



# COMPARTMENT REVIEW PRESENTATION

## GAYLORD FOREST MANAGEMENT UNIT

### COMPARTMENT: 2

ENTRY YEAR: 2013

ACREAGE: 1,268

COUNTY: Otsego

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**Revision Date:** 05/20/2011

**Stand Examiner:** Ken Phillips

**Legal Description:** T29N-R01W, Sections 4-8

**Management Goals:** To provide for the protection, integrated management and responsible use of a healthy, productive, and undiminished forest resource base for the social, recreational, environmental, and economic benefit of the State of Michigan.

**Soil and Topography:** This compartment is quite flat with no upland topographical features that would restrict equipment operability. Lindquist sand is the dominant soil type supporting stands of higher quality timber. Lower quality stands are associated with the more excessively drained Rubicon, Graycalm and Mancelona sands. The few isolated lowland areas within the compartment are typically found on Dawson/Loxley peats.

**Ownership Patterns, Development, and Land Use in and Around the Compartment:** No private property in-holdings occur within the compartment. Numerous private parcels do, however, adjoin exterior compartment boundaries. A wide electric transmission line easement crosses through the compartment in section 4 and numerous Antrim gas wells and associated flow lines are in production within the compartment.

**Unique, Natural Features:** A recent search of the Michigan Natural Features Inventory database returned a notation indicating the possible presence of the Ram's head lady's slipper (*Cypripedium arietinum*) in section 4.

**Archeological, Historical, and Cultural Features:** A search of the Archeological Concerns database did not identify any recorded features.

**Special Management Designations or Considerations:** None

**Watershed and Fisheries Considerations:** Mud Lake is located in the northeast corner of section 6. This is a very shallow body of water which has drastically diminished in size during recent years.

**Wildlife Habitat Considerations:** This compartment consists mostly of upland areas with a small lake (Mud Lake) and associated wetlands in the northeast corner of section 6. This lake/wetland complex is used by a variety of wetland species including ducks, geese, beaver, otter, shorebirds, and various amphibians. The rest of this compartment contains a mix of upland habitats consisting mostly of aspen and oak with some red and jack pine. Stands 17, 28, half of 30, 40, 51, 52, 53, 58, and 96 are going to be clear cut to provide early successional forests favored by deer, grouse, woodcock, and wild turkey and to regenerate the oak for future mast production. Scattered mature oak in clumps and patches are going to be left in these stands for a seed source and current mast production. This compartment receives considerable hunting pressure for deer, wild turkey, grouse, woodcock, and waterfowl.

**Mineral Resource and Development Concerns and/or Restrictions:** Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 600 and 1,000 feet. Beneath the glacial drift is the Coldwater Shale. The Coldwater does not have an economic use. The nearest gravel pit is located 1/2 mile to the north, and gravel potential is possible. Most of the State land in the compartment has been leased for oil and gas development. The Antrim Shale has been completely developed. Oil and gas potential from the Guelph (Niagaran) reef trend is possible, but limited.

**Vehicle Access:** Access is good throughout the compartment, due in large part to the continuing Antrim gas development.

**Survey Needs:** It is possible that survey work will be required in order to identify private property boundaries in section 7 and 8 before carrying out prescribed treatments.

**Recreational Facilities and Opportunities:** The Crapo Creek ORV trail passes through sections 6 and 7.

**Fire Protection:** This compartment is composed of generally low risk fuel types. The existing road network would provide easy access to most off road areas within the compartment.

**Additional Compartment Information:**

- **The following 3 reports from the IFMAP Inventory System are attached:**
  - ◆ **Cover Type by Age Class**
  - ◆ **Proposed Treatments – No Limiting Factors**
  - ◆ **Proposed Treatments – With Limiting Factors**
  
- **The following information is displayed, where pertinent, on the attached compartment maps:**
  - ◆ **Base feature information, stand numbers, cover types**
  - ◆ **Proposed treatments**
  - ◆ **Proposed road access system**
  - ◆ **Suggested potential and current SCA's**

# Cover Type & Treatment Map

Compartment 002  
 T29N, R01W, Sec. 4-8  
 County: Otsego  
 Unit: Gaylord  
 YOE: 2013  
 Acres: 1,268 GIS Calculated  
 Stand Examiner: Ken Phillips  
 Map Revised: 5/23/2011  
 Map Phase: Pre-Review

### Legend

- Miris Corners
- Remonumented Section Corners
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Bike Trail
- Horse Trail
- Hiking Trail
- Ski Trail
- Motorcycle (DNR Sticker)
- Motorcycle (SOS License)
- ORV Trail
- ORV Route
- Snowmobile Trail

### Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Selection (Group, Single Tree)
- Planting (tree species)
- Site Preparation

