



COMPARTMENT REVIEW PRESENTATION

GAYLORD FOREST MANAGEMENT UNIT

COMPARTMENT: 16

ENTRY YEAR: 2014

ACREAGE: 1,705

COUNTY: Otsego

Revision Date: 04/11/2012

Stand Examiner: Ric Barta

Legal Description: T29N R02W Sec. 27, 34 & 35

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: The entire compartment is composed of Roselawn and Rubicon sands. The terrain is level to rolling with oak and aspen as the major cover types.

Ownership Patterns, Development, and Land Use in and Around the Compartment: This compartment is located entirely within the Camp Grayling artillery range and is under the jurisdiction of the Michigan National Guard. The compartment is bounded on the north by the North Branch of the Au Sable River. The land to the east is privately owned.

Unique, Natural Features: None noted

Archeological, Historical, and Cultural Features: None noted.

Special Management Designations or Considerations: This compartment is part of the Camp Grayling Management Area. The Au Sable River is a Natural River. This compartment is under National Guard jurisdiction. The MNFI notes the following:

Bald eagle record from stand along the N. Br. Au Sable River. Massasauga to the south. Some potential for secretive locust in bog types; potential for dusted skipper, blazing star borer (if *Liatris* present), and red-legged spittlebug in grassy openings. Potential for wood turtle and massasauga along Au Sable. Pale agoseris record in section 34 nw portion. Potential for dry Prairie plants in grassy openings: Hill's thistle, rough fescue, *Prunus alleghaniensis* and pale agoseris .

Watershed and Fisheries Considerations: This compartment includes part of the North Branch Au Sable River, which is a non-trout river in this reach. Natural River setbacks should be applied to treatments in this compartment.

Wildlife Habitat Considerations: This compartment consists mostly of upland areas of aspen, mixed oak, and mixed upland brush. Harvest will concentrate on regenerating the oak for future mast production while leaving clumps and scattered individual islands for current mast production and a seed source. There will also be some aspen treated to diversify the aspen age classes within the compartment. This early successional habitat benefits white-tailed deer, wild turkey, grouse, woodcock, and various songbirds. The center of the compartment contains one small lake and a small associated wetland and the north end of the compartment contains the North Branch of the Au Sable River along with its associated wetlands. These areas are used by a variety of wetland species including ducks, geese, beaver, otter, and various amphibians. This area receives significant hunting pressure for white-tailed deer, grouse, woodcock, and wild turkey.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 600 and 800 feet. Beneath the glacial drift is the Mississippian Coldwater Shale and does not have a current economic use. The nearest gravel pit is located three miles to the south, and gravel potential is uncertain. All of the State lands have been leased for oil and gas development. The Antrim Shale has been developed on the private land. The State minerals, classified as nondevelopment and nonleasable, were being drained of gas from the Antrim Shale, but horizontal wells have been drilled. Oil and gas from the Guelph (former Niagaran) reef trend is also found here, but additional reefs are not likely.

Vehicle Access: Access is good. No roads are being proposed for closure.

Survey Needs: None are expected.

Recreational Facilities and Opportunities: There are no formal facilities, but the compartment appears to be heavily hunted and snowmobile traffic occurs throughout.

Fire Protection:

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**

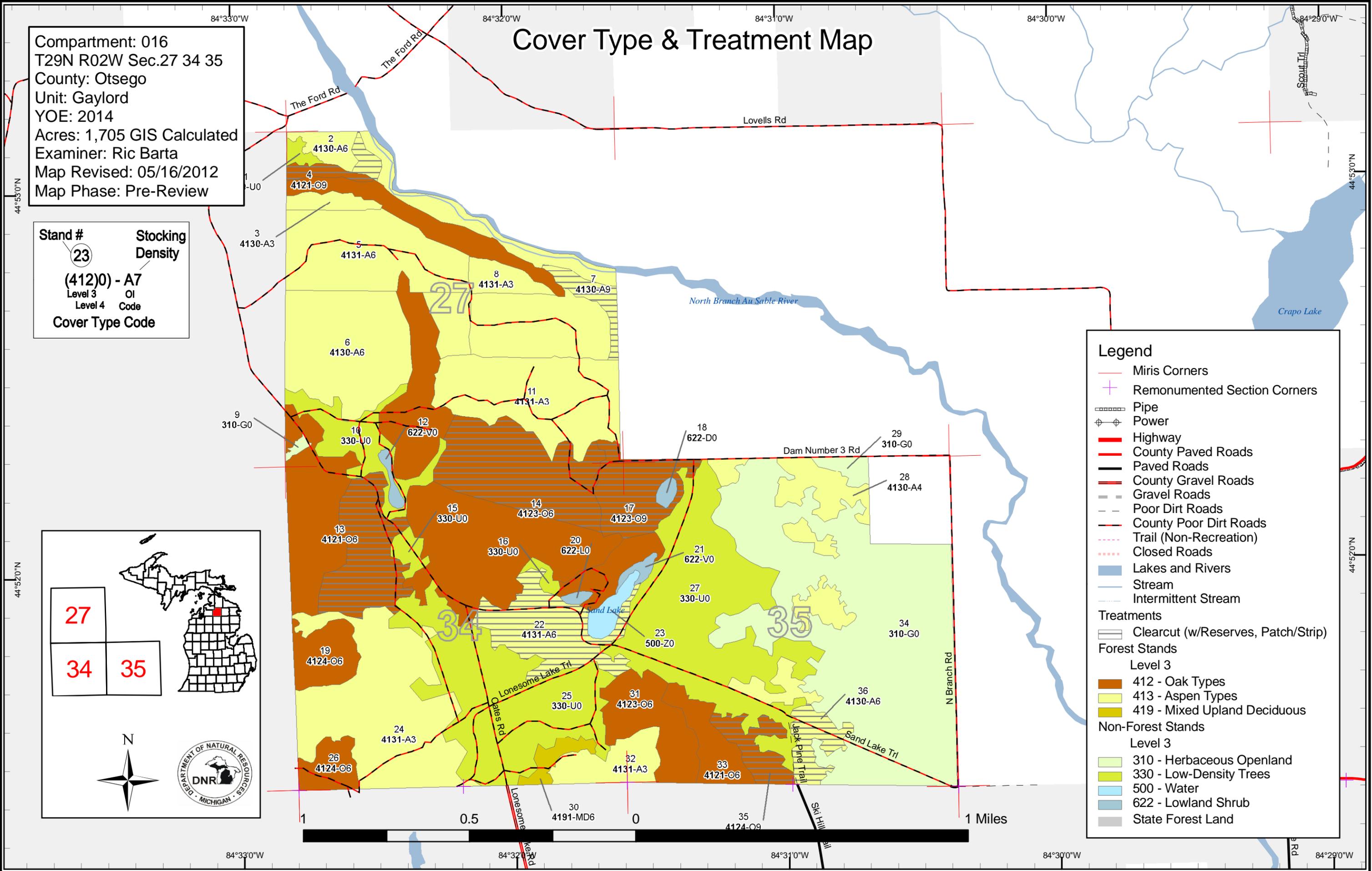
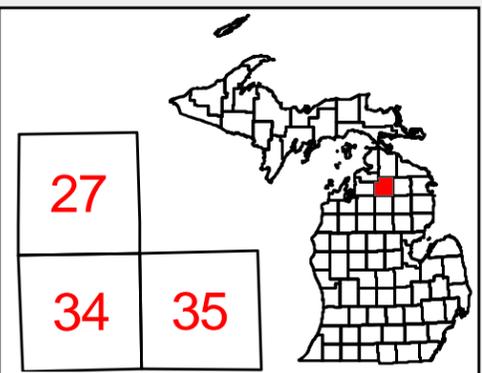
Cover Type & Treatment Map

