



COMPARTMENT REVIEW PRESENTATION ***GAYLORD FOREST MANAGEMENT UNIT***

COMPARTMENT: 59

ENTRY YEAR: 2014

ACREAGE: 1643

COUNTY: Antrim

Revision Date: March 6, 2012

Stand Examiner: Zachary Crew

Legal Description: T30N, R5W, Sec. 6, 7, 32 & 33

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: Soils in this compartment are dominated by the Kalkaska – East Lake series and the Kalkaska – Montcalm series. These soils are generally gravelly loamy sands or loamy sands. There are several small inclusions of Tawas Muck around the Jordan River and around various seeps and small creeks that feed into the Jordan River. The topography of this compartment varies from relatively flat to rolling hills. There are slopes as steep as 40 percent in some areas.

Ownership Patterns, Development, and Land Use in and Around the Compartment: To the east of the compartment, the predominant land use is agricultural, specifically potato fields. To the west of the compartment is the Jordan River Valley which is a designated management area in the Gaylord Management Unit.

Unique, Natural Features: The Jordan River flows through the northern part of the compartment. The MNFI database notes the following; RSH nesting occurrence in stand 1 ~ yr 2000, other potential nesting habitat throughout compartment in hardwood stands (especially those in section 32, 33). There is potential for goshawk as well. There was a documented Red Shouldered Hawk (RSH) to west of section 32. RSH southwest of section 7 and west of section 6

Archeological, Historical, and Cultural Features:

Special Management Designations or Considerations: This compartment falls under the Jordan River management plan. This compartment is mainly dominated by hardwood stands in the north, and aspen in the south.

Watershed and Fisheries Considerations: This compartment contains portions of the Jordan River and some small tributaries. All cuts planned in this year of entry appear to be away from these water bodies; however there are a vast number of seeps throughout this area. Care should be taken to avoid disrupting the seeps as they provide high quality groundwater to the Jordan River system.

Wildlife Habitat Considerations: This compartment consists mostly of upland hardwoods and aspen. Some of the hardwoods are going to be treated to provide structural diversity within the stand and compartment. The aspen within this compartment contains a good mix of age classes that benefits white-tailed deer, grouse, woodcock, and wild turkey.

Mineral Resource and Development Concerns and/or Restrictions: All Sections, T30N-R5W, Antrim County

Surface sediments consist of end moraines of coarse-textured glacial till (uplands) 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 Devonian Ellsworth and Antrim Shales. These shales are quarried for cement products elsewhere in the State. Gravel pits are located in Sections 17, 20 and 30 and potential appears to be good. All State lands located on the moraine deposits have excellent gravel potential. Oil and gas potential in the area is primarily for the Antrim Shale gas play. Part of the compartment is in the Jordan Valley Management Area and development is only by drilling horizontal wells from outside the JVMA. The rest of the State land in the compartment is currently leased for oil and gas development and has been developed.

Vehicle Access: There is ample access to this compartment provided by Turner Road in the north and Jordan River Road coming up from the south. In the southern half of the compartment access is maintained through a series of gas well roads that travel throughout this portion of the compartment.

Survey Needs: There are no survey needs for this year of entry.

Recreational Facilities and Opportunities: The Jordan River Pathway and the Alba spur of the Jordan Valley Snowmobile Trail are located within sections 6 & 7.

Fire Protection: The northern part of this compartment is dominated by hardwood types that typically are not associated with large scale fire events. The southern part of this compartment is dominated by hardwood and young aspen and upland brush stands.

Additional Compartment Information: The Jordan River National Fish Hatchery and the portion of Turner Road leading to the Fish Hatchery are federally owned.

➤ **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**

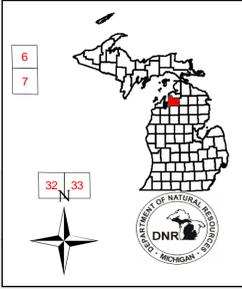
➤ **The following information is displayed, where pertinent, on the attached compartment maps:**

- ◆ **Base feature information, stand numbers, cover types**

- ◆ **Proposed treatments**
- ◆ **Proposed road access system**
- ◆ **Suggested potential and current SCA's**