### Forest Stands

Level 3

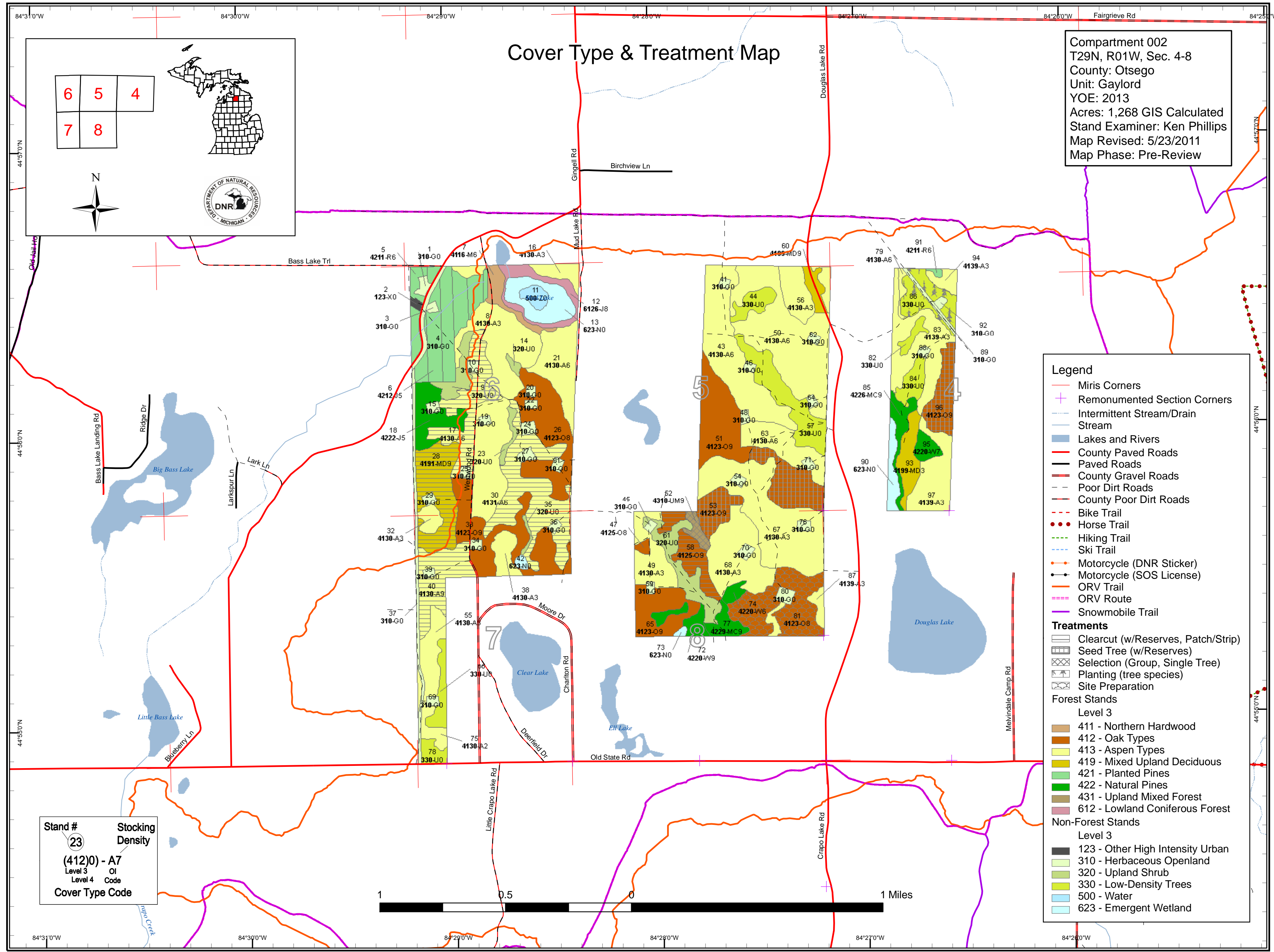
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 612 - Lowland Coniferous Forest

### Non-Forest Stands

Level 3

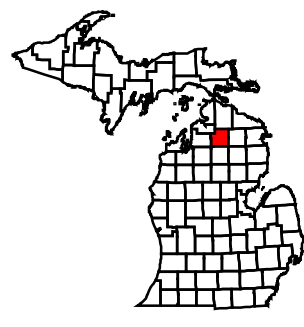
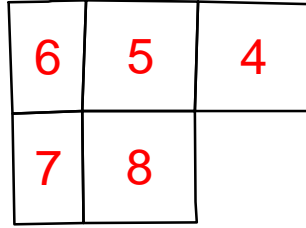
- 123 - Other High Intensity Urban
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 623 - Emergent Wetland

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



# Stand Boundary Map

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**Legend**

- Miris Corners
- + Remonumented Section Corners
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- - - Bike Trail
- Horse Trail
- - - Hiking Trail
- - - Ski Trail
- Motorcycle (DNR Sticker)
- Motorcycle (SOS License)
- ORV Trail
- ORV Route
- Snowmobile Trail
- Intermittent Stream/Drain
- Stream
- Stand Boundaries

**Forest Stands**

**Level 3**

- 411 - Northern Hardwood
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**Non-Forest Stands**

**Level 3**

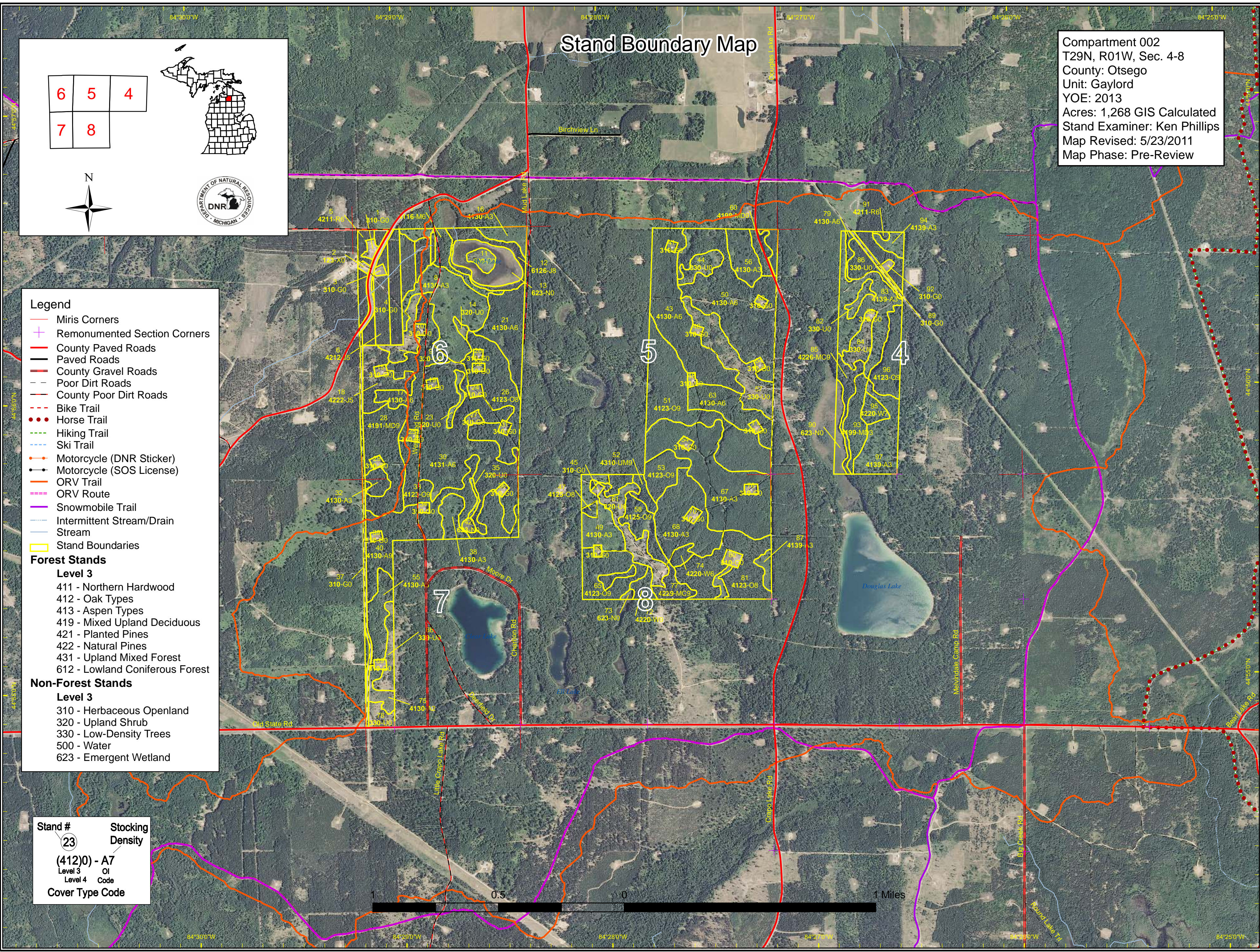
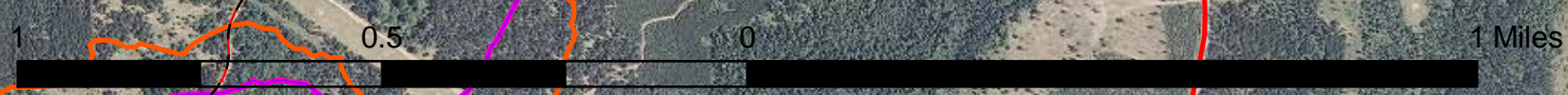
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- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 623 - Emergent Wetland

