - Aspen, Jack Pine	High Density Pole	26.2	36		Small pockets of red pine found in stand. Majority is aspen of poor quality with a good component of jack pine and cherry. Stand is entirely PArVVb.
17	4130 - Aspen	High Density Pole	268.2	26		Lower end of pole sized stems primarily of bigtooth, SW corner more quaking and less canopy closure with higher amounts of cherry stems, poor quality in the SW. Rolling to steep terrain. Two well sites within stand. Access to southern portion of stand would be an issue, north is easily accessible. Oak is of good to excellent stem quality and ground cover included lily of valley, trillium, solomon seal. Stand is primarily PArVHa/PArVVb with AFO in the northern 1/3 of stand and along the east boundary. In the southern portion of the stand are small patches of both PArVVb/AFO, AFO and PArVVb.
18	4111 - S.Maple, Hard Mast Association	High Density Log	126.1	94	51-80	Stand was thinned in 2007 (County Line Hardwood Thin 72-12-05-01), one unit was not thinned and this portion of stand was merged with Stand 21. Canopy gaps are filling in with maple, ash, beech and some oak and red maple. Ash that were left are all but dead, beech looks good with no sign of BBD. Seven BA swings were taken stand average was 80, individual BA's were approximately Sugar 31, Bass 23, Beech 4, Red Oak 12, Paper Birch 5, Bigtooth 2 Ironwood 1. There are areas of heavy slash from harvest as well as fallen trees. Stand is entirely AFO with two small patches of PArVVb/AFO and PArVVb along the north boundary.
20	4111 - S.Maple, Hard Mast Association	High Density Log	157.2	90	81-110	Mixed hardwood stand. Area of sugar maple carpeting the forest floor with seedlings also areas of stand with nice advanced oak regeneration. Mature oak is of good form and crowns are still healthy. Majority of stands understory is heavy to sugar maple and ash with very little ground cover. Ground cover present was sweet cicily, trillium, lily of valley. Mortality of mature white ash is at least 99%, beech looks healthy with no signs of BBD. Thirteen BA plots were taken stand average was 83, individual species were Sugar 42, Red Map <1, Bass 8, Ash <1, Beech 2, Red Oak 21, Paper Birch 5, and Bigtooth 4. Stand is entirely AFO with areas of PArVVb.
23	42220 - Natural Jack Pine	High Density Pole	131.0	53		Pole sized jack pine stand with pockets of aspen, aspen is not of good quality. There is moderate storm damage to the aspen and jack pine stems. Stand's northern 2/3 is PArVVb the rest is PARVHa/PArVVb.
25	4311 - Pine, Aspen Mix	High Density Pole	11.1	58	51-80	Mixed stand, SW corner was thinned in 2003'ish hardwood stand of log quality. Stand transitions into mixture of pine aspen with pockets of maple, cherry and aspen regen, results from 1998 tornado that hit this area. Stand is entirely PArVHa/PArVVb, but there are small patches of AFO, PArVVb/AFO, PArVVb and PVCd in the southern portion of stand.
26	4199 - Other Mixed Upland Deciduous	Low Density Pole	20.8	40		Open area Stand is entirely PArVVb/AFO.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
28	4311 - Pine, Aspen Mix	High Density Pole	28.3	45		Mixed aspen, jack pine stand with a well site in the middle of the stand. Stand 25 is very similar to this stand however, this stand has a higher aspen density. There is moderate storm damage to this stand from the heavy snows. Stand is half PARVVb and PVCd.
29	4199 - Other Mixed Upland Deciduous	High Density Sapling	15.9	15		Stand impacted by tornado in 1998. Heavy course woody debris from storm. Stand is entirely PARVVb/AFO.
32	4130 - Aspen	High Density Sapling	12.4	17		Young aspen stand with both quaking and big tooth aspen. North half of stand is AFO and the Southern Half is PARVbb/AFO.
34	4119 - Mixed Northern Hardwoods	High Density Log	180.6	Uneven Age	111-140	Mixed hardwood stand of log size. Both white ash and beech are present in the stand, beech is looking good with no signs of BBD. White ash on the other hand is not doing well and is past salvage stage, majority of trees have excessive bird peck signs. Ground cover is trout lily, dutchman breeches, sweet cicily. There are some pockets of paper birch and on the northern portion of the stand there are various wet areas/ vernal/forest ponds. Stand us very much park like and has hilly to steep terrain. Ten BA swings were taken, stand average was 118. Stand is entirely PARVVb/AFO.