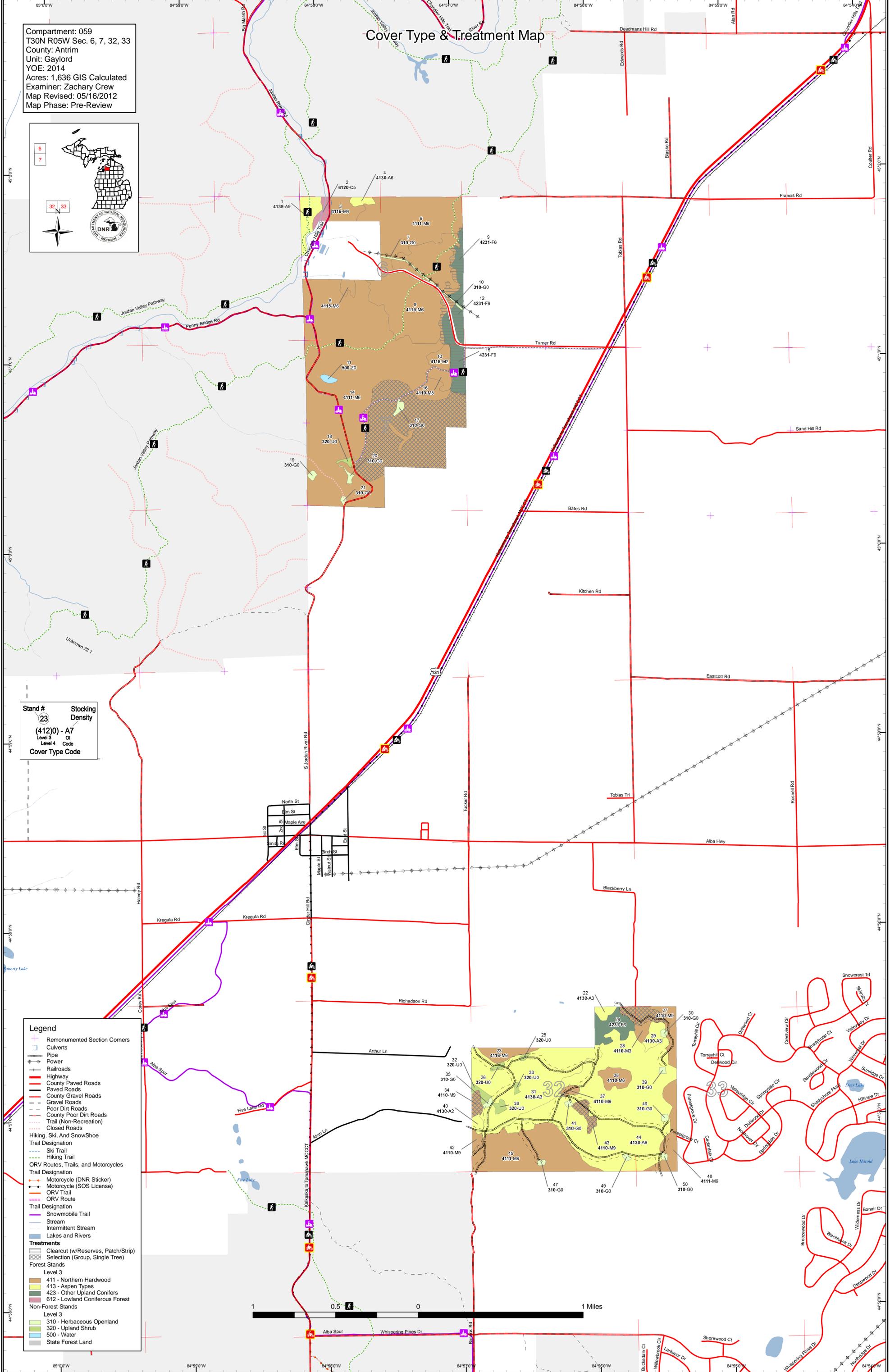
Cover Type & Treatment Map

Compartment: 059
 T30N R05W Sec. 6, 7, 32, 33
 County: Antrim
 Unit: Gaylord
 YOY: 2014
 Acres: 1,636 GIS Calculated
 Examiner: Zachary Crew
 Map Revised: 05/16/2012
 Map Phase: Pre-Review