Compartment: 016
 T29N R02W Sec.27 34 35
 County: Otsego
 Unit: Gaylord
 YOY: 2014
 Acres: 1,705 GIS Calculated
 Examiner: Ric Barta
 Map Revised: 05/16/2012
 Map Phase: Pre-Review

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

Legend

- Miris Corners
- + Remonumented Section Corners
- ▬ Pipe
- ⊕ Power
- ▬ Highway
- ▬ County Paved Roads
- ▬ Paved Roads
- ▬ County Gravel Roads
- ▬ Gravel Roads
- ▬ Poor Dirt Roads
- ▬ County Poor Dirt Roads
- ▬ Trail (Non-Recreation)
- ▬ Closed Roads
- ▬ Lakes and Rivers
- ▬ Stream
- ▬ Intermittent Stream
- Treatments**
- ▬ Clearcut (w/Reserves, Patch/Strip)
- Forest Stands**
- Level 3
- ▬ 412 - Oak Types
- ▬ 413 - Aspen Types
- ▬ 419 - Mixed Upland Deciduous
- Non-Forest Stands**
- Level 3
- ▬ 310 - Herbaceous Openland
- ▬ 330 - Low-Density Trees
- ▬ 500 - Water
- ▬ 622 - Lowland Shrub
- ▬ State Forest Land



Stand Boundary Map

Compartment: 016
 T29N R02W Sec.27 34 35
 County: Otsego
 Unit: Gaylord
 YOY: 2014
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 Map Revised: 05/16/2012
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Stand #	Stocking Density
23	(412)0 - A7
	Level 3 OI
	Level 4 Code
	Cover Type Code

Legend

- Miris Corners
- Remonumented Section Corners
- Pipe
- Power
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Stream
- Intermittent Stream
- Stand Boundaries

