



# COMPARTMENT REVIEW PRESENTATION

## GAYLORD FOREST MANAGEMENT UNIT

**COMPARTMENT: 7**

**ENTRY YEAR: 2013**

**ACREAGE: 1,530**

**COUNTY: Otsego**

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

**Stand Examiner:** Ken Phillips

**Legal Description:** T29N-R01W, Sections 27, 28, 29

**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 very flat with no upland topographical features that would restrict equipment operability. Lindquist sand is the dominant upland soil type supporting the isolated stands of aspen within the compartment. Jack pine cover types are generally associated with the excessively drained Grayling, Rubicon and Graycalm sands. Tawas-Lupton mucks are found adjacent to the West Branch of Big Creek.

**Ownership Patterns, Development, and Land Use in and Around the Compartment:** One private 40 acre in-holding occurs within section 28. Numerous private parcels also adjoin exterior compartment boundaries most notably in section 29. A privately owned electric transmission line corridor crosses through the compartment in sections 27 and 28. Numerous Antrim gas wells and associated flow lines are in production throughout the compartment.

**Unique, Natural Features:** A recent search of the Michigan Natural Features Inventory database indicated the possible presence of the Hill's thistle (*Cirsium hillii*) within this compartment. Numerous occurrences of Kirtland's warbler (*Dendroica kirtlandii*) have also been documented.

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

**Special Management Designations or Considerations:** The entire compartment is designated as a High Conservation Value Area due to the Kirtland's warbler habitat that it contains.

**Watershed and Fisheries Considerations:** The West Branch of Big Creek flows southward through section 27. This is a recognized tributary of the AuSable River and is therefore regulated under the Natural Rivers program. Round Lake is located in the central portion of section 27. This is a small and very shallow body of water which typically maintains historically consistent boundaries due to the fairly abrupt slopes that lead down to the shore of the lake.

**Wildlife Habitat Considerations:** This compartment consists mostly of upland areas with a small lake in the middle of section 27 and Big Creek runs through the northeast corner of the same section. These wetland areas are used by some waterfowl and furbearers and a variety of amphibians. The rest of this compartment contains mainly a jack pine/oak complex that lies within the Kirtland's Warbler management area. Stands 29, 33, 37, 38, 40, 49, 51, 53, 68, 69, 73, 76, and 78 are going to be clear cut and replanted with jack pine in accordance with the Kirtland's Warbler management plan. This provides early successional habitat for the Kirtland's warbler along with white-tailed deer, wild turkey, black bear, and various oak/pine barren species. Stand 25 is going to be clear cut to regenerated early successional aspen that is utilized by grouse and woodcock.

**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 800 feet. Beneath the glacial drift is the Coldwater Shale. The Coldwater does not have an economic use. The nearest gravel pit is located four miles to the north, and gravel potential appears limited. All of the State land in the compartment has been leased for oil and gas development and the Antrim Shale has been completely developed. Oil and gas potential from the Guelph (Niagaran) reef trend is very limited.

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

**Survey Needs:** Survey work may eventually be required to establish property boundaries for the isolated 40 acre parcel located in section 29.

**Recreational Facilities and Opportunities:** The North Branch snowmobile trail passes through section 29 following Shupac Trail which is a seasonal maintained County Road.

**Fire Protection:** This compartment is composed of extremely high risk fuel types. This combined with the activities associated with the intense Antrim Gas development puts this compartment at a very high risk for future wildfires similar to the Big Creek fire which burned a portion of this compartment in 1981. The existing road network does provide easy access to most off road areas within the compartment.