**Stand #**  
 23

**Stocking Density**  
 (412)0 - A7

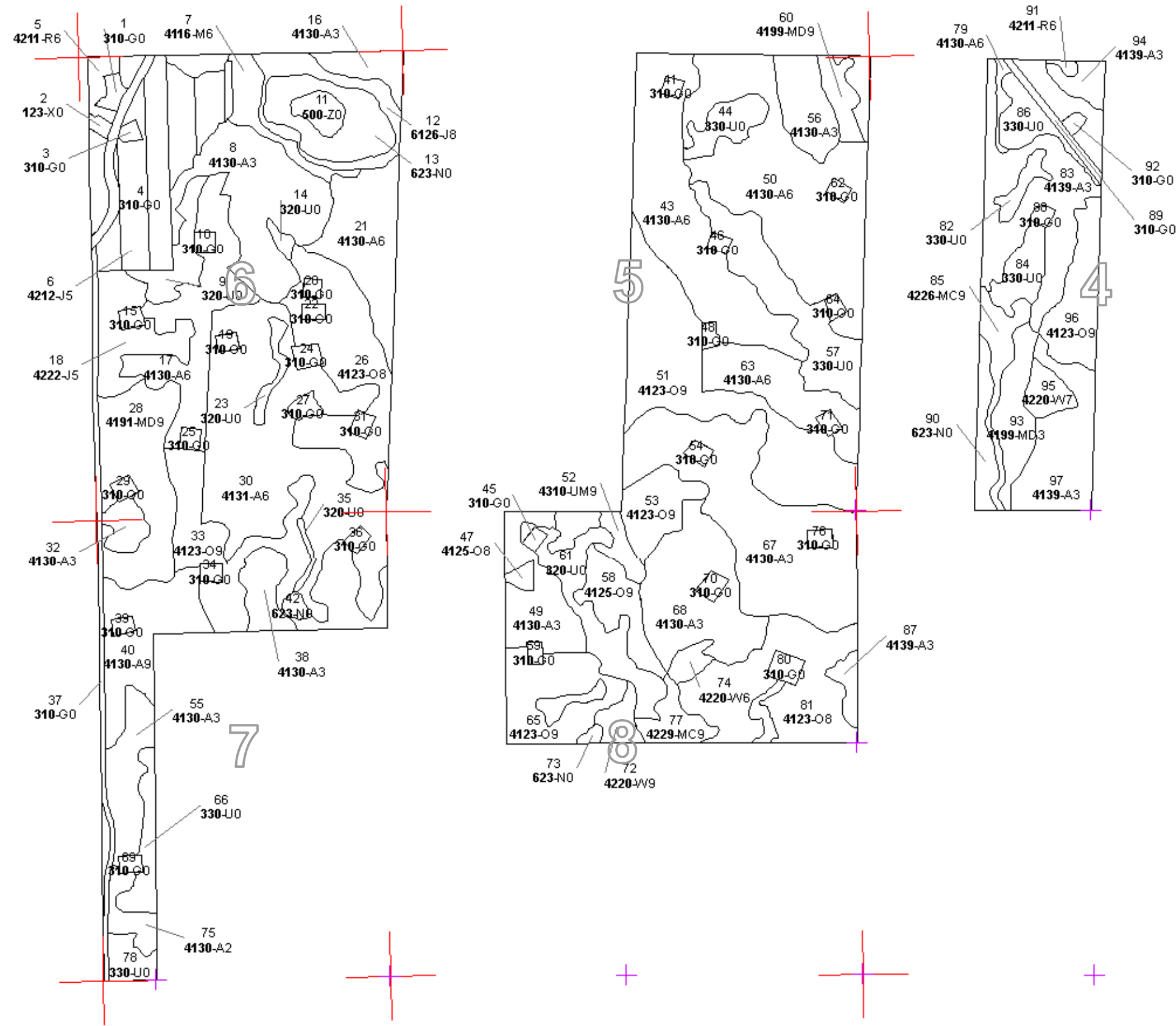
Level 3 OI  
 Level 4 Code

**Cover Type Code**



# Dedicated & Proposed Special Conservation Area Map

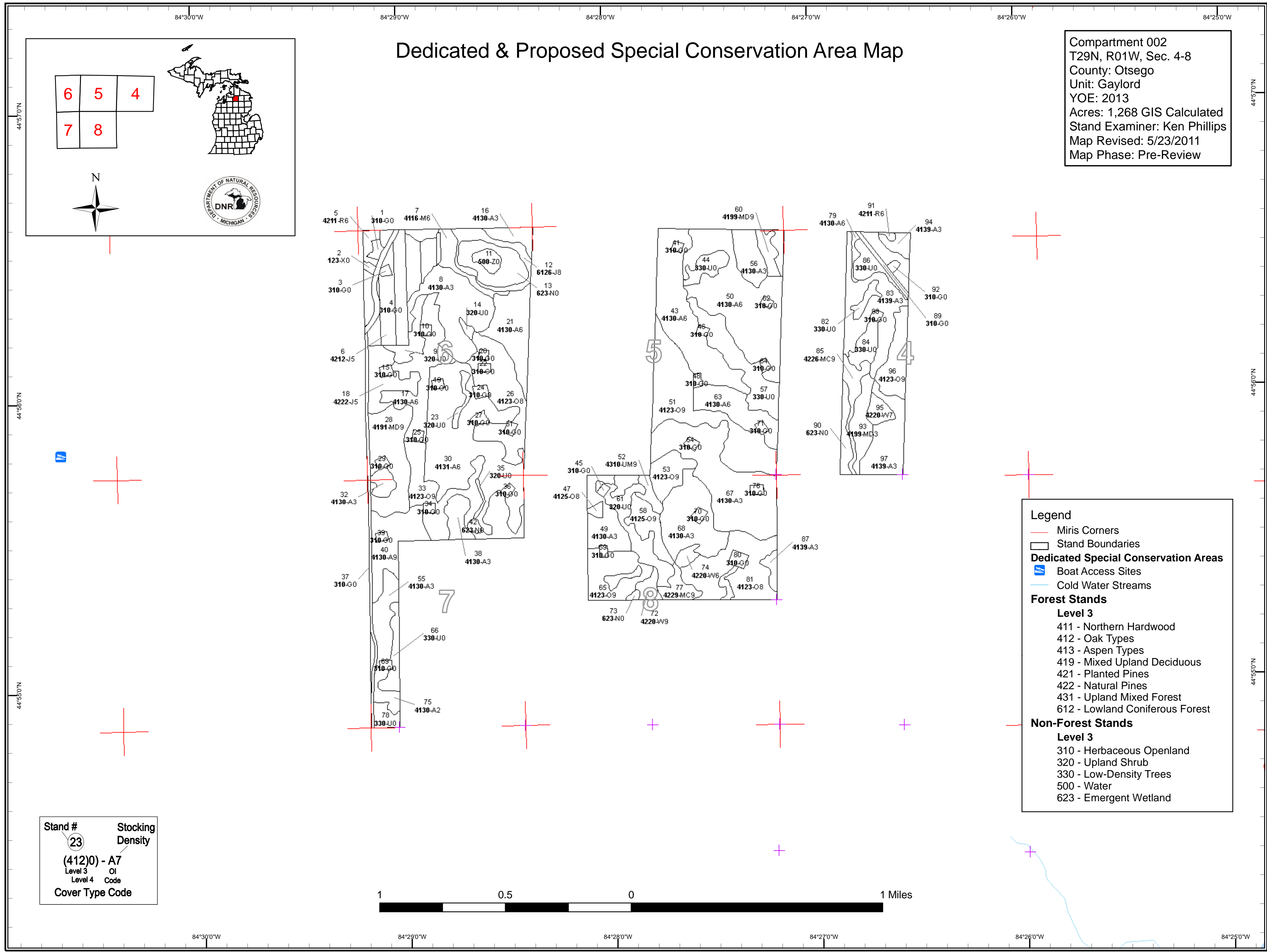
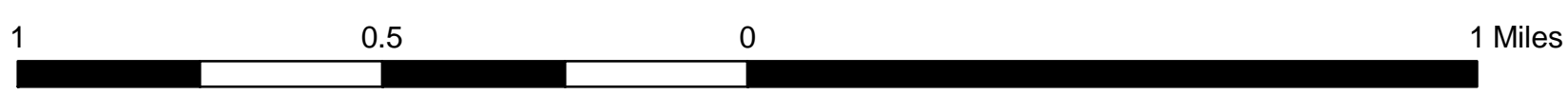
Compartment 002  
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 Map Revised: 5/23/2011  
 Map Phase: Pre-Review



**Legend**

- Miris Corners
- Stand Boundaries
- Dedicated Special Conservation Areas**
- ⊡ Boat Access Sites
- Cold Water Streams
- Forest Stands**
- Level 3**
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
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- Non-Forest Stands**
- Level 3**
- 310 - Herbaceous Openland
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- 330 - Low-Density Trees
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**Stand #**  
 23  
**Stocking Density**  
 (412)0 - A7  
 Level 3 OI  
 Level 4 Code  
**Cover Type Code**



**Table 1 – Total Acres by Cover Type and Age Class**

Kendal Phillips : Examiner



	Age Class														Total	
	Non-Forested	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +		Unretn Age
Aspen	0	156	18	106	173	114	0	0	32	26	0	0	0	0	0	625
Herbaceous Openland	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56
Jack Pine	0	0	0	0	0	0	24	0	30	0	0	0	0	0	0	54
Low-Density Trees	79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79