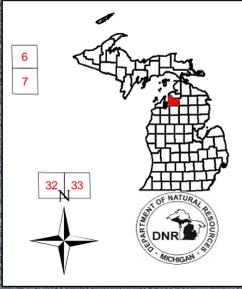
Stand #
 (23)
 (4120) - A7
 Level 3
 Level 4
 Code
 Cover Type Code

- Legend**
- Remonumented Section Corners
 - Culverts
 - Pipe
 - Power
 - Railroads
 - Highway
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Gravel Roads
 - Poor Dirt Roads
 - County Poor Dirt Roads
 - Trail (Non-Recreation)
 - Closed Roads
 - Hiking, Ski, and Snowshoe Trail Designation
 - Ski Trail
 - Hiking Trail
 - ORV Routes, Trails, and Motorcycles Trail Designation
 - Motorcycle (DNR Sticker)
 - Motorcycle (SOS License)
 - ORV Trail
 - ORV Route
 - Snowmobile Trail
 - Stream
 - Intermittent Stream
 - Lakes and Rivers
 - Treatments**
 - Clearcut (w/Reserves, Patch/Strip)
 - Selection (Group, Single Tree)
 - Forest Stands**
 - Level 3
 - 411 - Northern Hardwood
 - 413 - Aspen Types
 - 423 - Other Upland Conifers
 - 612 - Lowland Coniferous Forest
 - Non-Forest Stands**
 - Level 3
 - 310 - Herbaceous Openland
 - 320 - Upland Shrub
 - 500 - Water
 - State Forest Land