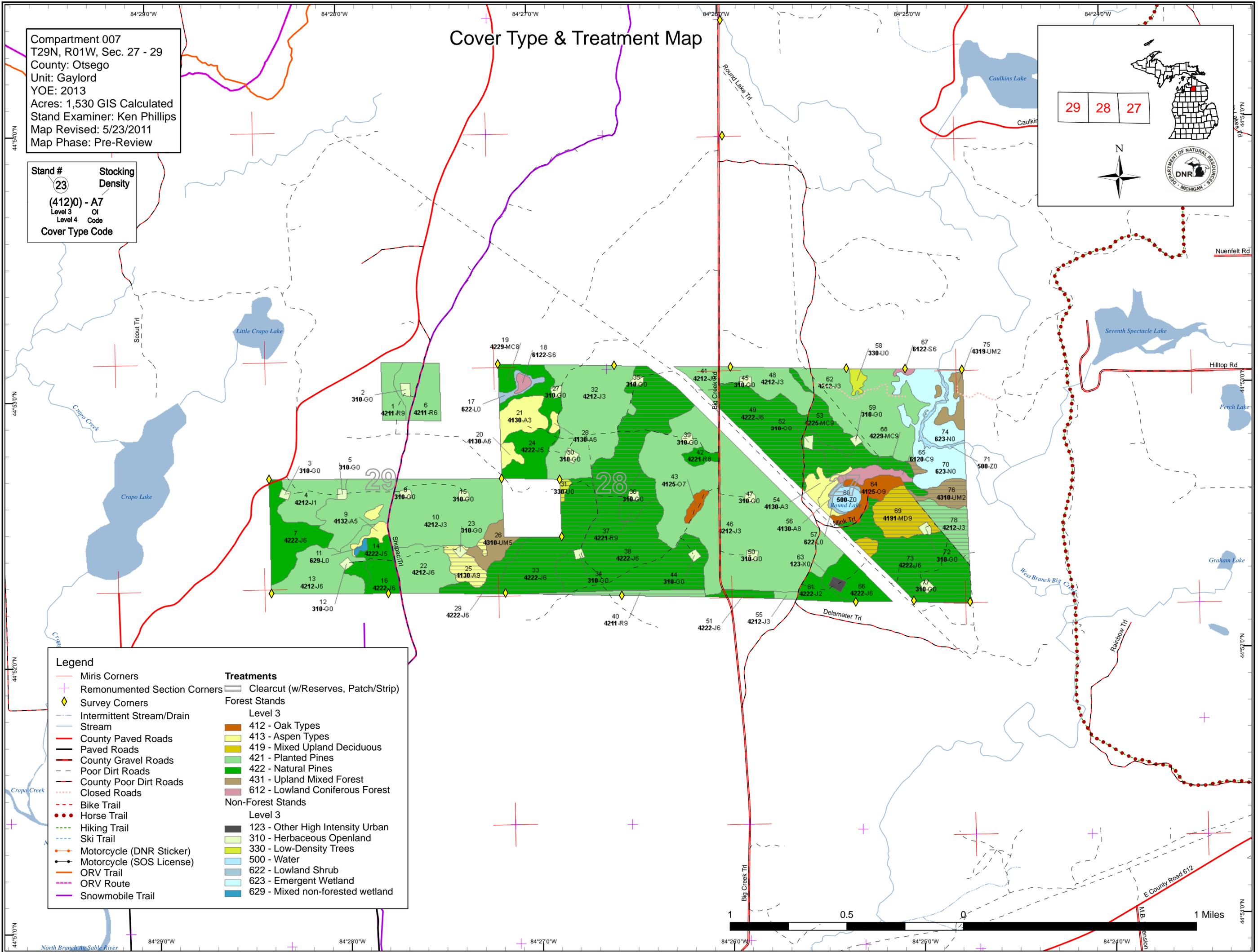
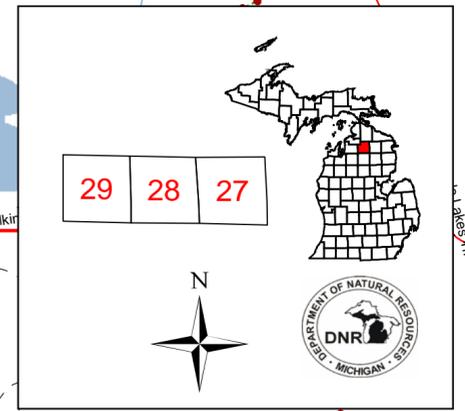
**Additional Compartment Information:**

- **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**

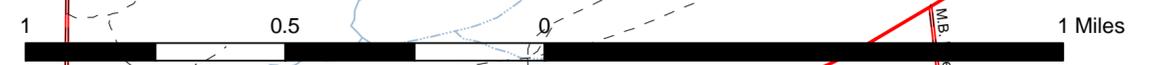
# Cover Type & Treatment Map

Compartment 007  
 T29N, R01W, Sec. 27 - 29  
 County: Otsego  
 Unit: Gaylord  
 YOE: 2013  
 Acres: 1,530 GIS Calculated  
 Stand Examiner: Ken Phillips  
 Map Revised: 5/23/2011  
 Map Phase: Pre-Review