Forest Stands

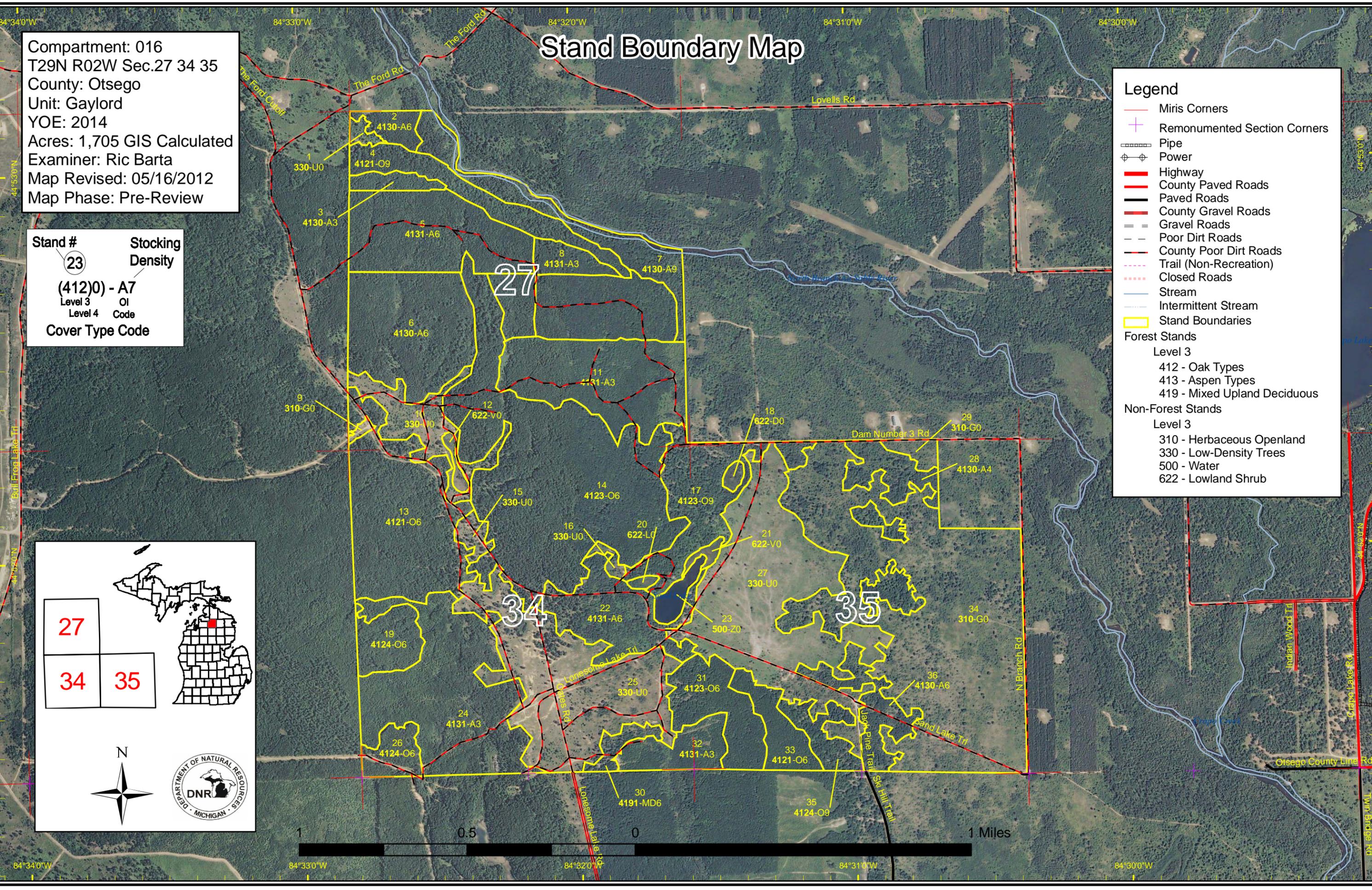
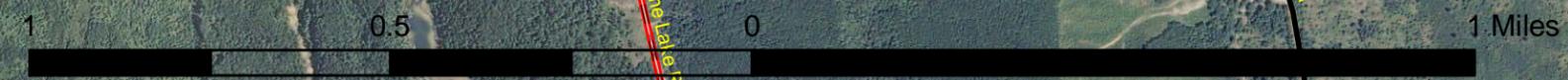
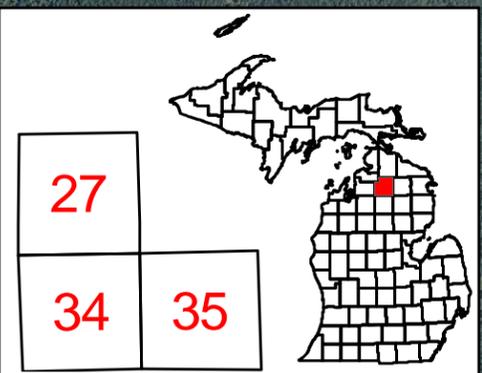
Level 3

- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous

Non-Forest Stands

Level 3

- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub



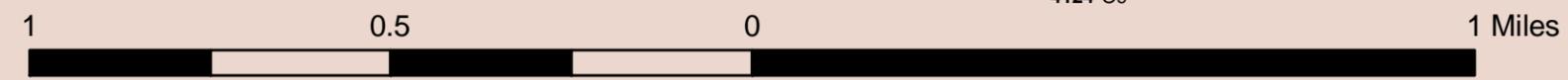
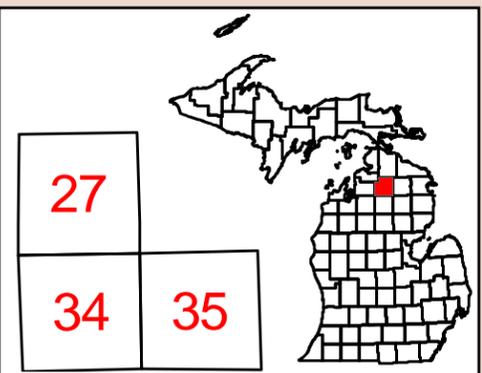
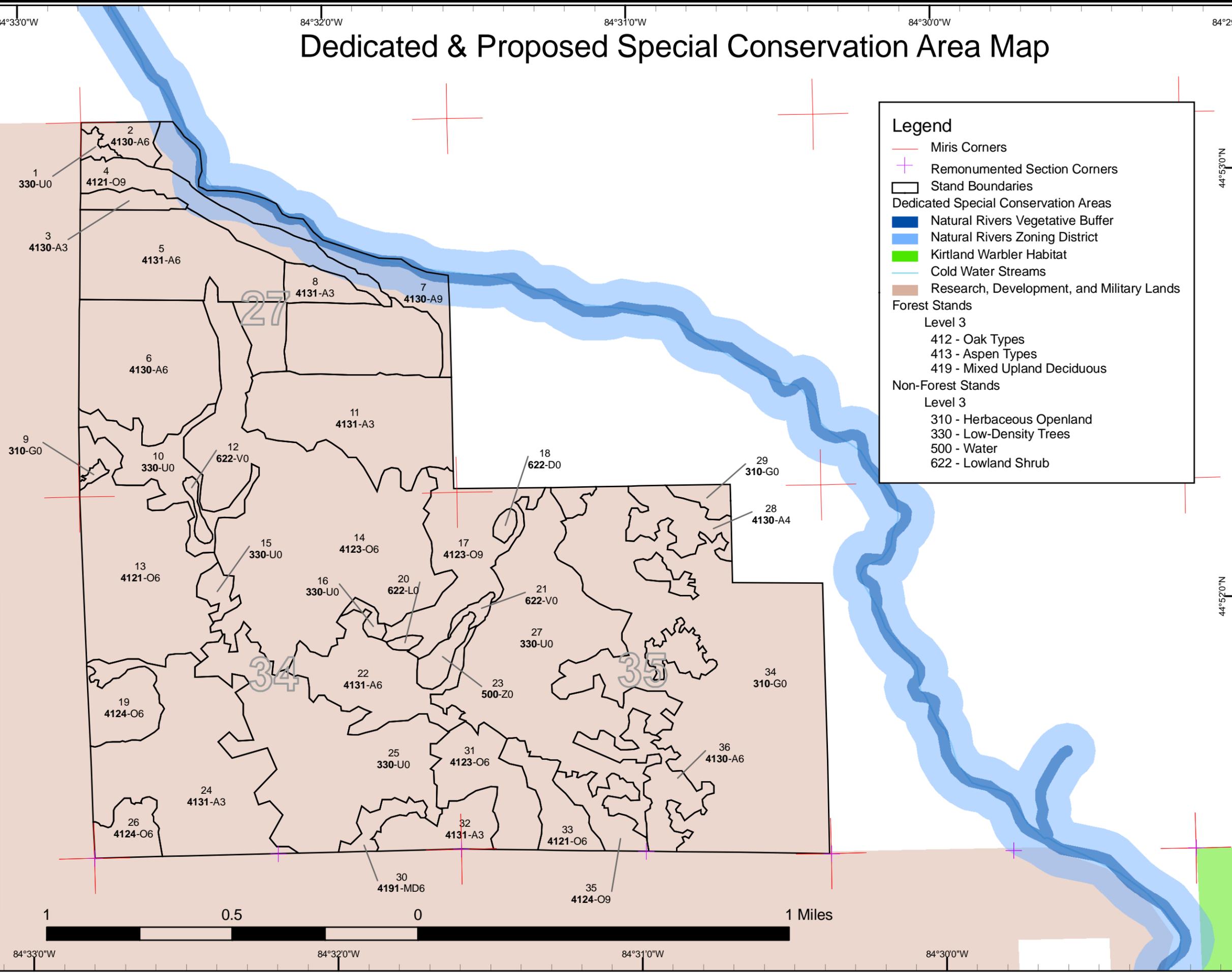
Dedicated & Proposed Special Conservation Area Map