Marsh	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
Mixed Upland Deciduous	0	0	0	13	0	0	0	0	0	41	0	0	0	0	0	54
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	17
Northern Hardwood	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9
Oak	0	0	0	0	0	0	0	0	0	250	0	0	0	0	0	250
Red Pine	0	0	0	0	0	1	31	0	0	0	0	0	0	0	0	32
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5
Upland Shrub	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
Urban	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Water	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
White Pine	0	0	0	0	0	3	0	0	0	6	8	0	0	0	0	17
<b>Total</b>	<b>205</b>	<b>156</b>	<b>18</b>	<b>119</b>	<b>173</b>	<b>118</b>	<b>55</b>	<b>0</b>	<b>62</b>	<b>349</b>	<b>8</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1268</b>



## Table 2 – Proposed Treatment Summaries

**Gaylord Mgt. Unit**  
**Year of Entry 2013**

**Compartment 002**  
**Total Compartment Acres: 1268**

### Acres by Treatment Type

Commercial Harvest - 221	Site Prep - 41	Tree Planting - 17	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	Tree Seeding - 0	Pesticide - 0	

### Cover Type by Harvest Method

		Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
<b>Aspen</b>	110	0	0	0	0	0	0	110
<b>Mixed Upland Deciduous</b>	34	0	0	0	0	0	0	34
<b>Oak</b>	17	0	55	0	0	0	0	72
<b>Upland Mixed Forest</b>	0	5	0	0	0	0	0	5
<b>Total</b>	<b>162</b>	<b>5</b>	<b>55</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>221</b>