**Stand #**  
 23  
**Stocking Density**  
 (4120) - A7  
 Level 3 OI  
 Level 4 Code  
**Cover Type Code**



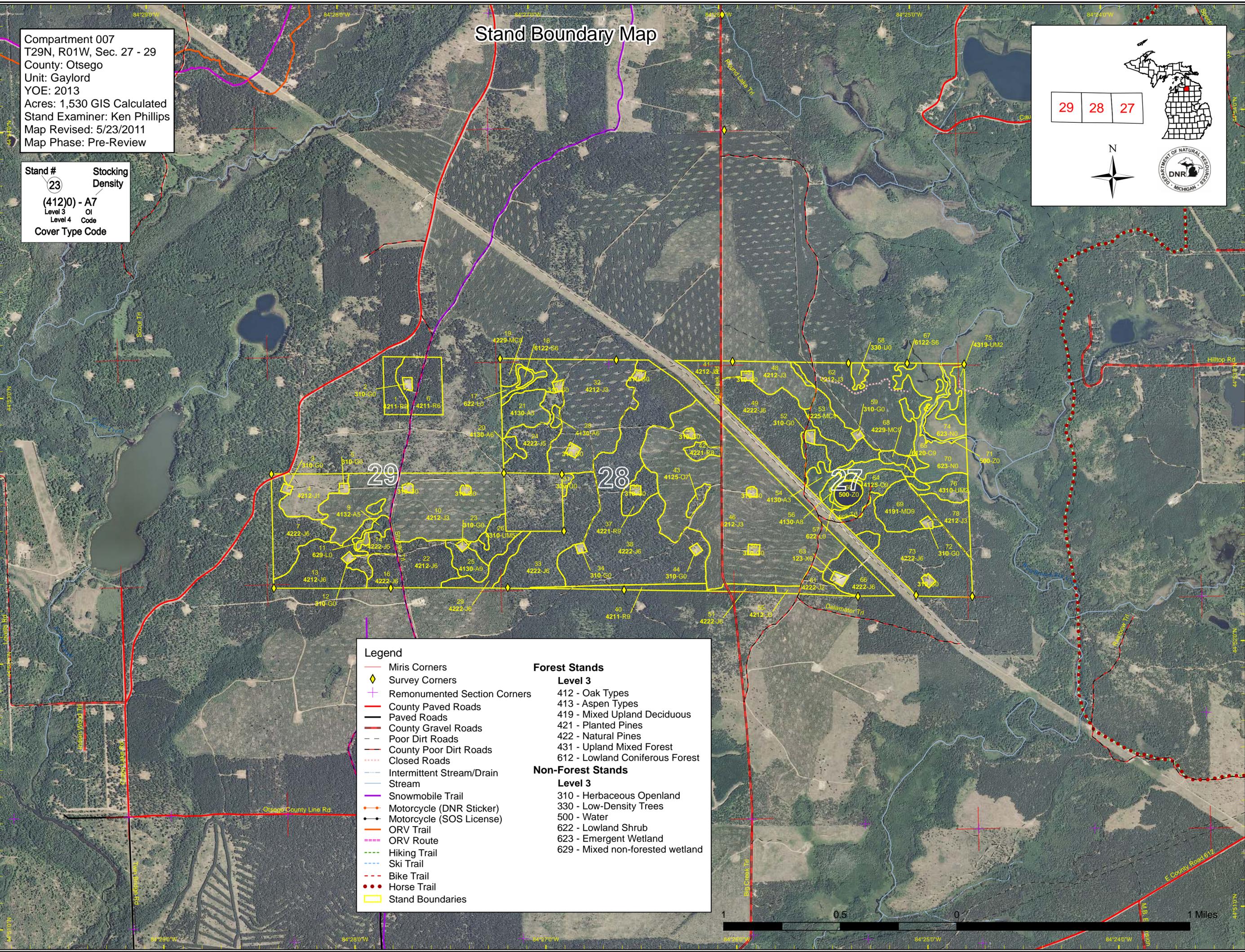
<b>Legend</b>	
—+— Miris Corners	▭ Clearcut (w/Reserves, Patch/Strip)
—+— Remonumented Section Corners	<b>Forest Stands</b>
◆ Survey Corners	Level 3
--- Intermittent Stream/Drain	■ 412 - Oak Types
— Stream	■ 413 - Aspen Types
— County Paved Roads	■ 419 - Mixed Upland Deciduous
— Paved Roads	■ 421 - Planted Pines
— County Gravel Roads	■ 422 - Natural Pines
--- Poor Dirt Roads	■ 431 - Upland Mixed Forest
--- County Poor Dirt Roads	■ 612 - Lowland Coniferous Forest
--- Closed Roads	<b>Non-Forest Stands</b>
--- Bike Trail	Level 3
●●● Horse Trail	■ 123 - Other High Intensity Urban
--- Hiking Trail	■ 310 - Herbaceous Openland
--- Ski Trail	■ 330 - Low-Density Trees
--- Motorcycle (DNR Sticker)	■ 500 - Water
--- Motorcycle (SOS License)	■ 622 - Lowland Shrub
--- ORV Trail	■ 623 - Emergent Wetland
--- ORV Route	■ 629 - Mixed non-forested wetland
--- Snowmobile Trail	



# Stand Boundary Map

Compartment 007  
 T29N, R01W, Sec. 27 - 29  
 County: Otsego  
 Unit: Gaylord  
 YOE: 2013  
 Acres: 1,530 GIS Calculated  
 Stand Examiner: Ken Phillips  
 Map Revised: 5/23/2011  
 Map Phase: Pre-Review

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



**Legend**

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

**Forest Stands**

**Level 3**

- 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**

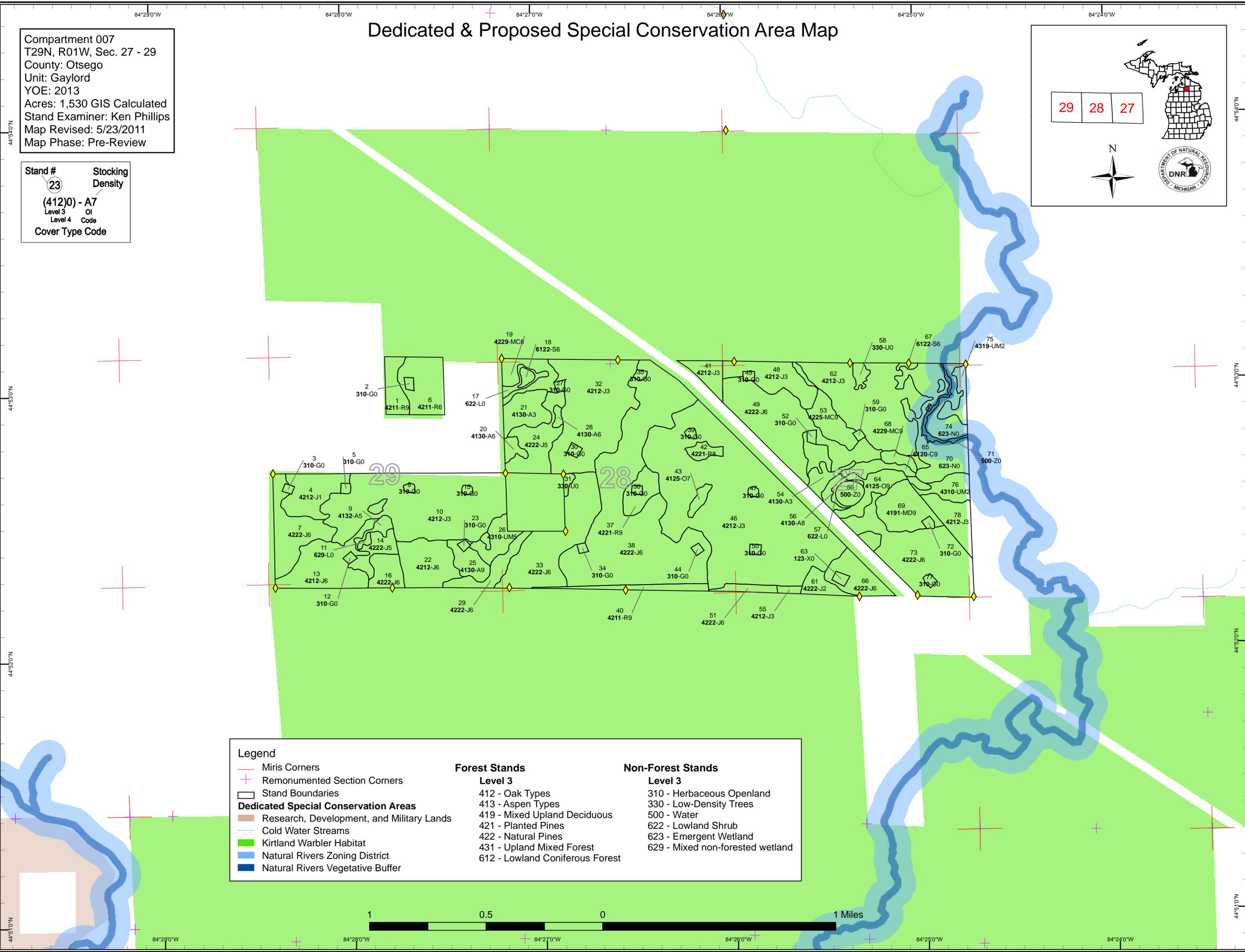
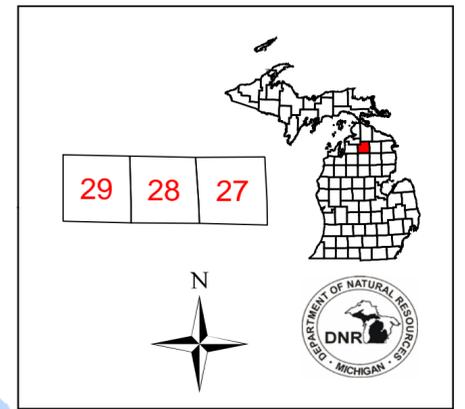
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland



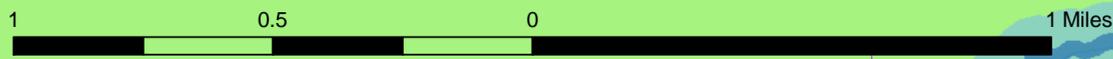
# Dedicated & Proposed Special Conservation Area Map

Compartment 007  
 T29N, R01W, Sec. 27 - 29  
 County: Otsego  
 Unit: Gaylord  
 YOY: 2013  
 Acres: 1,530 GIS Calculated  
 Stand Examiner: Ken Phillips  
 Map Revised: 5/23/2011  
 Map Phase: Pre-Review

**Stand #**  
 23  
**Stocking Density**  
 (4120) - A7  
 Level 3 OI  
 Level 4 Code  
**Cover Type Code**



<b>Legend</b>		
—	Miris Corners	
+	Remonumented Section Corners	
□	Stand Boundaries	
<b>Dedicated Special Conservation Areas</b>		
■	Research, Development, and Military Lands	
—	Cold Water Streams	
■	Kirtland Warbler Habitat	
■	Natural Rivers Zoning District	
■	Natural Rivers Vegetative Buffer	
<b>Forest Stands</b>		
<b>Level 3</b>		
412	- Oak Types	
413	- Aspen Types	
419	- Mixed Upland Deciduous	
421	- Planted Pines	
422	- Natural Pines	
431	- Upland Mixed Forest	
612	- Lowland Coniferous Forest	
<b>Non-Forest Stands</b>		
<b>Level 3</b>		
310	- Herbaceous Openland	
330	- Low-Density Trees	
500	- Water	
622	- Lowland Shrub	
623	- Emergent Wetland	
629	- Mixed non-forested wetland	



44°51'0"N 84°29'0"W 84°28'0"W 84°27'0"W 84°26'0"W 84°25'0"W 84°24'0"W



	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 +		Uneren Age
Aspen	0	0	25	0	0	0	0	0	17	13	0	0	0	0	0	55
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8
Herbaceous Openland	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
Jack Pine	0	25	376	175	65	29	27	421	42	0	0	0	0	0	0	1161
Low-Density Trees	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Lowland Shrub	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4
Marsh	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0	28
Natural Mixed Pines	0	0	0	0	0	0	0	0	25	7	0	15	0	0	0	47
Oak	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	19
Red Pine	0	0	0	0	0	0	9	51	5	0	0	0	0	0	0	65
Upland Mixed Forest	0	0	0	0	23	0	0	13	0	0	0	0	0	0	0	35
Urban	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Water	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
<b>Total</b>	<b>107</b>	<b>25</b>	<b>401</b>	<b>175</b>	<b>88</b>	<b>29</b>	<b>36</b>	<b>484</b>	<b>137</b>	<b>20</b>	<b>0</b>	<b>19</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>1530</b>



## Table 2 – Proposed Treatment Summaries

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

**Compartment 007**  
**Total Compartment Acres: 1530**

### Acres by Treatment Type

Commercial Harvest - 516	Site Prep - 0	Tree Planting - 0	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>	13	0	0	0	0	0	0	13
<b>Jack Pine</b>	406	0	0	0	0	0	0	406
<b>Low-Density Trees</b>	2	0	0	0	0	0	0	2
<b>Mixed Upland Deciduous</b>	28	0	0	0	0	0	0	28
<b>Natural Mixed Pines</b>	32	0	0	0	0	0	0	32
<b>Red Pine</b>	21	0	0	0	0	0	0	21
<b>Upland Mixed Forest</b>	13	0	0	0	0	0	0	13
<b>Total</b>	<b>516</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>516</b>