Compartment: 016
 T29N R02W Sec.27 34 35
 County: Otsego
 Unit: Gaylord
 YOE: 2014
 Acres: 1,705 GIS Calculated
 Examiner: Ric Barta
 Map Revised: 05/16/2012
 Map Phase: Pre-Review

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

Legend

- Miris Corners
- + Remonumented Section Corners
- Stand Boundaries
- Dedicated Special Conservation Areas**
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Kirtland Warbler Habitat
- Cold Water Streams
- Research, Development, and Military Lands
- Forest Stands**
- Level 3
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- Non-Forest Stands**
- Level 3
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub



84°34'0"W 84°33'0"W 84°32'0"W 84°31'0"W 84°30'0"W

84°33'0"W 84°32'0"W 84°31'0"W 84°30'0"W 84°29'0"W

44°53'0"N
 44°52'0"N

44°53'0"N
 44°52'0"N

Table 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	0	143	182	133	0	74	0	39	40	0	0	0	0	0	613
Bog	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Herbaceous Openland	263	0	0	0	0	0	0	0	0	0	0	0	0	0	263
Low-Density Trees	305	0	0	0	0	0	0	0	0	0	0	0	0	0	305
Lowland Shrub	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Mixed Upland Deciduous	0	0	8	0	0	0	0	0	0	0	0	0	0	0	8
Oak	0	0	0	0	21	0	36	36	354	0	16	35	0	0	498
Treed Bog	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Water	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Total	587	143	190	133	21	74	36	75	395	0	16	35	0	0	1705



Table 2 – Proposed Treatment Summaries

Gaylord Mgt. Unit
Year of Entry 2014

Compartment 016
Total Compartment Acres: 1705

Acres by Treatment Type

Commercial Harvest - 252	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
Aspen	79	0	0	0	0	0	79
Oak	172	0	0	0	0	0	172
Total	252	0	0	0	0	0	252



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
4	52016004_cut-Cut	5.5	4121 - Oak, Aspen	High Density Log	110	81-110	Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Standard clearcut to the toe of the slope. Retention is that part of the stand where the slope is inoperable and will be left uncut. Operations will follow military protocol. Sale may be impacted if eagle's nest across the river is still active.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> Monitor regeneration. Any combination of oak and aspen is acceptable. Red maple and pine will be tolerated.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
7	52016007_eas t-Cut	14.8	4130 - Aspen	High Density Log	83	51-80	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Standard clearcut. Retention is that part of the stand that will remain uncut in the river corridor. Military protocol applies. Sale timing will also be affected if the eagle nest across the river is active.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> Monitor regeneration. A mix of oak and aspen is expected and desired. A pine component is acceptable.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
13	52016013_sm all-Cut	46.6	4121 - Oak, Aspen	High Density Pole	80	81-110	Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Standard clearcut specs with retention as follows: 3% of total acreage to comprise a single island near the center of the harvest; in the cut portion of the stand, leave scattered patches of 2 or 3 mature mixed oak at about one patch per acre. Military protocol applies.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> Monitor regeneration. A mixture of oak and aspen is most desirable; a component of pine and/or red maple is acceptable.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
14	52016014_sm all-Cut	70.1	4123 - Red Oak	High Density Pole	80	81-110	Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Standard clearcut specs with retention as follows: 3% of total acreage to comprise a single island near the center of the stand; in the cut portion of the stand, leave scattered patches of 2 or 3 mature mixed oak at about one patch per acre. Military protocol applies.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> Monitor regeneration. A mix of oak and aspen is expected and desired. A pine component is acceptable.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										
17	52016017-Cut	33.8	4123 - Red Oak	High Density Log	80	51-80	Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Standard clearcut specs with retention as follows: 3% of total acreage to comprise a single island near the center of the stand; in the cut portion of the stand, leave scattered patches of 2 or 3 mature mixed oak at about one patch per acre. Military protocol applies.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> Monitor regeneration. A mix of oak and aspen is expected and desired. A pine component is acceptable.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>										