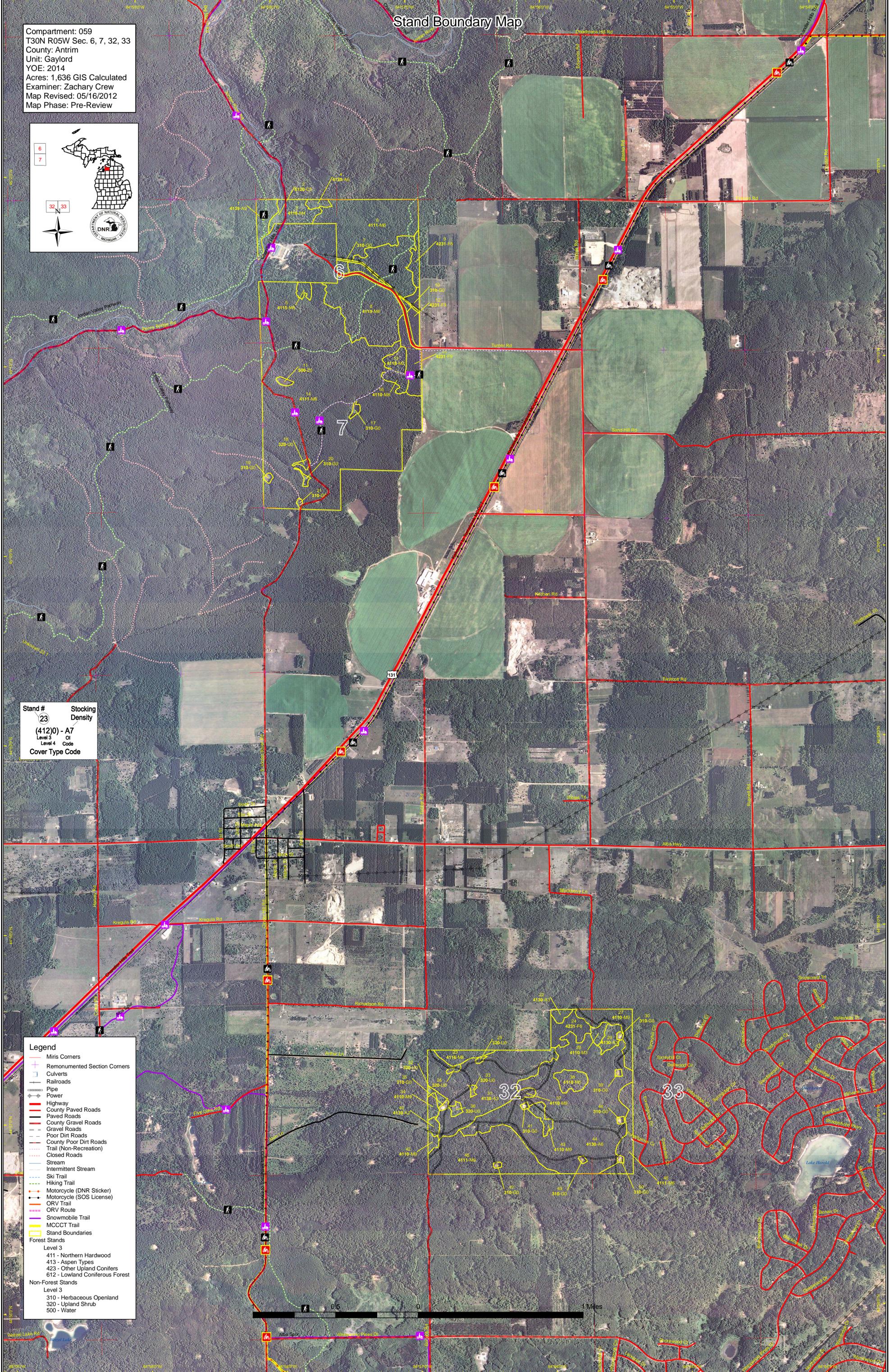
Stand Boundary Map

Compartment: 059
 T30N R05W Sec. 6, 7, 32, 33
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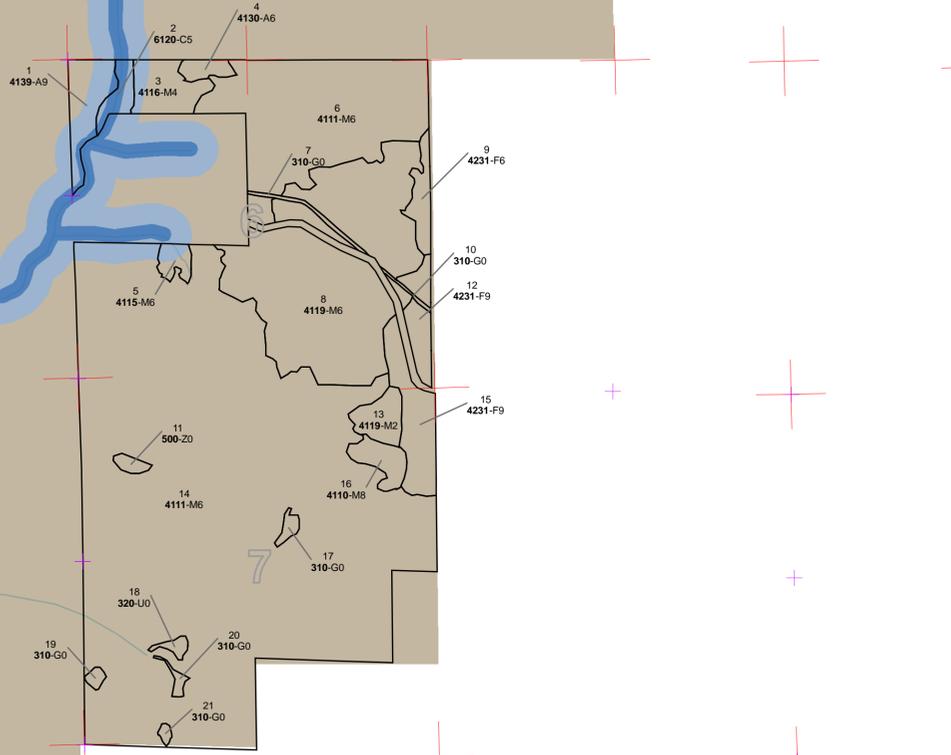
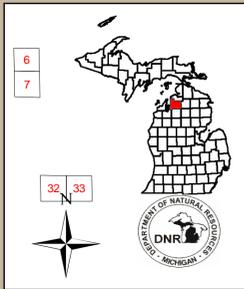
Stand #
 (23)
 Stocking
 Density
 (4120) - A7
 Level 4
 Cover Type Code

- Legend**
- Miris Corners
 - Remonumented Section Corners
 - Culverts
 - Railroads
 - 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
 - Ski Trail
 - Hiking Trail
 - Motorcycle (DNR Sticker)
 - Motorcycle (SOS License)
 - ORV Trail
 - ORV Route
 - Snowmobile Trail
 - MCCCT Trail
 - Stand Boundaries
- Forest Stands**
- Level 3
- 411 - Northern Hardwood
 - 413 - Aspen Types
 - 423 - Other Upland Conifers
 - 612 - Lowland Coniferous Forest
- Non-Forest Stands**
- Level 3
- 310 - Herbaceous Openland
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 - 500 - Water



