



**GAYLORD FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION**

COMPARTMENT: 12

ENTRY YEAR: 2010
Compartment Acreage: 1,245
County: OTSEGO

Revision Date: 3/8/2008

Stand Examiner: Kimberly Lentz

Legal Description: T29N R2W Sec. 4, 5, 6, 7, 8 and 9

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 soil type is Rubicon-Grayling Sand with a small percentage of Rifle Peat-Carbondale Muck in the Turtle Creek drainage system. The terrain is level.

Ownership Patterns, Development, and Land Use in and Around the Compartment: State ownership in this compartment is about 30%. This compartment and surrounding area has undergone extensive Antrim gas development. There are 18 wells and 1 facility, and approximately 8 miles of pipeline and associated roads in this compartment. Hunting and fishing are the general recreational uses of the compartment.

Unique, Natural Features: Ausable River is a designated natural river. Turtle Creek is also part of the natural river designation system. The stands adjacent to the river and creek have been nominated for a High Conservation Value Area which includes a strip that is 400' on either side of these waterways.

Archeological, Historical, and Cultural Features:

Special Management Designations or Considerations: The large opening in stand 24 is part of an opening maintenance plan that encompasses three adjacent compartments also.

Watershed and Fisheries Considerations: This compartment is within the Au Sable River watershed, and contains portions of the North Branch Au Sable River and Turtle Creek. The North Branch Au Sable has Type 1 trout regulations in this compartment, but both streams are fairly warm at this point, since they start as lake outlets near this compartment. North Branch Au Sable River is a designated Natural River. The prescribed management actions are appropriate for protection of these waterbodies.

Wildlife Habitat Considerations: This compartment contains both upland and lowland areas. The majority of the lowland is Turtle Creek stream bottom, which is mostly a large beaver meadow that contains a large flooding that is used by ducks and geese. This compartment receives a considerable amount of hunting pressure from both upland game hunters and deer hunters. There is a good age class diversity of aspen in this area and cutting stands 26, 28, 47, and 56 will add to this diversity and maintain early successional habitat. The oaks in stand 4 are going to be avoided in this red pine thinning to maintain mast production. All oaks will also be left in stand 26. Stand 24, a large U, G, and lowly stocked aspen complex is heavily used by deer, grouse, woodcock, open land songbirds and baron insects and plant species. This area is going to be burned to maintain and/or enhance this community.

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. The Mississippian Coldwater Shale subcrops below the glacial drift. The Coldwater does not have an economic use. The nearest gravel pit is located four miles to the west, but there may be some potential on the uplands. The compartment has been developed for Antrim Shale gas production and is also located in the Niagaran reef trend. Most State lands are leased and in production.

Vehicle Access: Access is good throughout the compartment with most of the roads being gas pipelines that lead to gas wells. There are no road closures recommended at this time.

Survey Needs: The proposed treatments will require minimal survey work.

Recreational Facilities and Opportunities: There is a public access site to Emerald Lake. Also, the North Branch Snowmobile Trail and ORV Route pass through the eastern side of Section 9.

Fire Protection: Prescribed burns will be periodically scheduled for stand 24 to maintain this area in an opening complex.

Additional Compartment Information:

- **The following 5 reports from the Operations Inventory System (OIPC) are attached:**
 - ◆ **Cover Type by Age Class**
 - ◆ **Cover Type by Management Objective**
 - ◆ **Compartment Volume Summary**
 - ◆ **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 old growth**

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Michigan Department of Natural Resources - Operations Inventory System
Individual Compartment Report

MACKINAW STATE FOREST

GAYLORD FOREST MGT UNIT

OTSEGO COUNTY

COMPARTMENT: 12

Table 3A

(acres shown in boxes)