S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
17	52002017-Cut	32.1	4130 - Aspen	High Density Pole	75	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> --Kendal Phillips : 05/18/2011 comments:</p> <p><u>Specs:</u> Final harvest leaving clumps of individually marked oak to leave as residual both for mast and aesthetics similar to what was done previously in the adjacent stand #9. The ORV trail passes through this stand so try to leave some of the residual along the trail when possible.</p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> The goal is to regenerate this stand naturally to a mix of aspen, maple, oak and pine.</p>									
28	52002028-Cut	34.5	4191 - Mixed Upland Deciduous with Conifer	High Density Log	85	Harvest	Clearcut with Reserves	4116 - Mixed N. Hardwood - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> --Kendal Phillips : 05/18/2011 comments:</p> <p><u>Specs:</u> Final harvest leaving no more than 10 - 20 square feet of individually marked residual trees. Oak should be favored when choosing residual trees to leave but some nicely formed red and white pine can be left as well. The ORV trail passes through this stand so try to leave some of the residual along the trail when possible.</p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> The goal is to naturally regenerate this stand to a mix of aspen, maple, oak and pine.</p>									
30	52002030-Cut	51.8	4131 - Aspen, Oak	High Density Pole	42	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest leaving no more than 10 - 20 square feet of individually marked oak leave trees throughout the stand.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> The portion of the original stand lying west of the valley will be left for ten more years. This large stand was cut in 1969 and we are attempting to break up the age classes within the compartment by harvesting this portion at an earlier age than would be typical.</p> <p><u>Next Steps:</u> Goal is to naturally regenerate this stand to a mix of aspen, maple, oak and pine.</p>									
40	52002040-Cut	26.5	4130 - Aspen	High Density Log	80	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> --Kendal Phillips : 05/18/2011 comments:</p> <p><u>Specs:</u> Final harvest leaving scattered clumps of 2-6 large crowned oak and pine as residual. Residual should not total more than 3-5% of the harvested area. The ORV trail passes through this stand so try to leave some of the residual along the trail when possible. Also make an effort to leave residual clumps close to any private residences within the adjacent subdivision</p> <p><u>Other Comments:</u> Existing survey corners should be sufficient for identifying private boundary lines.</p> <p><u>Next Steps:</u> The goal is to naturally regenerate the stand to a mix of aspen, oak, maple and pine. This is not a high quality site so some sparse patches are expected.</p>									
51	52002051-Cut	23.9	4123 - Red Oak	High Density Log	85	Harvest	Seed Tree	4123 - Red Oak	Cmpt. Review Proposal
<p><u>Prescription</u> --Kendal Phillips : 05/18/2011 comments:</p> <p><u>Specs:</u> Harvest leaving no more than 20 - 30 square feet of high quality, individually marked oak trees as a residual mast source. The timber sale contract must specify tree length skidding. The harvest is to be followed up by artificial scarification using anchor chains in an effort to help encourage the success of natural acorn regeneration.</p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> The goal is to significantly open up the canopy of this stand to encourage a mix of natural oak, aspen and maple regeneration.</p>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
52	52002052-Cut	4.6	4310 - Pine, Oak Mix	High Density Log	100	Harvest	Single Tree Selection	42201 - Natural White Pine, Mixed Deciduous	Cmpt. Review Proposal
<u>Prescription</u> --Kendal Phillips : 05/18/2011 comments:									
<u>Specs:</u> Individually mark trees to remove marking down to about 80 square feet. The goal should be to leave the higher quality red pine, white pine and oak while protecting the developing white pine understory.									
<u>Other</u> <u>Comments:</u> The private property line to the north will take work to identify. No good survey corners were found during inventory.									
<u>Next</u> <u>Steps:</u> The goal is to create a mixed age stand with natural pine regeneration the preferred result recognizing, however, that natural aspen, maple and oak regeneration will also occur.									
53	52002053-Cut	13.4	4123 - Red Oak	High Density Log	80	Harvest	Seed Tree	4124 - Red with White Oak	Cmpt. Review Proposal
<u>Prescription</u> --Kendal Phillips : 05/18/2011 comments:									
<u>Specs:</u> Harvest leaving no more than 20 - 30 square feet of high quality, individually marked white and red oak trees as a residual mast source. Timber sale contract must specify tree length skidding during non-snow covered conditions to encourage natural scarification.									
<u>Other</u> <u>Comments:</u> Quite a lot of work may be required to locate the private property lines. No good survey corners were found during inventory near this stand.									
<u>Next</u> <u>Steps:</u> The goal is to open the canopy significantly so as to encourage both seed origin and stump sprout origin oak reproduction. A mix of natural aspen, maple and pine is to be expected as well.									
58	52002058-Cut	16.9	4125 - Black, N. Pin Oak	High Density Log	80	Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal
<u>Prescription</u> Final harvest leaving no more than 10 - 20 square feet of scattered individually marked oak trees as residual throughout the stand.									
<u>Specs:</u>									
<u>Other</u> <u>Comments:</u>									
<u>Next</u> <u>Steps:</u> This is generally a low quality stand. It is expected that oak stump sprout regeneration will be dominant but some natural aspen and red maple regeneration is also expected.									
96	52002096-Cut	17.4	4123 - Red Oak	High Density Log	80	Harvest	Seed Tree	4123 - Red Oak	Cmpt. Review Proposal
<u>Prescription</u> Harvest leaving a maximum of 20 - 30 square feet of individually marked oak trees as residual for mast production.									
<u>Specs:</u>									
<u>Other</u> <u>Comments:</u> The private property line should be easily identifiable. This harvest with no follow up treatments will help serve as a control when comparing the success of other post-harvest site preparation treatments taken in similar stands within the compartment.									
<u>Next</u> <u>Steps:</u> The goal is to severely open the canopy to encourage naturally occurring oak, maple and aspen regeneration. It is expected that most of the oak regeneration will be sprout origin rather than seed source.									
81	52002081- Prep	40.8	4123 - Red Oak	Medium Density Log	85	Site Prep	Scarification	4124 - Red with White Oak	Cmpt. Review Proposal
<u>Prescription</u> --Kendal Phillips : 05/18/2011 comments:									
<u>Specs:</u> Scarify this stand with anchor chains in an attempt to encourage natural oak regeneration.									
<u>Other</u> <u>Comments:</u>									
<u>Next</u> <u>Steps:</u> The goal is to encourage natural oak regeneration. A mix of associate species including maple, aspen and pine would be acceptable.									

**Table 3 -- Treatments Prescribed  
with No Limiting Factor**

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	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
86	NF_52002086-Plant	16.8	Non-Forested		0	Tree Planting	Hand Plant	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription: Stand is already under contract to plant in the spring of 2011.