Dedicated & Proposed Special Conservation Area Map

Compartment: 059
 T30N R05W Sec. 6, 7, 32, 33
 County: Antrim
 Unit: Gaylord
 YOY: 2014
 Acres: 1,636 GIS Calculated
 Examiner: Zachary Crew
 Map Revised: 05/16/2012
 Map Phase: Pre-Review



Stand #
 (23)
 (4120) - A7
 Level 3
 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
 - Dedicated Management Areas
 - Non-Dedicated Natural Areas and National Natural Landmarks
 - Cold Water Streams
- Forest Stands**
- Level 3
- 411 - Northern Hardwood
 - 413 - Aspen Types
 - 423 - Other Upland Conifers
 - 612 - Lowland Coniferous Forest
- Non-Forest Stands**
- Level 3
- 310 - Herbaceous Openland
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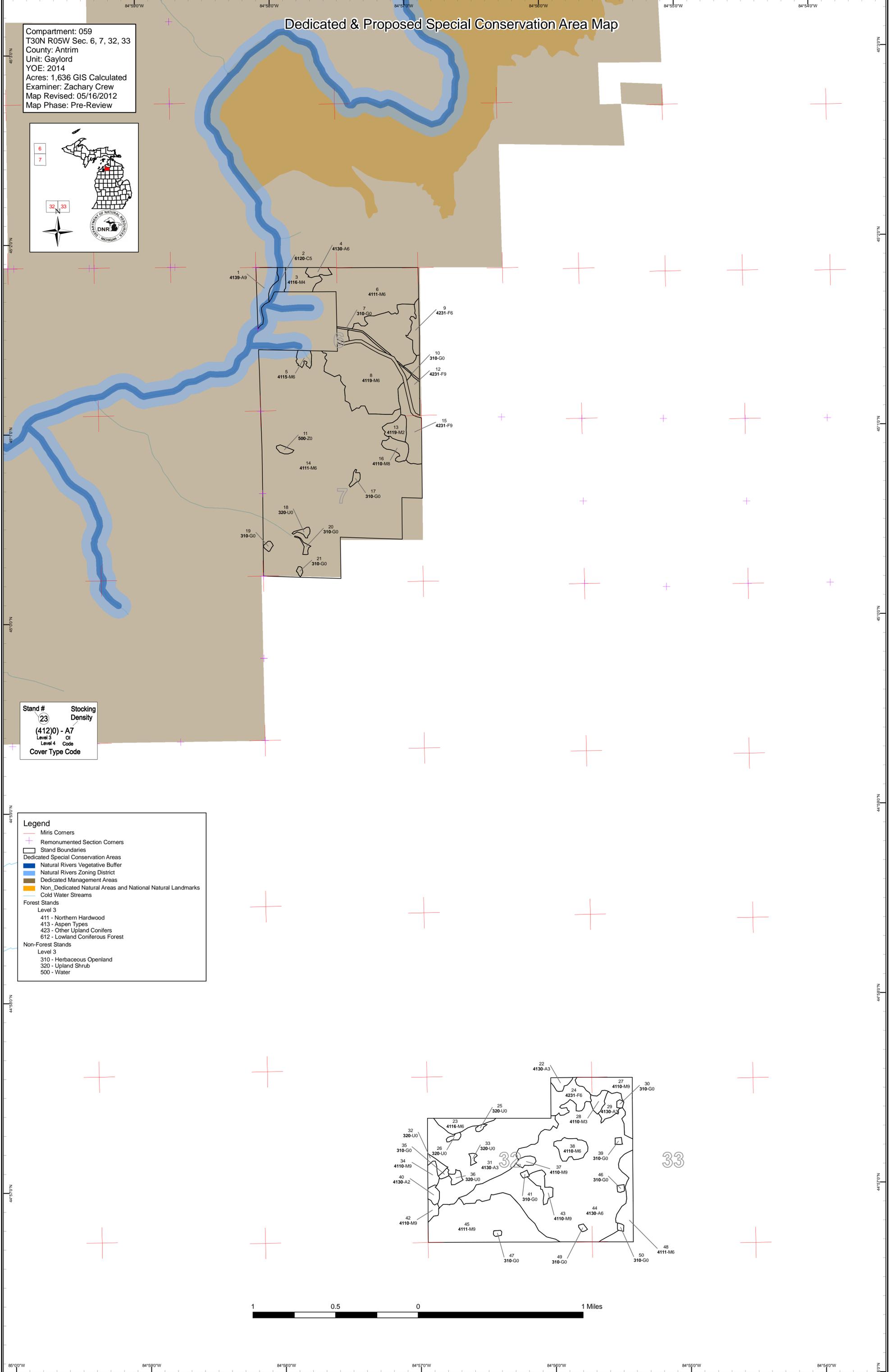
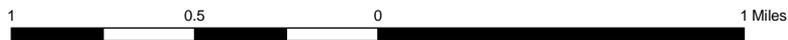
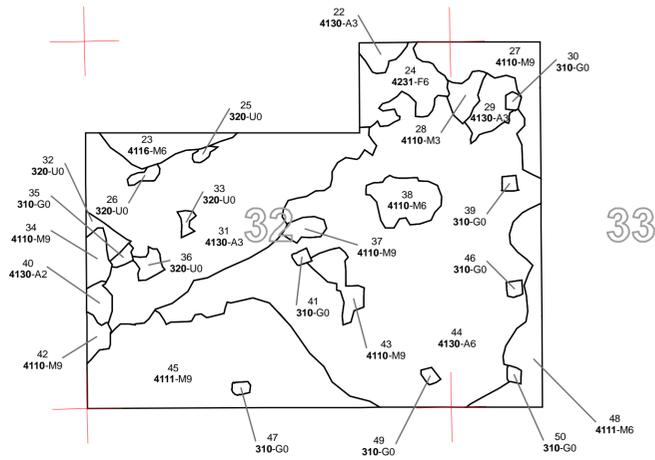