MANAGEMENT OBJECTIVE TYPE

COVER TYPE	A	S	V	C	G	H	J	I	L	P	N	Q	X	O	B	R	K	Y	F	E	T	D	U	M	Z	W	Total	
A Aspen	593																										593	
S Black Spruce		17																									17	
V Bog or Marsh			1																								1	
G Grass					38											1											39	
J Jack Pine																12											12	
L LowInd Brush									52																		52	
P LowInd Poplr										10																	10	
N Marsh											64																64	
Q Mx Swmp Cnfr												7															7	
X Non Stocked													7														7	
O Oak														13													13	
R Red Pine															70												70	
F Spruce Fir																			20								20	
E Swamp Hrdwds																				11							11	
D Treed Bog																						13					13	
U Upland Brush																								246			246	
M Upland Hdwds																								14		14		
Z Water																									11	11		
W White Pine																										45	45	
Total	593	17	1		38				52	10	64	7	7	13		83			20	11			13	246	14	11	45	1245

MACKINAW STATE FOREST

GAYLORD FOREST MGT UNIT

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COMPARTMENT: **12**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	2683 Cds	Hardwood	1304 Cds
Hardwood	182 Mbf	Hardwood	7 Mbf
Softwood	2965 Cds	Softwood	737 Cds
Softwood	134 Mbf	Softwood	10 Mbf
Sum TotVol	6280 Cds	Sum CutVol	2075 Cds
Total Cmpnt Acres		Acres Proposed For Cut.....	239
1245			

GAYLORD FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 12

Entry Year: 2010

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	fdf Status
4	R6	67	48	55	red pine	mature	thinning	1		
comnts Fmd : PLANTED SPRING 1960 RED PINE 750 PER ACRE AND WHITE PINE 450 PER ACRE. 1987 WHITE PINE HAS BEEN MADE INTO A NEW STAND. (Jan.-08): Red pine needs a first time third row thinning. Cut intermixed red maple & aspen in cut rows only. Save large R.Oak if possible. Some pockets of smaller dbh red pine to work through during thinning operation. Red Pine thinning which will leave two-thirds of stand to meet any retention concerns.										
24	U2	213		55	upland brush	nonstocked		0	opening maintenance	
comnts Fmd : THIS STAND IS CONVERTING TO ASPEN AND CHERRY. 1/15/98 PRESCRIBE SPRING BURN TO IMPACT CHERRY BRUSH. DO NOT BURN EDGES WHERE ASPEN IS ENCROACHING ,THESE AREAS WILL BE SEEDED OR PLANTED WITH WHITE PINE. (Jan. '08): White pine seeding in this area was unsuccessful in the past. Some of the juneberry died from the previous prescribed burn. Retention: Some aspen clones on edges of stand will be left which are also adjacent to private on the west boundary.										
26	A5	97	47	62	aspen (upland)	mature	final harvest	1		
comnts Fmd : STAND IS OF POOR QUALITY. THERE ARE SOME CLONES WHICH ARE MORE MATURE. 12/18/97 (Jan.'08) Final harvest this stand. Density is variable. Protect advanced aspen regen under 4" dbh where practical. Leave juneberry & white pine. Adjacent stands provide species diversity with a mixture of oak, pine, and several age classes of aspen that are well distributed throughout. RETENTION: 3% of acreage: Three one acre uncut islands will be created for retention selecting younger aspen clones that are healthy. The overall treatment is a final harvest of an aspen stand that has variable density with low volume & value in areas. Leave any oak within final harvest area.										
28	A6	10	47	62	aspen (upland)	mature	final harvest	1		
comnts Fmd : STAND IS OF POOR QUALITY. THERE ARE SOME CLONES WHICH ARE MORE MATURE. 12/18/97 (Jan.'08) Final harvest this stand. Cut all species placing a two inch rule in the contract. NO RETENTION needed due to lots of clones of aspen in adjacent white pine stands that provide diversity, and will be left uncut. This stand is only 10 acres, and retention is not practical here.										
30	J6	12	48	46	red pine	mature	final harvest	1	planting	
comnts Fmd : Jack pine plantation prescribed for final harvest to avoid mortality. Small diameter 6-7", chip operation recommended. NO RETENTION: Removal of all the jack pine will reduce risk of Jack Pine budworm infestations, and allow red pine planting & reforestation efforts more efficiently.										
47	A5	21	55	65	aspen (upland)	mature	final harvest	1		
comnts Fmd : THIS STAND WAS PART OF STAND 30, ASPEN AND RED MAPLE HAVE OVER TOPPED JACK PINE. CONVERT THIS STAND TO ASPEN THE NEXT ROTATION. 1/15/98 (Jan. '08): Final harvest to promote aspen regeneration. Quaking aspen is 6-8" dbh with evidence of hypoxylon cankers & mortality. NO RETENTION: Aspen is already showing health concerns with hypoxylon cankers. Intent is to final harvest and promote a younger, healthy stand. May have to look at younger rotational age for this stand. Do not want to retain unhealthy trees.										
54	A5	21	47	65	aspen (upland)	mature	final harvest	1		
comnts Fmd : THIS STAND IS OF POOR QUALITY AND FORM. 1/15/98. (Jan. '08): Final harvest. Leave minor component of white pine, red pine, & juneberry for visual along Old State Road. NO RETENTION OF ASPEN. Note: This was a previous stand left for retention in the past along Old State Road. Most of the aspen is overmature. LEAVE White pine, Red pine, oak, & juneberry for visual mgt										
56	A6	11	86	64	aspen (upland)	mature	final harvest	1		
comnts Fmd : Mature aspen stand prescribed for final harvest. Cut everything including a two inch rule in the cutting specifications. NO ASPEN RETENTION needed for this small 11 acre stand. There is a component of aspen throughout the adjacent white pine and swamp conifer stands that will remain uncut.										
458	G0	1			red pine	nonstocked		0	planting	
comnts Fmd : THIS STAND IS AN OLD OIL OR GAS PAD. Area will make an excellent landing when logging stand 30. Prescribed planting red pine when stand 30 is planted.										
Total Acres.....		453								