Specs:

Other: Stand was cut out of Y.O.E. as part of the red pine project.

Comments:

Next Steps: Need to follow up the planting with a regeneration survey.

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**Total Treatment  
Acreage Proposed: 278.6**

**Table 4 -- Treatments Prescribed with a Limiting Factor**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Error

Prescription Specs:

Other Comment:

Next Steps:

Limiting Factor and No Treatment Reason

**Total Treatment Acreage Proposed: 0**

Out of YOE -- Treatments  
Prescribed with No Limiting Factor

Year of Entry: 2013



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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Prescription  
Specs:

Other  
Comments:

Next  
Steps:

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**Total Treatment  
Acreage Proposed: 0**

S  
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a  
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## Gaylord Mgt. Unit

## 5 – Forested Stands

Compartment: 002  
Year of Entry: 2013

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
5	42110 - Planted Red Pine	High Density Pole	31.3	56	111-140	This stand was row thinned in 2005. No trees were removed from the residual rows. The understory of the stand is still quite light.
6	42120 - Planted Jack Pine	Medium Density Pole	24.0	56	51-80	This stand was thinned in 2005 when the adjacent red pine was thinned. Since rows in this jack pine stand were irregular, the harvest specs simply called for removing 10 foot wide alternating strips. A fairly vigorous hardwood understory is now developing due to the low canopy stocking level. The quality of this stand is generally quite low.
7	4116 - Mixed N. Hardwood - Aspen	High Density Pole	9.1	80	81-110	This is a low quality stand. Red maple is dominant overall but aspen is concentrated in some portions of the stand. There is a very heavy shrub understory in this stand. This stand was left uncut when adjacent stands were harvested most likely so that it could serve as a buffer to Mud Lake.
8	4130 - Aspen	High Density Sapling	43.9	7	1-50	This stand was cut in 2004. Scattered oak residual was marked to leave. Most of this residual was left in clumps rather than individual trees. Aspen regen is dominate but there is a lot of hardwood regen as well. Most of the aspen is about 15 feet tall.
12	6126 - Lowland Jack Pine	Medium Density Log	12.6	75	51-80	This stand rings Mud Lake. Most of the stand has leatherleaf in the understory but the stand is not really wet. Due to the lower water tables, young jack pine is expanding into areas that were previously part of the lake. Much of this regen is advanced already approaching 4 inches in DBH. The main stand is much older and will soon be experiencing mortality.
16	4130 - Aspen	High Density Sapling	7.3	7	1-50	This was cut in 2004 along with stand #9. Aspen regen is dominate and averages about 15 feet tall. Some oak residual was marked to leave.
17	4130 - Aspen	High Density Pole	32.1	75	81-110	This stand has not been treated in recent history. It certainly should be considered for harvest this Year of Entry. Travel influence is a concern but Westwood Road is only a seasonal road and is not heavily used by the general public.
18	42221 - Natural Jack Pine, Mixed Deciduous	Medium Density Pole	17.6	70	51-80	This is not a fully stocked stand. The jack pine is generally low quality as is the aspen. The stand does have a lot of deer sign in it so at least it is providing cover.
21	4130 - Aspen	High Density Pole	27.0	42	81-110	This stand was cut in 1969 and then tsi'd in 1974. The aspen regen has now reached merchantable size. The red maple is lagging behind the aspen as far as growth is concerned with most of the maple regen being in the sub-canopy. Lots of natural thinning has already taken place among the aspen component. Very little oak was left as residual in this stand - the notable exception is a small 2-3 acre patch on the west edge of the stand along Mud Lake Road. I would prefer to let this stand go another ten years before we consider a harvest.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
26	4123 - Red Oak	Medium Density Log	37.9	80	51-80	This stand was treated in 1969 along with stands #19 and #27. My assumption is that everything was cut except for the oak. The regen that resulted from that harvest is primarily red maple but aspen is also found throughout. Some of the regen has made it to merchantable size but not to the degree that it has in the adjacent stand #19.
28	4191 - Mixed Upland Deciduous with Conifer	High Density Log	34.5	85	81-110	This is an extremely variable stand. It does have a significant component of large diameter red and white pine which distinguish this stand from those that surround it. Aspen and red maple within this stand are both large diameter. We should at least consider some type of a partial harvest here this Year of Entry.
30	4131 - Aspen, Oak	High Density Pole	87.0	42	51-80	This stand was cut in 1969 and then tsi'd in 1974-1975 along with stands #19 and #24. My assumption is that everything was cut except for the oak. This stand has more oak residual than stand #19 but not nearly as much as stand #24. The regeneration here is the dominant feature but it is certainly not as nice as in stand #19.
32	4130 - Aspen	High Density Sapling	5.4	36	1-50	This stand was cut in 1975. Oak and pine residual were left throughout. Given the age of the harvest I am surprised that this still has not reached merchantable size. Most of the recorded basal area is for the residual trees.
33	4123 - Red Oak	High Density Log	41.5	85	81-110	It does not appear that this has been treated in recent history. This is predominately a sawlog oak stand with some big aspen scattered throughout. The easternmost lobe of the stand has an area of large white pine mixed in that is starting to develop a heavy white pine understory.
38	4130 - Aspen	High Density Sapling	9.1	7	1-50	This was harvested in 2004. All oak was left as one of the sale specifications. Some of this residual oak has since died. The aspen regen is doing very well averaging 15-20 feet tall.
40	4130 - Aspen	High Density Log	26.5	80	81-110	This is a mature aspen stand that really needs to be cut so that the stand can be regenerated. There is not much pine in this stand as compared to stand #110 adjacent to the north. This is not high quality aspen but it should still be vigorous enough to regenerate sufficiently.
43	4130 - Aspen	High Density Pole	53.6	39	81-110	This stand was harvested in 1972. There does not appear to have been any residual oak left in this harvest area. This is very nice aspen regen although the southern portion of the stand tends to be lower quality than the northern portions. There is a lot of dead material on the ground due to natural thinning. That combined with a heavy shrub understory makes this stand kind of hard to get through.
47	4125 - Black, N. Pin Oak	Medium Density Log	1.7	85	51-80	This was part of a 2004 sale that included the final harvest of stand #45 immediately adjacent. This portion of the sale had all of the oak left for residual. This is not really high quality red oak but I imagine it may still produce some mast.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
49	4130 - Aspen	High Density Sapling	19.3	7	1-50	This was harvested in 2004. There are widely scattered oak residual trees in addition to the larger reserve area that I called stand #97. There are also some larger white pine sapplings scattered around that were probably left following the harvest as well. This is decent aspen regen most of which is about 15 feet tall. Some areas of the stand though are actually dominated by other hardwood species.
50	4130 - Aspen	High Density Pole	72.4	39	1-50	According to records this stand was part of a large timber harvest done in 1972. In general the resulting regen in this stand is much lower quality than the adjacent stand #39. Occasional patches of better quality regen do occur but these are small. Occasional oak appear to have been left in this portion of the sale area.
51	4123 - Red Oak	High Density Log	57.9	85	111-140	This is nice quality red oak. Very little aspen is mixed in except along the edges of the stand. Stand has a light understory.
52	4310 - Pine, Oak Mix	High Density Log	4.6	100	81-110	This stand is quite variable in composition but the amount of conifers in this stand makes it unique to the area. Some portions are heavy to red pine logs while others have more white pine poles. The stand essentially occupies a west facing slope.
53	4123 - Red Oak	High Density Log	13.4	80	111-140	This is a nice quality stand of small oak logs similar to stand #42 further to the north. White pine is quite prevalent in the understory, most likely having seeded in from the adjacent stand #47.
55	4130 - Aspen	High Density Sapling	16.8	34	1-50	This stand is similar to stand #108 further to the north. This stand was harvested in 1977 but it does not seem to be growing. Only occasional stems of the aspen regen have reached merchantable size. Scattered oak residual was left throughout. Most of the recorded basal area is made up of the residual trees.
56	4130 - Aspen	High Density Sapling	17.7	15		This was part of a 1993 harvest. The two areas making up this stand were cut leaving only a few widely scattered residual oak. The resulting regen is very nice, with most of the aspen between 30-40 feet tall.
58	4125 - Black, N. Pin Oak	High Density Log	16.9	80	81-110	This is a lower quality stand especially when compared to oak stands to the east. Oak is dominate but a lot of other species are also well represented. The aspen is generally large diameter and poorly formed.
60	4199 - Other Mixed Upland Deciduous	High Density Log	6.3	80	51-80	This was part of a 1993 harvest. This portion of the sale only involved the removal of the aspen component from that portion of the stand on the west side of Douglas Lake Road. As such there still is some mature aspen on the east side of the road. The entire stand though has significant regen encroaching from the edges of the clearcut areas.





Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
63	4130 - Aspen	High Density Pole	22.4	30	1-50	According to records this stand was harvested by numerous small operators during the early 1980's. The resulting regen has just started to reach merchantable size classes. This is very similar in many respects to stand #94 in section 4. There does appear though to be some larger maple here - it is possible that these were sub-merchantable stems at the time of harvest.
65	4123 - Red Oak	High Density Log	22.6	85	81-110	This oak stand has a nicely developing white pine understory. The basal area really is not high enough to warrant a thinning at this time.
67	4130 - Aspen	High Density Sapling	68.9	27		This stand was cut in 1984 leaving no residual. The resulting regen is very nice with most of the aspen 40-50 feet tall. An occasional stem is of merchantable size but overall this is a sapling stand.
68	4130 - Aspen	High Density Sapling	36.8	27		This stand was cut in 1984 along with the adjacent stand #60. This portion of the sale lies on a slight west facing side hill and is of significantly lower quality. Much more oak and white pine in this stand and the aspen regen is noticeably shorter.
72	42200 - Natural White Pine	High Density Log	8.0	90	111-140	Two small areas of native pine with some large diameters represented. The northwestern portion of this stand occupies a depressional area and the slopes that surround it. The understory is quite thick but variable in composition. Some areas of dense red maple exist most likely where there was past blowdown.
74	42200 - Natural White Pine	High Density Pole	3.4	40	1-50	This stand was included in the same 1984 harvest of stands #60 and #65 adjacent. I believe that this area of the sale had sub-merchantable white pine that were left during the harvest which is why this stand is now more advanced than the adjacent aspen regen. Aspen and red maple regen is scattered throughout the stand.
75	4130 - Aspen	Medium Density	6.2	7	1-50	This stand was harvested in 2004. Some oak and pine residual was left. The resulting regen is generally poor quality. For the most part the aspen is only about 5-10 feet tall. The best area of the stand is in the northern portion near the well site.
77	42290 - Natural Mixed Pine	High Density Log	7.6	80	51-80	This is an area of over-mature jack pine that is falling apart. There are scattered low quality red pine throughout. I would like to leave this stand as is since it serves to screen the gas facility to the south both visually and from the standpoint of sound isolation.
79	4130 - Aspen	High Density Pole	2.1	30	1-50	This stand is regen that is just starting to reach merchantable size. There is no record of a cutting but so I have no way to know what the history of the stand is. It should have been included with one of the adjacent harvests because it is too small to really manage by itself.
81	4123 - Red Oak	Medium Density Log	40.8	85	51-80	This stand was selectively thinned in 2006. Occasional species other than oak were left for diversity. Surprisingly the understory has not really taken off yet.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
83	4139 - Aspen, Mixed Deciduous	High Density Sapling	34.3	7	1-50	This was cut in 2004 along with stand # 91 to the south. Residual oak were individually marked to leave. This portion of the sale is coming back quite well with the aspen averaging 10-15 feet.
85	42260 - Natural Pine, Mixed Deciduous	High Density Log	9.6	80	81-110	For the most part this stand lies on a west facing side hill that leads down to a lowland area. The jack pine component of the stand has been dying out over the last several years. A fairly heavy understory is developing as a result. This stand has obviously been left uncut during previous harvest operations most likely in an effort to protect the side hill.
87	4139 - Aspen, Mixed Deciduous	High Density Sapling	6.3	5		These two harvest areas were cut in 2006 as part of a larger sale that included the selective thinning of the adjacent oak stand. These area were essentially clearcut although a few oak residual stems were left. The resulting regen is about 10-15 feet tall with the east portion doing better than the west portion.
91	42111 - Planted Red Pine, Mixed Deciduous	High Density Pole	0.8	49	81-110	This stand was planted in 1962 along with the adjacent stand #80. I am not sure why this stand was not cut when stand #80 was. Most likely it was due to the fact that this stand was not quite as pure of a plantation. This stand is quite diverse with a significant hardwood component.
93	4199 - Other Mixed Upland Deciduous	High Density Sapling	13.3	27	1-50	This stand was cut in 1984 leaving some residual red pine. Very little aspen regen is present. Appears to be a pretty low quality site. Oak stump sprouts seem to be doing the best as many are nearing 4 inches in DBH.
94	4139 - Aspen, Mixed Deciduous	High Density Sapling	5.0	7	1-50	This stand was harvested in 2004 along with stand #77 on the west side of the power line. A few residual oak are scattered throughout. The regen is pretty nice averaging 10-15 feet tall.
95	42200 - Natural White Pine	Low Density Log	5.6	85	1-50	This stand was cut in 2004 when the adjacent stand #91 was also cut. This portion of the harvest area left all pine as part of the cutting specs. This is quite a sparse stand but the pine overstory is definitely more dominate as compared to the understory.
96	4123 - Red Oak	High Density Log	17.4	80	81-110	This is a nice stand of red oak that does not appear to have been treated in the recent past. We could conduct a light selective thinning in an effort to encourage oak regeneration either through seed source or stump sprouts.