Stand	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
25	52007025-Cut	13.1	4130 - Aspen	High Density Log	80	Harvest	Clearcut	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Final harvest leaving no reserves. Require dormant season harvesting for KW protection and to encourage as much aspen regeneration as possible.</p> <p><u>Specs:</u></p> <p><u>Other</u> There is very little aspen in this compartment so I would like to encourage the regeneration of this stand.</p> <p><u>Comments:</u></p> <p><u>Next</u> The goal will be to naturally regenerate to a mix of aspen, oak and pine.</p> <p><u>Steps:</u></p>									
29	52007029-Cut	13.4	42220 - Natural Jack Pine	High Density Pole	75	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> --Kendal Phillips : 05/20/2011 comments:</p> <p><u>Specs:</u></p> <p>Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.</p> <p><u>Other</u> Except for the southwest corner, all other corners for the private 40 were located during inventory.</p> <p><u>Comments:</u></p> <p><u>Next</u> Artificially regenerate with jack pine.</p> <p><u>Steps:</u></p>									
33	52007033-Cut	58.9	42220 - Natural Jack Pine	High Density Pole	60	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> --Kendal Phillips : 05/20/2011 comments:</p> <p><u>Specs:</u></p> <p>Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.</p> <p><u>Other</u> Except for the southwest corner, all other corners for the private 40 were located during inventory.</p> <p><u>Comments:</u></p> <p><u>Next</u> Artificially regenerate with jack pine.</p> <p><u>Steps:</u></p>									
37	52007037-Cut	12.2	42210 - Natural Red Pine	High Density Log	65	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> --Kendal Phillips : 05/20/2011 comments:</p> <p><u>Specs:</u></p> <p>Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak and pine in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.</p> <p><u>Other</u></p> <p><u>Comments:</u></p> <p><u>Next</u> Artificially regenerate with jack pine.</p> <p><u>Steps:</u></p>									
38	52007038-Cut	171.4	42220 - Natural Jack Pine	High Density Pole	60	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> --Kendal Phillips : 05/20/2011 comments:</p> <p><u>Specs:</u></p> <p>Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.</p> <p><u>Other</u></p> <p><u>Comments:</u></p> <p><u>Next</u> Artificially regenerate with jack pine.</p> <p><u>Steps:</u></p>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
40	52007040-Cut	9.3	42110 - Planted Red Pine	High Density Log	58	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription --Kendal Phillips : 05/20/2011 comments:

Specs:

Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.

Other

Comments:

Next Artificially regenerate with jack pine.

Steps:

49	52007049-Cut	70.0	42220 - Natural Jack Pine	High Density Pole	65	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription --Kendal Phillips : 05/20/2011 comments:

Specs:

Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.

Other

Comments:

Next Artificially regenerate with jack pine.

Steps:

51	52007051-Cut	5.2	42220 - Natural Jack Pine	High Density Pole	70	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription --Kendal Phillips : 05/20/2011 comments:

Specs:

Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.

Other

Comments:

Next Artificially regenerate with jack pine.

Steps:

53	52007053-Cut	25.3	42250 - Pine, Oak	High Density Log	70	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription --Kendal Phillips : 05/20/2011 comments:

Specs:

Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.

Other

Comments:

--Kendal Phillips : 05/20/2011 comments:

May want to consider leaving the narrow northernmost portion of the stand that lies between stands #48 and #62 as the retention area.

Next Artificially regenerate with jack pine.

Steps:

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
68 52007068-Cut	6.8	42290 - Natural Mixed Pine	High Density Log	85	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription --Kendal Phillips : 05/20/2011 comments:

Specs:

Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak and large diameter pine in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.

Other

Comments:

Next Steps: Artificially regenerate with jack pine.

69 52007069-Cut	28.4	4191 - Mixed Upland Deciduous with Conifer	High Density Log	75	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription --Kendal Phillips : 05/20/2011 comments:

Specs:

Final harvest in accordance with the KW management plan. Leave scattered clumps of 2-6 large crowned oak and pine as residual. Residual should not total more than 3-5% of the harvested area.

Other

Comments: Retention in this stand was designed to be slightly different from that in adjacent stands due to the proximity to the lake as well as the large percentage of oak and red pine in this stand.

Next Steps: Artificially regenerate with jack pine.

73 52007073-Cut	69.5	42220 - Natural Jack Pine	High Density Pole	65	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription --Kendal Phillips : 05/20/2011 comments:

Specs:

Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.

Other

Comments:

Next Steps: Artificially regenerate with jack pine.

76 52007076-Cut	13.2	4310 - Pine, Oak Mix	Medium Density Saplin	30	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription --Kendal Phillips : 05/20/2011 comments:

Specs:

Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.

Other

Comments:

Next Steps: Artificially regenerate with jack pine.



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
78	52007078-Cut	17.1	42120 - Planted Jack Pine	High Density Sapling	37	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal

Prescription --Kendal Phillips : 05/20/2011 comments:

Specs:

Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.

Other

Comments:

Next Artificially regenerate with jack pine.

Steps:

31	NF_52007031- Cut	1.9	Non-Forested		0	Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription --Kendal Phillips : 05/20/2011 comments:

Specs:

Final harvest in accordance with the KW management plan. Leave scattered concentrations of oak in small islands or peninsulas that mimic naturally occurring fire related landscape diversity. Total residual should not exceed the minimum retention guideline requirements of 3% of the harvested area.