**Proposed Treatments
With Limiting Factors**

Compartment: 12

Entry Year: 2010

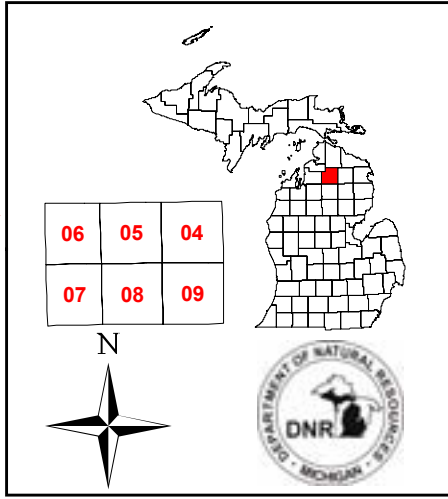
Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FD Status
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TREATMENT LIMITING FACTORS:

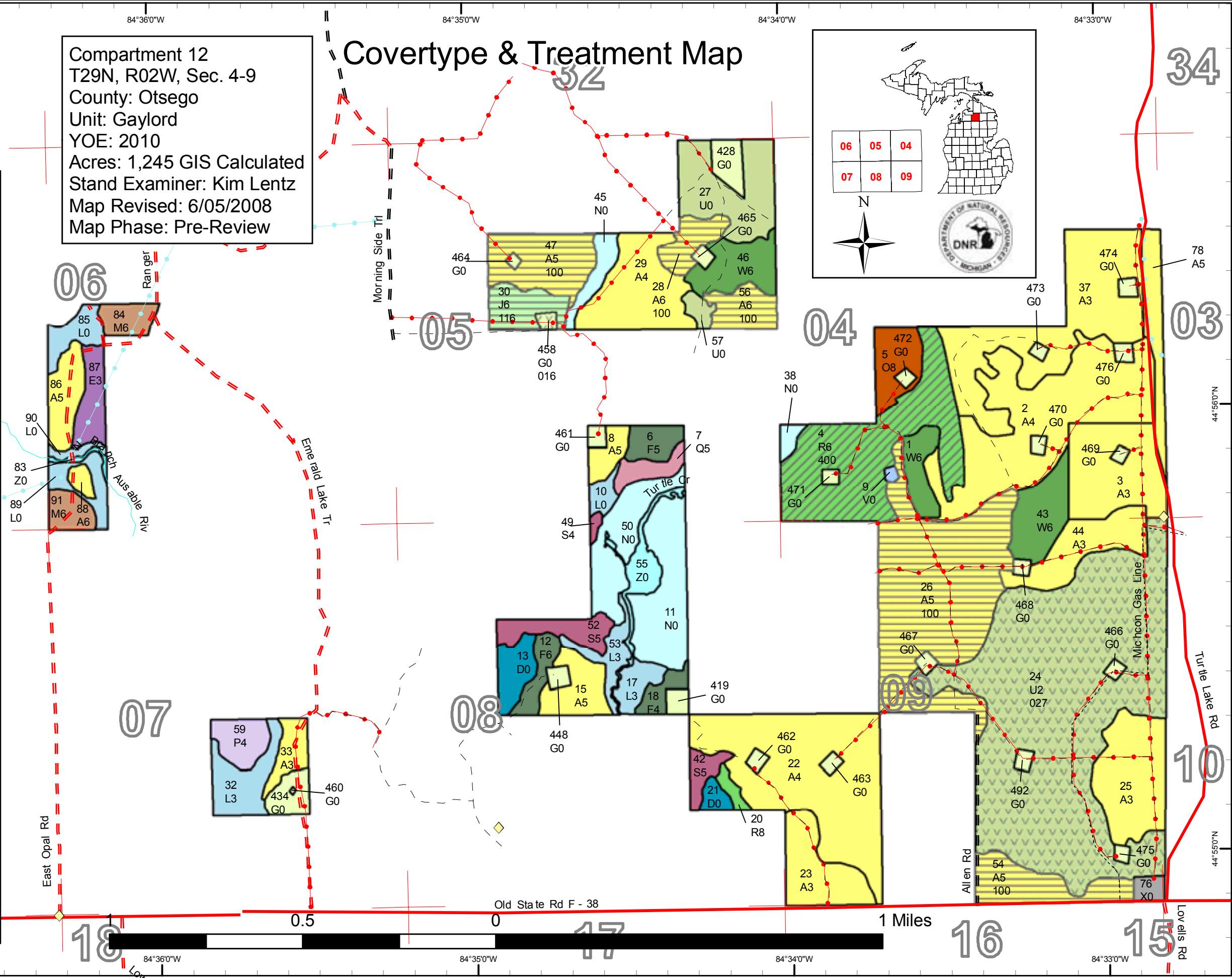
Total Acres..... 0

Covertypes & Treatment Map

Compartment 12
 T29N, R02W, Sec. 4-9
 County: Otsego
 Unit: Gaylord
 YOE: 2010
 Acres: 1,245 GIS Calculated
 Stand Examiner: Kim Lentz
 Map Revised: 6/05/2008
 Map Phase: Pre-Review



- Legend**
- ◆ RLS Corners
 - Miris Corners
 - County Paved Roads
 - - - County Gravel Roads
 - - - Gravel Roads
 - - - Poor Dirt Roads
 - - - Trails
 - Powerline
 - Pipeline
 - Water Features
 - ORV Routes
 - Snowmobile Trails
 - Stand Boundary
 - A - Aspen
 - D - Treed Bog
 - E - Swamp Hardwoods
 - F - Upland Spruce or Fir
 - G - Grass
 - J - Jack Pine
 - L - Lowland Brush
 - M - Northern Hardwoods
 - N - Marsh
 - O - Oak
 - P - Balsam Poplar, Swamp Aspen, Swamp White Birch
 - Q - Mixed Swamp Conifers
 - R - Red Pine
 - S - Black Spruce Swamp
 - U - Upland Brush
 - V - Bog or Muskeg
 - W - White Pine
 - X - Non-Stocked
 - Z - Water
 - 016 - Planting
 - 027 - Opening Maintenance/Prescribed Burning
 - 100 - Final Harvest
 - 116 - Final Harvest/Planting
 - 400 - Thinning