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
22	52016022-Cut	48.3	4131 - Aspen, Oak	High Density Pole	50	51-80	Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal
<u>Prescription</u> Standard clearcut with retention to include buffers at the lake and bog as well as the patch of aspen saplings in the southeast. Also, where <u>Specs:</u> possible, mark 2 or 3 mature mixed oaks per acre in groups. Military protocol applies.										
<u>Other</u> <u>Comments:</u>										
<u>Next</u> Monitor regeneration. Aspen and oak are the desired species. A minor component of natural pine is acceptable but not mandatory. <u>Steps:</u>										
<u>Proposed</u> <u>Start Date:</u> 10/01/2013										
35	52016035-Cut	16.4	4124 - Red with White Oak	High Density Log	102	81-110	Harvest	Clearcut with Reserves	4124 - Red with White Oak	Cmpt. Review Proposal
<u>Prescription</u> Standard clearcut specs with retention as follows: 3% of total acreage to encompass the patch of white pine regeneration at the south end of the <u>Specs:</u> stand; in the cut portion of the stand, leave scattered patches of 2 or 3 mature mixed oak at about one patch per acre. Military protocol applies.										
<u>Other</u> <u>Comments:</u>										
<u>Next</u> Monitor regeneration. A mixture of oak and pine is most desirable, but some aspen and red maple is acceptable. <u>Steps:</u>										
<u>Proposed</u> <u>Start Date:</u> 10/01/2013										
36	52016036-Cut	16.3	4130 - Aspen	High Density Pole	56	111-140	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
<u>Prescription</u> Clearcut all aspen and red maple but leave all oak. Retention consists of the north portion of the stand which will remain uncut. Military protocol <u>Specs:</u> applies.										
<u>Other</u> <u>Comments:</u>										
<u>Next</u> Monitor regeneration. An oak and aspen mix is most desirable; a minor component of pine and/or red maple is acceptable. <u>Steps:</u>										
<u>Proposed</u> <u>Start Date:</u> 10/01/2013										

**Total Treatment
Acreage Proposed: 251.8**

Table 4 -- Treatments Prescribed with a Limiting Factor



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

Prescription Specs:

Other Comment:

Next Steps:

Proposed Start Date: #Error

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: 0

Out of YOE -- Treatments
Prescribed with No Limiting Factor

Year of Entry: 2014



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

Other
Comments:

Next
Steps:

Proposed
Start Date: #Error

**Total Treatment
Acreage Proposed: 0**

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Gaylord Mgt. Unit

5 – Forested Stands

Compartment: 016

Year of Entry: 2014



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	4130 - Aspen	High Density Pole	10.0	35	81-110	Remarkably pure to aspen.
3	4130 - Aspen	High Density Sapling	8.5	15		Dog hair.
4	4121 - Oak, Aspen	High Density Log	34.5	110	81-110	Occasional beech and white birch. Too steep to cut for the most part, especially in such close proximity to the river.
5	4131 - Aspen, Oak	High Density Pole	123.0	35	81-110	
6	4130 - Aspen	High Density Pole	78.3	26	51-80	Almost pure to aspen in places, especially in the west half. Some remnant oak logs in the SE. Oak saplings are more significant in the SE as well.
7	4130 - Aspen	High Density Log	40.5	83	51-80	Average BA is 73. Lots of deer sign along the river. Some balsam poplar in north end where the stand has a noticeably higher water table. Much of the middle of this stand is a sliver along the river which is too steep to avoid BMP issues.
8	4131 - Aspen, Oak	High Density Sapling	25.5	26	1-50	
11	4131 - Aspen, Oak	High Density Sapling	78.6	26		Some aspen is pole sized, but barely.
13	4121 - Oak, Aspen	High Density Pole	99.4	80	81-110	Heavier to oak in the SE while more to aspen in the west.
14	4123 - Red Oak	High Density Pole	204.1	80	81-110	Average BA is 96.
17	4123 - Red Oak	High Density Log	51.0	80	51-80	This stand contains some pine, and oak regeneration that should be protected. Adjacent recent clearcut abuts this stand in the NE corner.
19	4124 - Red with White Oak	High Density Pole	21.5	78	81-110	Released by species thinning out the aspen in 1997. There is a small patch of aspen in the nw corner.
22	4131 - Aspen, Oak	High Density Pole	48.3	50	51-80	This stand is a mixed bag with expanding aspen clones. Most of the stand is much younger than its age, especially in the SE. Some overmature oak, especially in the SW corner, and a few red pine in the east end. Lots of oak regen; the stand would probably convert to oak if the aspen was allowed to fall out. Younger stock could be protected as retention, or we could diameter cut the oak and species thin out the merchantable aspen to regenerate those while sparing the younger stock.
24	4131 - Aspen, Oak	High Density Sapling	111.5	15		

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Gaylord Mgt. Unit

5 – Forested Stands

Compartment: 016
Year of Entry: 2014

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
26	4124 - Red with White Oak	High Density Pole	14.5	75	81-110	Part of this stand was not visited as it lies inside (south) of the military fence. From the imagery and as viewed from the fence, the timber type appears to be the same as that portion of the stand that was visited.
28	4130 - Aspen	Low Density Pole	39.3	70	1-50	Patchy stocking and never well stocked in any place. Lots of shrubby areas make these stands look more substantial on the imagery than they truly are.
30	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	8.1	25	51-80	Young pine coming up under mixed species and ages of deciduous. Canopy is broken. Manage for pine. Cluster of a dozen or so relic pine, some with fire scars, at the south end.
31	4123 - Red Oak	High Density Pole	36.1	66	141-170	Rolling.
32	4131 - Aspen, Oak	High Density Sapling	22.9	15		
33	4121 - Oak, Aspen	High Density Pole	20.5	40	81-110	
35	4124 - Red with White Oak	High Density Log	16.4	102	81-110	Large old red oak logs are the common denominator. Lots of pine saps at the south end and a few at the north end. These are worth protecting, given the lack of pine in this compartment.
36	4130 - Aspen	High Density Pole	26.2	56	111-140	BA averaged 112.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	3301 - Low Density Deciduous Tree	3.4	No	Unspecified	
9	3105 - Mixed Upland Herbaceous	1.5	No	Unspecified	
10	3301 - Low Density Deciduous Tree	32.0	No	Unspecified	
12	6225 - Bog	3.1	No	Unspecified	
15	3301 - Low Density Deciduous Tree	6.4	No	Unspecified	
16	3301 - Low Density Deciduous Tree	3.2	No	Unspecified	
18	6224 - Treed Bog	2.6	No	Unspecified	
20	6229 - Mixed lowland shrub	1.7	No	Unspecified	
21	6225 - Bog	3.0	No	Unspecified	
23	50 - Water	7.8	No	Unspecified	Sand Lake.
25	3301 - Low Density Deciduous Tree	116.6	No	Unspecified	
27	3303 - Mixed Low Density Trees	143.5	No	Unspecified	
29	3105 - Mixed Upland Herbaceous	6.3	No	Unspecified	
34	3105 - Mixed Upland Herbaceous	255.6	No	Unspecified	Scattered shrubs.



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	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.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.