36	4130 - Aspen	High Density Sapling	52.8	17		Stand was harvested in 1997, Good regeneration and sten density. Stand is primarily PVCd and is small portion being PARVHa/PARVVb
37	4139 - Aspen, Mixed Deciduous	High Density Sapling	29.6	2		Stand was final harvested under contract 72-029-08-01 Comp 27 RPP). This treatment was under the Red Pine project. Cut in 2009/2010. No FTP Site converted to Aspen. Regen survey showed approximately 1400 aspen/ac, 600 red maple/acre, 100 red pine/acre and 200 cherry/ac. Oak regen was present but not tall enough to be counted in survey mostly due to browse. East half of stand is PARVVb/AFO and the west half is AFO.
38	4199 - Other Mixed Upland Deciduous	High Density Log	81.9	91	81-110	Mixed stand of hardwoods with large red oak of good quality. Sugar maple fair to good quality same with bigtooth. Small forest pond, rolling to steep terrain. Gas well within stand. Ground cover included lily of valley, trillium and sweet cicily. Stand is made up of primarily PARVVb/AFO with small areas of AFO & PARVHa/PARVVb
39	4139 - Aspen, Mixed Deciduous	High Density Pole	71.5	48	81-110	Mixed stand of maple, aspen and red pine. Borders RPP cut that is regenerating to aspen. Good stem quality as you move towards the NW portion of stand greater red and white pine density. Rolling to steep terrain. Ten BA swings were taken with a stand average of 96, individual BA's were Sugar 9, Red Maple 9, White Ash 1, Beech 9, Paper Birch 3, Bigtooth 41, White Pine 1, and Red Pine 15. Stand is made up of primarily PARVVb/AFO with small area of PARVHa/PARVVb.
41	4131 - Aspen, Oak	Medium Density Pole	17.2	44	51-80	Hodge Podge stand of aspen, maple and oak, northern portion more hardwood with pine. Stems are not of good quality, gas well in middle of stand. Stand is made up of primarily PARVHa/PARVVb with small portions of PVCd and PARVVb.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
42	4110 - Sugar Maple Association	High Density Log	121.0	92	51-80	Mixed hardwood stand of log size. Both white ash and beech are present in the stand, beech is looking good with no signs of BBD. White ash on the other hand is not doing well and is past salvage stage, majority of trees have excessive bird peck signs and are dead, if alive ash would have added another 10 BA to the stand. Ground cover is trout lily, dutchman breeches, sweet cicily. Stand is very much park like in area, also areas of thick regen and has hilly to steep terrain. Ten BA swings were taken, stand average was 72. Stand is primarily PARVVb/AFO. There are a few small patches of AFO along the perimeter of the stand.
46	4130 - Aspen	High Density Pole	43.7	49		Stand harvested back in early 60's, mixture of bigtooth and other hardwood species of pole to log size. Calling stand pole size but it is right on the edge of log size. Not much for understory as far as density goes. Rolling to steep terrain. Stand is made up of primarily PARVHa/PArVVb with small areas of AFO, PARVVb/AFO.
47	4139 - Aspen, Mixed Deciduous	High Density Pole	108.3	32		Pole sized stand of aspen and mixed hardwoods, throughout the stand there are small individual pockets of aspen, red maple as well as some conifers. Old OI indicates some red and white pine were left from the last treatment in the late 70's early 80's. Understory vary sparse. Rolling to steep terrain with gas wells and ORV trail found in this stand. Stand is three quarters AFO and the rest is PARVVb/AFO.
48	4130 - Aspen	High Density Pole	55.4	26		Pole and sapling bigtooth of good density with an open area at the top of the ridge. Narrow band of log sized species between stand and cedar stand (57) to the East. Small wet area is also in the stand. Stand is made up of primarily PARVHa/PArVVb with small areas of AFO, PARVVb/AFO & Unclassified lowlands.
49	42110 - Planted Red Pine	Medium Density Log	16.7	77	81-110	Shelterwood cut in fall of 2006 under contract #720270501 Whitabee Lake Red Pine. Understory is heavy to aspen and red maple in a couple of areas, majority of stand has little to no understory. Regen survey showed an average of 615 red pine seedlings per acre and 75 white pine per acre. Stand is entirely PARVHa/PArVVb.
51	6120 - Lowland Cedar	High Density Pole	16.4	92	111-140	Nice cedar stand with good stem density. Windthrown openings being regenerated to balsam fir and black spruce. As you move north you start to pick up some larger aspen. Good wildlife stand. Site index was 54. Stand is primarily Unclassified lowlands with a small area of PARVHa/PArVVb.