Table 1 – Total Acres by Cover Type and Age Class



	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	152	279	0	0	5	17	0	0	0	0	0	0	0	452
Cedar	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6
Herbaceous Openland	18	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Northern Hardwood	0	0	10	0	16	69	987	0	0	0	0	0	0	0	1081
Upland Shrub	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Upland Spruce/Fir	0	0	0	0	0	64	0	0	0	0	0	0	0	0	64
Water	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	33	152	289	0	16	137	1004	0	0	0	6	0	0	0	1636



Table 2 – Proposed Treatment Summaries

Gaylord Mgt. Unit
Year of Entry 2014

Compartment 059
Total Compartment Acres: 1636

Acres by Treatment Type

Commercial Harvest - 243	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
Northern Hardwood		0	188	0	0	0	0	188
Upland Spruce/Fir		55	0	0	0	0	0	55
Total		55	188	0	0	0	0	243



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
9	52059009-Cut1	12.3	42311 - Planted Spruce, Mixed Deciduous	High Density Pole	51		Harvest	Clearcut	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription:</u> Clearcut stand, note that cut does not have to follow Woody Biomass guidelines, also the stand must be chipped. <u>Specs:</u> <u>Other Comments:</u> Purpose of the cut is control bark beetle outbreak in the stand. <u>Next Steps:</u> Replant to a mixture of Redpine and Oak <u>Proposed Start Date:</u> 05/03/2012										
12	52059012-Cut	15.7	42310 - Planted Spruce	High Density Log	51		Harvest	Clearcut	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription:</u> Clearcut stand leaving no retention to remove infested spruce and to facilitate planting operations. <u>Specs:</u> <u>Other Comments:</u> Be sure to include the stump height and chipping specs. Also cut does not have to follow woody biomass guidelines <u>Next Steps:</u> Re plant a mix of RP and Oak <u>Proposed Start Date:</u> 05/03/2012										
14	52059014-Cut SE	161.3	4111 - S.Maple, Hard Mast Association	High Density Pole	67	111-140	Harvest	Group Selection	4111 - S.Maple, Hard Mast Association	Cmpt. Review Proposal
<u>Prescription:</u> Thin stand to 80 BA, be sure to also provide canopy gaps for regeneration where applicable. Do not mark aspen, also be sure to put a red line around the upland brush type in the center of the cut. Do not allow harvest operations in this area or in the grassy opening. <u>Specs:</u> <u>Other Comments:</u> May be small areas of walk through scattered throughout stand <u>Next Steps:</u> Monitor growth of residual trees and regen gaps. <u>Proposed Start Date:</u> 10/01/2013										
15	52059015-Cut	26.6	42310 - Planted Spruce	High Density Log	51		Harvest	Clearcut	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription:</u> Clearcut everything in stand, leave no retention to facilitate planting efforts <u>Specs:</u> <u>Other Comments:</u> Be sure to use stump height spec and chipping spec to facilitate planting operation, cut does not have to follow woody biomass guidelines <u>Next Steps:</u> Re plant a mix of Red Pine and Oak <u>Proposed Start Date:</u> 05/03/2012										
27	52059027	13.3	4110 - Sugar Maple Association	High Density Log	60	111-140	Harvest	Group Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal
<u>Prescription:</u> Thin stand to 80 residual BA, apply canopy gaps where appropriate in order to facilitate regeneration (100 ft+ in diameter). Do not cut aspen <u>Specs:</u> <u>Other Comments:</u> Be sure to use the two track on the east side of the stand as the sale boundary. Sale may be to small for large commercial operation, possible firewood sale? check with kitchen farms for access. <u>Next Steps:</u> Continue to monitor stand for regen <u>Proposed Start Date:</u> 10/01/2013										



Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
34	52059034-Cut	5.5	4110 - Sugar Maple Association	High Density Log	52	81-110	Harvest	Group Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal
<u>Prescription</u> Stand should be thinned to 80 BA										
<u>Specs:</u>										
<u>Other</u> stand may be to small to effectively market, possible firewood operations										
<u>Comments:</u>										
<u>Next</u> Monitor regen and growth of residual trees										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
43	52059043-Cut	7.9	4110 - Sugar Maple Association	High Density Log	58	111-140	Harvest	Group Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal
<u>Prescription</u> Thin stand to 80 BA										
<u>Specs:</u>										
<u>Other</u> Stand may be to small to effectively market (possible for firewood operators)										
<u>Comments:</u>										
<u>Next</u> Monitor regen and growth of residual trees										
<u>Steps:</u>										
<u>Proposed</u>										
<u>Start Date:</u> 10/01/2013										
Total Treatment Acreage Proposed: 242.6										

**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**



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4139 - Aspen, Mixed Deciduous	High Density Log	17.0	60		A mix of mostly aspen and hardwood, inventory was done remotely doing to the Jordan River blocking the way
2	6120 - Lowland Cedar	Medium Density Pole	6.5	102		Stand forms the corridor for the Jordan River
3	4116 - Mixed N. Hardwood - Aspen	Low Density Pole	15.8	47	1-50	Lots of open space with native grasses, some spotted napweed, fair amount of WP regeneration, scattered small QA clones.
4	4130 - Aspen	High Density Pole	4.5	57		Nice aspen stand, bisected by stream, no access to stand, buffer of stream allows for very little acreage to be available for treatment
5	4115 - Y.Birch, Hemlock NH	High Density Pole	5.0	61		Lots of seeps coming out of hills, running together, and continuing on to the jordan, lots of Yellow Birch, very interesting micro climate
6	4111 - S.Maple, Hard Mast Association	High Density Pole	105.1	62	51-80	Hwdwd stand NE corner of compartment, evidence of BBD - Hilly - seeps on west end of compartment flow into the Jordan River
8	4119 - Mixed Northern Hardwoods	High Density Pole	144.1	62	81-110	Hardwood with a mix of White Spruce planted in openings
9	42311 - Planted Spruce, Mixed Deciduous	High Density Pole	8.8	51		Spruce plantation with other species growing in areas where planting failed
12	42310 - Planted Spruce	High Density Log	11.8	51		Planted White spruce, thinned last YOE, take 2 rows leave 2, seperated by turner road.
13	4119 - Mixed Northern Hardwoods	Medium Density	9.8	26		Opening coming back to a Hardwood Stand
14	4111 - S.Maple, Hard Mast Association	High Density Pole	587.4	67	111-140	Large hardwood stand, SW part of stand was thinned last YOE, typically nicer quality in the southern part of the stand
15	42310 - Planted Spruce	High Density Log	23.0	51		Planned spruce thinned last YOE, cut 2 rows leave 2 rows, some areas look like they are dying out.
16	4110 - Sugar Maple Association	Medium Density Log	8.6	63	81-110	Poor Quality Hardwood Stand on Poor Soils
22	4130 - Aspen	High Density Sapling	4.7	15		Aspen clearcut from 1997
23	4116 - Mixed N. Hardwood - Aspen	High Density Pole	12.7	51		Poor quality clumpy hardwoods with a scattering of pople and White Pine, better quality stems on east side of stand
24	42310 - Planted Spruce	High Density Pole	20.5	50		White spruce plantation