97	4139 - Aspen, Mixed Deciduous	High Density Sapling	24.5	7	1-50	This stand was cut in 2004 along with stands #77 and #89. Residual oak were individually marked to leave. This is not a high quality site with the regen being much poorer overall than in stand #77. The aspen is still averaging 10-15 feet tall but there is a higher amount of cherry and oak in this stand.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	310 - Herbaceous Openland	1.9	No	Unspecified	Appears to be either a dry hole location or an abandoned well site.
2	123 - Other High Intensity Urban	1.0	No	Unspecified	CPF site with a compressor building and tank battery. Most of the stand area is occupied by infrastructure.
3	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
4	310 - Herbaceous Openland	5.6	No	Unspecified	Cleared area parallel to Gingell Road used for a utility corridor.
9	320 - Upland Shrub	9.6	No	Unspecified	Semi-open area of primarily cherry with some scattered hardwood and pine.
10	310 - Herbaceous Openland	1.3	No	Unspecified	Active gas well site.
11	50 - Water	4.8	No	Unspecified	This is the current extent of Mud Lake. It is far smaller than in previous years.
13	623 - Emergent Wetland	18.8	No	Unspecified	1998 aerials show that this was once part of Mud Lake. The boundaries of the lake have since receded and this area is now just lowland that surrounds the lake.
14	320 - Upland Shrub	1.5	No	Unspecified	This is a depression with scattered cherry.
15	310 - Herbaceous Openland	1.3	No	Unspecified	Active gas well.
19	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
20	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
22	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
23	320 - Upland Shrub	3.2	No	Unspecified	A semi-open valley with mostly cherry but there is also some scattered scrub jack pine and a few mature red pine.
24	310 - Herbaceous Openland	1.7	No	Unspecified	Appears to be either a dry hole location or an abandoned well site.
25	310 - Herbaceous Openland	1.2	No	Unspecified	Active gas well site.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
27	310 - Herbaceous Openland	1.8	No	Unspecified	Semi-open area of cherry but there are also numerous red pine poles that appear to be all the same age so they may have been planted. There are rectangular depressions in the northeast and southwest corners of the stand.
29	310 - Herbaceous Openland	1.3	No	Unspecified	Active gas well site.
31	310 - Herbaceous Openland	1.3	No	Unspecified	Active gas well site.
34	310 - Herbaceous Openland	1.2	No	Unspecified	Active gas well site.
35	320 - Upland Shrub	1.2	No	Unspecified	This long narrow opening is in the base of a valley and is slowly filling in from the edges. Mostly scrub cherry but there are also some scattered aspen and a few large pine.
36	310 - Herbaceous Openland	1.1	No	Unspecified	Active gas well site.
37	310 - Herbaceous Openland	10.4	No	Unspecified	Utility corridor with numerous underground gas pipe lines.
39	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
41	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
42	623 - Emergent Wetland	1.5	No	Unspecified	Appears to be a pothole bog although it does not look to be flooded.
44	330 - Low-Density Trees	8.1	No	Unspecified	Scattered cherry along with some very low quality stems of aspen.
45	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
46	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
48	310 - Herbaceous Openland	1.2	No	Unspecified	Active gas well site.
54	310 - Herbaceous Openland	1.3	No	Unspecified	Active gas well site.
57	330 - Low-Density Trees	28.1	No	Unspecified	Upland brush of varying densities. Aspen does occur in this stand as well but not in enough quantity to delineate as separate stands.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
59	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
61	320 - Upland Shrub	18.8	No	Unspecified	Primarily upland brush but there are also some scattered oak throughout. There is a depression in the far northeastern lobe of the stand that previous inventory indicated was a bog. This area no longer appears to be wet and is less than an acre in size so it was incorporated with this surrounding upland stand.
62	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
64	310 - Herbaceous Openland	1.1	No	Unspecified	Active gas well site.
66	330 - Low-Density Trees	8.7	No	Unspecified	Upland brush stand with some very low quality aspen scattered throughout. There are also a few remanent red pine.
69	310 - Herbaceous Openland	1.2	No	Unspecified	Active gas well site.
70	310 - Herbaceous Openland	1.7	No	Unspecified	Active gas well site.
71	310 - Herbaceous Openland	1.1	No	Unspecified	Active gas well site.
73	623 - Emergent Wetland	1.0	No	Unspecified	Appears to be a pothole bog although it does not look to be flooded.
76	310 - Herbaceous Openland	1.4	No	Unspecified	Active gas well site.
78	330 - Low-Density Trees	5.5	No	Unspecified	Upland brush stand but there are also patches of scrub jack pine plus an occassional red maple.
80	310 - Herbaceous Openland	2.4	No	Unspecified	Active gas well site. This is a much larger site than normal for an Antrim well. I would assume that this was originally a deep well site.
82	330 - Low-Density Trees	3.7	No	Unspecified	Semi-open stand of cherry growing in a dry valley.
84	330 - Low-Density Trees	8.5	No	Unspecified	Upland stand of cherry and scattered shrubs.
86	3302 - Low Density Conifer Trees	16.8	Planted	Red Pine	This stand was final harvested in 2010. It is trenched and scheduled for planting in 2011.
88	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
89	310 - Herbaceous Openland	3.1	No	Unspecified	A 100 foot wide utility corridor easement.
90	623 - Emergent Wetland	7.8	No	Unspecified	This is a lowland area but it does not appear to be wet at this time.
92	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.



**7 – 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.

Stand	SCA Type	SCA Name	Acres	Comments
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### 8 – 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
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