Other

Comments:

Except for the southwest corner, all other corners for the private 40 were located during inventory.

Next Artificially regenerate with jack pine.

Steps:

**Total Treatment  
Acreage Proposed: 515.8**

**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**



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42110 - Planted Red Pine	High Density Log	12.4	61	81-110	This stand was planted in 1950 at the same time that the adjacent stand #3 was. This portion of the plantation has done much better than stand #3. Possibly the weevil problem in stand #3 did not extend into this portion of the plantation.
4	42121 - Planted Jack Pine, Mixed Deciduous	Low Density Sapling	24.7	4		This stand was harvested in 2004 leaving all sub-merchantable jack pine plus some scattered residual oak log trees. The stand was re-planted in 2007. The young seedlings are just barely 3 feet tall so they certainly do not occupy all of the canopy yet. A lot of the residual jack pine are now small diameter poles but none showed up in any of my plots which is why there is a zero basal area.
6	42110 - Planted Red Pine	High Density Pole	26.2	61	81-110	The quality of this plantation is generally low. According to records they had serious weevil problems here which explains why so many of the trees are multiple stemmed and poor formed. There are sparse areas all throughout the plantation as well.
7	42221 - Natural Jack Pine, Mixed Deciduous	High Density Pole	31.5	65	51-80	This is a low quality stand. The oak component is especially poor. While this is a fully stocked stand, it is on the lower end of the range for crown closure. The understory is fairly well developed.
9	4132 - Aspen, Jack Pine	Medium Density Pole	6.1	75	1-50	This is a multi-poly stand of very low quality over-mature aspen. The northern portion was left as a residual island when the surrounding jack pine stand was harvested. The aspen component in all areas of the stand is rapidly declining and a heavy understory of mixed species is filling in. Scattered relic red pine are found in the southern portion of the stand.
10	42120 - Planted Jack Pine	High Density Sapling	119.2	16		This stand was harvested during multiple operations that spanned several years. The entire block was then planted in 1995 as part of the KW management plan. The jack pine averages about 10 feet tall.
13	42120 - Planted Jack Pine	High Density Pole	39.4	38	1-50	This stand was harvested in the early 1970's and then machine seeded to jack pine in 1973. My assumption is that the timber sale only removed merchantable timber and that all sub-merchantable trees were left uncut. This would explain why there are some larger diameter trees scattered throughout. The dominant feature though is definitely the younger jack pine which is just starting to reach merchantable size classes. A few aspen clones exist but they are too small to meet mapping standards.
14	42220 - Natural Jack Pine	Medium Density Pole	11.5	70	1-50	This stand is similar in age as the adjacent stand #84. This area is simply not very well stocked with a lot of open patches throughout the stand. There is also a very small bog in the northern portion of this stand which was too small to map.
16	42220 - Natural Jack Pine	High Density Pole	12.5	70	51-80	A mature stand of nearly pure natural jack pine with a light understory. This stand is showing some indications of recent mortality.
18	6122 - Black Spruce	High Density Pole	2.4	105	111-140	A nice thick stand of small diameter lowland conifers. Leatherleaf is through the understory.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	42290 - Natural Mixed Pine	Medium Density Log	15.3	100	81-110	Most of this stand had pine selectively removed in a 1985 harvest. This stand is extremely variable in part due to that earlier harvest treatment but also due to the influence of the nearby wetlands. Jack pine has come into the understory quite well though throughout most of the stand.
20	4130 - Aspen	High Density Pole	4.4	70	1-50	A very low quality stand of aspen that should have been included with the harvest of stand #76. This has quite a thick understory.
21	4130 - Aspen	High Density Sapling	17.7	17	1-50	This stand was cut in 1994. All red and white pine were left as residual. Most of these trees are widely scattered except along the western edge of the stand where there is a significant concentration near the lowlands. The aspen regen is doing well averaging over 30 feet tall.
22	42120 - Planted Jack Pine	High Density Pole	29.2	40	1-50	This stand was harvested in the late 1960's and then re-planted in 1970. Apparently the survival rate of that planting was so low that the stand was machine seeded in 1971. The jack pine is just starting to reach merchantable size classes.
24	42220 - Natural Jack Pine	Medium Density Pole	26.9	55	1-50	This is a variable stand both in stocking density and in represented size classes. It is very heavy to jack pine with only occasional oak, aspen and red pine. This is definitely not a fully stocked stand, especially on the north end.
25	4130 - Aspen	High Density Log	13.1	80	51-80	This is a multi-poly stand dominated by low quality mature aspen. The small northern clone is much better, however, than the main stand. The oak component is really poor quality. A very well developed understory has formed.
26	4310 - Pine, Oak Mix	Medium Density Pole	12.8	60	51-80	It appears that this stand had some type of a partial harvest many years ago since there are cut oak stumps throughout. As a result the canopy is not closed which has allowed a heavy understory to develop. This overall is a low quality stand.
28	4130 - Aspen	High Density Pole	1.9	70	1-50	A very low quality stand of aspen that should have been included with the harvest of stand #76.
29	42220 - Natural Jack Pine	High Density Pole	13.4	75	81-110	This is very nice quality mature jack pine. There is really very little in the way of associated species except along the stand edges. The oak understory is advanced and well developed.
32	42120 - Planted Jack Pine	High Density Sapling	86.3	25		This is a 1986 KW planting block that extends north into the adjacent compartment. It is almost pure jack pine with only occasional oak stump sprout clumps. Red pine trees were left as residual throughout, many of which are now beginning to die back.