44°56'0"N
44°55'0"N

44°56'0"N
44°55'0"N

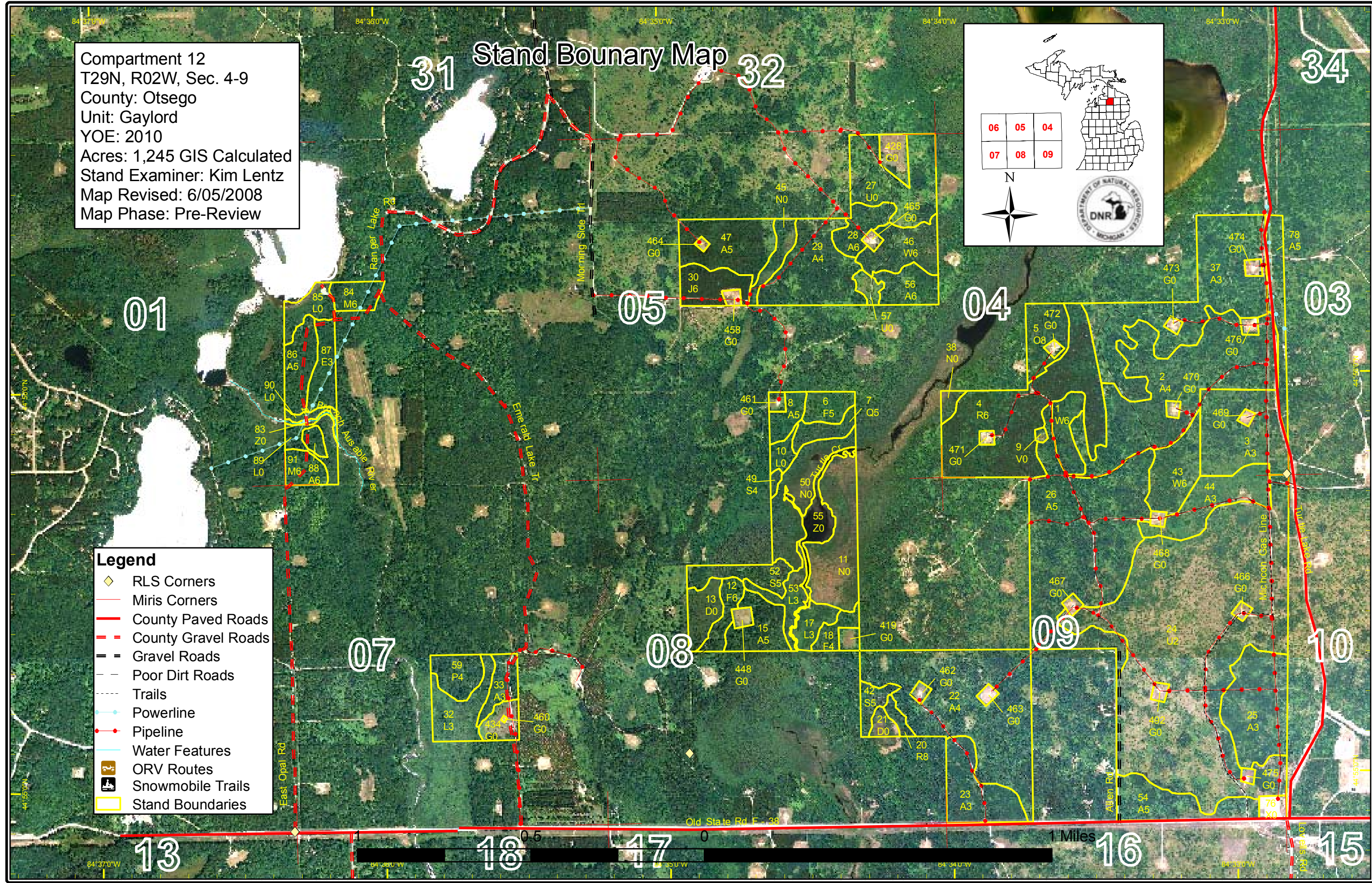
84°37'0"W 84°36'0"W 84°35'0"W 84°34'0"W 84°33'0"W

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31 Stand Boundary Map 32

- Legend**
- ◆ RLS Corners
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 - Stand Boundaries



1 Miles



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
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	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Concentrated Recreation Area	Facilities that are designed and maintained for routine or heavy recreational use, including State Parks, State Forest campgrounds, motorized and non-motorized trails, trailheads, staging areas and public access sites.