54	4130 - Aspen	Medium Density Pole	188.3	53		In areas aspen is developing conks, large stand with mixed sizes of aspen but all with in same age class. Quality is not that great, canopy closure at the high end of 50-75. Area is rolling terrain with gas wells intermixed and Gilchrist Creek bordering the South East edge of stand. Stand is primarily PARVHa/PArVVb with areas of AFO, PARVVb and unclassified lowlands.
55	6120 - Lowland Cedar	High Density Log	7.1	86	111-140	Cedar stand with black spruce and some aspen mixed throughout. Gilchrist creek runs through the stand, east of the river more aspen. This stand has been site conditioned for Riparian management zone. Site index was 60. Three BA swings were taken average BA was 132, specie aves were Black Spruce 56, Cedar 63 and aspen 13. Stand is entirely unclassified lowlands.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
56	6127 - Lowland Pine	Medium Density Log	11.5	75	1-50	Stand borders Gilchrist Creek, need portable bridge to access this stand. All of stand would fall within the RMZ for Gilchrist Creek. Nice wildlife corridor. Stand is almost all unclassified lowlands with a small area of PARVVb.
57	4130 - Aspen	High Density Log	28.0	54		Aspen stand with fair quality stems. Good species diversity, lowland along western edge. Rolling terrain. Access an issue need to cross Gilchrist creek to access. Stand is a mix of AFO, unclassified lowland and PARVVb.
58	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	8.6	86	111-140	Lowland conifer stand dominated by cedar, along perimeter of stand higher density of deciduous trees. Large amounts of down woody debris, stand water was present during the inventory. Site index 58. Stand is entirely Unclassified Lowland.
59	4130 - Aspen	High Density Log	109.6	53		Diverse stand of log and pole size material. Aspen is the dominate species with a mixture of associated hardwood species. There are a couple of small cedar pockets found in this stand of rolling terrain. There are two small creeks that flow through this stand one borders along the western edge and the other is located in the NE corner along the stand line with Stand 63. This creek disappears so it may be more of a ephemeral stream that is not mapped. Majority of stand is upland but there are areas with lowland associated species and as you move north it becomes more lowland. Oak is located in the SW corner of the stand this portion of stand very park like. Stand is primarily AFO with pockets of Unclassified Lowland.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	3102 - Grass	1.0	No	Low	Merit Energy Well Site Permit #50590 Clinton A1-5
10	3102 - Grass	2.0	No	Low	Merit well site, C2-5HDS
14	3102 - Grass	8.0	Yes	Low	wildlife opening
15	3102 - Grass	1.0	No	Low	Terra Energy Co well site Well # 5-8 Permit #47162
19	3102 - Grass	1.0	No	Low	Breit Burn permit 55122
21	3102 - Grass	1.0	No	Low	Merit Energy Well Site Permit # 54382 Clinton D4-5
22	3102 - Grass	1.1	No	Low	Merit energy well site B1-4.
24	3102 - Grass	1.0	No	Low	Briet Burn Well Site Permit #56076 Elmer-Clinton A3-18
27	3102 - Grass	1.0	No	Low	Gas Well Terra Energy LTD Permit #47139 St Clinton 11-8 HDL
30	3102 - Grass	1.2	No	Low	TERRA ENERGY WELL SITE PERMIT# 54779 State Clinton A4-18
31	3102 - Grass	1.8	No	Low	Open area used for deer camps.
33	3102 - Grass	1.0	No	Low	Terra Energy permit 52270
35	3102 - Grass	1.0	No	Low	Breit Burn permit #55768 Elmer-clinton B1-18.
40	3102 - Grass	1.0	No	Low	Breit Burn well site Permit # 55375 ELMER-CLINTON B3-18



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
43	3102 - Grass	1.0	No	Low	Terra Energy Gas Well Clinton 16-8 Permit # 47140
44	3102 - Grass	1.1	No	Low	Terra Energy well site
45	3102 - Grass	1.0	No	Low	Merit energy pumping station. State Clinton C4-18.
50	3102 - Grass	1.0	No	Low	Merit Energy well site. State Clinton D3-18
52	50 - Water	7.9	No	Low	Potts Lake, two water bodies with surrounding vegetation for lowland shrubs and sapling sized trees occupying areas that were once underwater.
53	3102 - Grass	1.0	No	Low	BrietBurn D1-3HD well site.
60	3102 - Grass	1.7	Yes	Low	wildlife opening or former well site. No visual sign of well.