33	42220 - Natural Jack Pine	High Density Pole	58.9	60	51-80	This is a highly variable stand. Records indicate that some partial harvests were conducted in 1967 which were then reseeded in 1973. I believe that most of these affected areas were in the northern portion of the stand. The best quality jack pine is further to the west along the border with stand #80. Oak is well represented throughout and oak regen is beginning to fill in the understory.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
37	42210 - Natural Red Pine	High Density Log	12.2	65	81-110	This is a concentrated area of natural red pine. Jack pine is still present but in very low percentages as compared to the adjacent stand.
38	42220 - Natural Jack Pine	High Density Pole	171.4	60	51-80	This is a large stand of mature jack pine of varying densities and size classes. Oak and red pine are found throughout but in relatively low percentages. The understory is filling in with oak sapplings. Where the overstory is lighter jack pine is also seeding in.
40	42110 - Planted Red Pine	High Density Log	9.3	58	111-140	This plantation is part of much larger stand that extends south into the adjacent compartment. The planting crew must have followed a wrong bearing when laying out this plantation when it was established back in 1953. This plantation is definitely not pure red pine. Some small patches are actually dominated by jack pine. Due to a high basal area, the understory is quite light.
41	42120 - Planted Jack Pine	High Density Sapling	10.2	25		This is a 1986 KW planting that extends well to the north into the adjacent compartment. The jack pine is currently about 20 feet tall. Oak stump sprouts are found throughout as are a few widely scattered oak residual trees.
42	42210 - Natural Red Pine	Medium Density Log	5.2	70	1-50	This is a residual island that was intentionally left when the surrounding stand was cut. This is not a fully stocked stand and possibly as a result the understory is quite well developed.
43	4125 - Black, N. Pin Oak	Low Density Log	4.0	70	1-50	This stand was intentionally left as a residual island when the surrounding stand was cut. This is primarily a lightly stocked stand of low quality oak. It has a well developed understory of jack pine and oak.
46	42120 - Planted Jack Pine	High Density Sapling	229.6	15		This is a large KW block that was cut during multiple harvest operations and then re-planted in 1996. Most of the jack pine averages between 10-15 feet tall.
48	42120 - Planted Jack Pine	High Density Sapling	25.4	15		This is part of a large 1996 KW planting block, the majority of which extends to the north into the adjacent compartment. No residual trees were left when this stand was cut. The jack pine is just barely 10 feet tall.
49	42220 - Natural Jack Pine	High Density Pole	70.0	65	81-110	This stand is dominated by mature jack pine but oak and red pine are common associated species.
51	42220 - Natural Jack Pine	High Density Pole	5.2	70	51-80	Due to a misinterpretation of where the section line was, this stand was not cut when stand #6 to the north was. This stand definitely should have been cut as it is mature. I would imagine that the best thing to do would be to manage it with the stand adjacent to the south. The other option would be to leave this as a long-term retention area.
53	42250 - Pine, Oak	High Density Log	25.3	70	51-80	This is a multi-poly stand. Both portions have a significantly higher percentage of oak as compared to the adjacent jack pine stand. The oak is large diameter but of overall low quality. A fairly thick oak understory is developing.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
54	4130 - Aspen	High Density Sapling	7.4	17		This stand was harvested in 1994. A few widely scattered red pine were left as residual. Following the harvest it looks like beaver moved into portions of this stand. There are no recent beaver cuttings though and the stand appears to have survived that earlier impact. Most of the aspen regen is 15-20 feet tall.
55	42120 - Planted Jack Pine	High Density Sapling	2.1	13		This stand is part of a large 1998 KW planting block that extends to the south into the adjacent compartment. This is slightly younger than stand #6 adjacent to the north. The jack pine here only averages about 8-10 feet tall. This stand was cut in 1996 but not planted for two years. That possibly explains why many of the oak stump sprouts are larger in diameter than the planted pine.
56	4130 - Aspen	Medium Density Log	4.1	75	51-80	This stand was apparently intentionally left when the adjacent stand #42 was cut. This stand is over-mature and is slowly falling apart due to old age and past beaver activity. The stand is being replaced by a heavy red maple understory.
61	42220 - Natural Jack Pine	Medium Density	8.8	35	1-50	This is a sparsely stocked stand of natural jack pine reproduction. There are cut oak stumps throughout so the stand was obviously harvested at some point. Some residual oak and red pine are scattered throughout and these are what showed up in the basal area measurements.
62	42120 - Planted Jack Pine	High Density Sapling	78.8	25		This stand was burned during the 1981 Big Creek fire. It was replanted in 1986 and is now a KW management block. The jack pine is quite advanced averaging about 25-30 feet tall. There are a few scattered aspen clones in this plantation as well. The far northern edge of this stand was not planted possibly due to property line concerns. This area is regenerating naturally to jack pine. Likewise, a small area on the far eastern edge of the stand adjacent to stand #106 was not planted but is a mix of natural jack pine and aspen regen. The ages of these naturally regenerated areas are similar to the planted stand so they were included.
64	4125 - Black, N. Pin Oak	High Density Log	14.5	75	51-80	The quality of the aspen and oak in this stand is similar to that of stand #72. This stand though is entirely lacking the red pine component plus there is more jack pine here as compared to stand #72.
65	6120 - Lowland Cedar	High Density Log	8.1	110	111-140	A fairly dense stand with a thick tag alder understory. This stand occupies a low run which connects Round Lake with the marshlands along Big Creek.