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Gaylord Mgt. Unit

5 – Forested Stands

Compartment: 059
Year of Entry: 2014

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
27	4110 - Sugar Maple Association	High Density Log	28.5	60	111-140	Small stand of hardwoods, nice pockets scattered throughout interior of the stand
28	4110 - Sugar Maple Association	High Density Sapling	5.6	65		Low quality hardwood pocket, Aspen encroaching from previous cut
29	4130 - Aspen	High Density Sapling	9.2	15		Upland brush interspersed amongst aspen clones (cut in 1997)
31	4130 - Aspen	High Density Sapling	133.7	15		Aspen stand clearcut in 1997
34	4110 - Sugar Maple Association	High Density Log	5.5	52	81-110	Small pocket of fair quality hardwood
37	4110 - Sugar Maple Association	High Density Log	3.6	63	81-110	Small hardwood stand in the middle of large aspen cuts
38	4110 - Sugar Maple Association	High Density Pole	13.2	59	51-80	poor quality hardwoods, surprising due to aspect and soil type
40	4130 - Aspen	Medium Density	4.0	15		Upland brush interspersed amongst aspen clones
42	4110 - Sugar Maple Association	High Density Log	3.7	58	81-110	Decent, small stand of hardwood, maybe ready next YOE
43	4110 - Sugar Maple Association	High Density Log	7.9	58	111-140	Small stand of hardwoods located on a hill
44	4130 - Aspen	High Density Pole	279.1	27		Aspen that seems to appear to have been clearcut at one time, however there seem to be a variety of age classes in this stand ranging from 19 to 31 years old
45	4111 - S.Maple, Hard Mast Association	High Density Log	98.8	63	81-110	Poor Quality Hardwood Stand w/ pockets of Aspen mixed throughout (singles and clones). Aspen more common further west
48	4111 - S.Maple, Hard Mast Association	High Density Pole	25.9	57	81-110	narrow strip of hardwoods on east edge of compartment, poor quality



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
7	310 - Herbaceous Openland	2.3	N/A	Unspecified	
10	310 - Herbaceous Openland	0.9	N/A	Unspecified	
11	50 - Water	2.3	N/A	Unspecified	
17	310 - Herbaceous Openland	2.1	N/A	Unspecified	
18	320 - Upland Shrub	2.0	N/A	Unspecified	
19	310 - Herbaceous Openland	1.4	N/A	Unspecified	
20	310 - Herbaceous Openland	1.6	N/A	Unspecified	
21	310 - Herbaceous Openland	1.0	N/A	Unspecified	
25	320 - Upland Shrub	1.1	N/A	Unspecified	
26	320 - Upland Shrub	1.7	N/A	Unspecified	
30	310 - Herbaceous Openland	1.1	N/A	Unspecified	
32	320 - Upland Shrub	3.6	N/A	Unspecified	
33	320 - Upland Shrub	1.3	N/A	Unspecified	
35	310 - Herbaceous Openland	1.4	N/A	Unspecified	
36	320 - Upland Shrub	2.9	N/A	Unspecified	
39	310 - Herbaceous Openland	1.0	N/A	Unspecified	
41	310 - Herbaceous Openland	1.0	N/A	Unspecified	
46	310 - Herbaceous Openland	1.1	N/A	Unspecified	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
47	310 - Herbaceous Openland	1.0	N/A	Unspecified	
49	310 - Herbaceous Openland	1.0	N/A	Unspecified	
50	310 - Herbaceous Openland	1.0	N/A	Unspecified	



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	Dedicated Management Areas	Such areas are dedicated by the DNR Director for specific management uses through the promulgation of rules, as governed by Part 5, Department of Natural Resources, of the NREPA (MCL 324.502(2) and 324.504). Section 38 of the Administrative Procedures Act (MCL 24.238) provides for public requests for the promulgation of rules. This is an active program, with one proposed site currently under review by the DNR.
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.