66	42220 - Natural Jack Pine	High Density Pole	19.3	60	51-80	This stand is similar to stand #2 on the east side of the the power line except that the understory appears less developed here. A few cut oak stumps were apparent on the west side of the stand closest to stand #74. These were probably associated with the previous harvest of stand #74.
67	6122 - Black Spruce	High Density Pole	1.2	105	111-140	This stand was within the interior of the 1981 Big Creek fire. The majority of the stand survived due to the lowland character of the stand. The far eastern portion, however, is actually upland and did burn to be replaced by natural regeneration similar to stand #53. This upland area was less than an acre in size though so it did not meet the mapping standards for a stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
68	42290 - Natural Mixed Pine	High Density Log	6.8	85	111-140	This is a multi-poly stand of two small areas of large diameter native pine that for the most part escaped the 1981 Big Creek fire. Some plow lines do exist in the interior portions of the stand so it is possible that some light surface fire did reach into the stand. This might account for the fairly heavy red maple understory.
69	4191 - Mixed Upland Deciduous with Conifer	High Density Log	28.4	75	81-110	This multi-poly stand has very little jack pine in it. Oak is the dominant species but there are also consistent components of red pine and aspen throughout the stand and some areas are in fact pretty heavy with these species. Although adjacent stands are scheduled to be included with a large KW planting block, this stand was excluded from that plan.
73	42220 - Natural Jack Pine	High Density Pole	69.5	65	51-80	This is very similar to stand #43 further to the north. Jack pine is dominant but oak is represented throughout the stand. Occasional stems of aspen and red pine were also found. The understory seems to be more advanced as compared to adjacent stands.
75	4319 - Mixed Upland Forest	Medium Density	9.3	30		This is a multi-poly stand that was burned during the 1981 Big Creek fire. Both portions of the stand occupy ridges of high ground adjacent to the marshlands along Big Creek. Initially it appears that aspen regenerated quite well but beavers have really hurt that component of the stand. This is now primarily a mixed pine stand but there is still a significant component of both red maple and oak regen.
76	4310 - Pine, Oak Mix	Medium Density	13.2	30	1-50	This multi-poly stand was burned during the 1981 Big Creek fire. Portions of the stand along the lower slopes near the marshland stand #40 did not burn as hot so some large diameter residual pine and oak were able to survive. The stand has naturally regenerated to a patchy mix of oak and pine although some areas heavier to aspen do exist especially to the north.
78	42120 - Planted Jack Pine	High Density Sapling	17.1	37	1-50	This stand was cut in 1973 and machine seeded in 1974. The stand acted as a fuel break during the 1981 Big Creek fire and did not burn. The stand is just approaching merchantable size classes with most of the jack pine averaging over 30 feet tall. A few red pine poles are scattered throughout.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	310 - Herbaceous Openland	1.3	No	Unspecified	Active gas well site.
3	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
5	310 - Herbaceous Openland	1.2	No	Unspecified	Active gas well site.
8	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
11	629 - Mixed non-forested wetland	1.3	No	Unspecified	A small isolated area of lowland grass and shrub species. Very strange considering that it is totally surrounded by dry forest types.
12	310 - Herbaceous Openland	1.1	No	Unspecified	Active gas well site.
15	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
17	622 - Lowland Shrub	3.8	No	Unspecified	A low run between areas of uplands that is occupied primarily with tag alder.
23	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
27	310 - Herbaceous Openland	1.2	No	Unspecified	Active gas well site.
30	310 - Herbaceous Openland	1.6	No	Unspecified	Active gas well site.
31	3303 - Mixed Low Density Trees	1.9	No	Unspecified	A semi-open area with a mix of species that are slowly filling in. Eventually this would become a forested stand.
34	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
35	310 - Herbaceous Openland	1.3	No	Unspecified	Active gas well site.
36	310 - Herbaceous Openland	1.1	No	Unspecified	Active gas well site.
39	310 - Herbaceous Openland	1.1	No	Unspecified	Active gas well site.
44	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
45	310 - Herbaceous Openland	1.3	No	Unspecified	Active gas well site.
47	310 - Herbaceous Openland	1.1	No	Unspecified	Active gas well site.
50	310 - Herbaceous Openland	1.4	No	Unspecified	Active gas well site.
52	310 - Herbaceous Openland	1.4	No	Unspecified	Active gas well site.
57	622 - Lowland Shrub	2.2	No	Unspecified	A narrow strip of lowland brush immediately adjacent to Round Lake.
58	3302 - Low Density Conifer Trees	3.6	No	Unspecified	This is a leatherleaf bog that is slowly filling in with spruce and jack pine following the Big Creek fire.
59	310 - Herbaceous Openland	1.0	No	Unspecified	Active gas well site.
60	50 - Water	6.7	No	Unspecified	The current boundary of Round Lake.
63	123 - Other High Intensity Urban	1.8	No	Unspecified	This is a fenced and gated CPF site.
70	623 - Emergent Wetland	40.8	N/A	Unspecified	A marshland that lies adjacent to Big Creek. Near the edges with the uplands, tag alder and leatherleaf are common.
71	50 - Water	4.7	No	Unspecified	This is Big Creek which through this compartment is very wide and slow moving.
72	310 - Herbaceous Openland	1.3	No	Unspecified	Active gas well site.
74	623 - Emergent Wetland	15.9	No	Unspecified	A marshland that lies adjacent to Big Creek. Near the edges with the uplands, tag alder and leatherleaf are common.
77	310 - Herbaceous Openland	1.3	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



## 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
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.
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.