



## GRAYLING FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 251 ENTRY YEAR: 2011

GIS Compartment Acreage: 1750 County: Crawford

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**Revision Date:** 3/12/09

**Stand Examiner:** Patrick Cotant

**Legal Description:** T28NR2W Sections 31, 32 and 33

**Management Goals:** To provide an area that allows for National Guard training while maintaining forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment.

**Soils and Topography:** Topography within this compartment is flat to gently rolling with ridges to the east of Jones Lake and around the southern portion of KP Lake. The major soil complex present in this area is Grayling sand with small inclusions of other types present, the most notable being Graycalm-Klackling sands. This association is found primarily on upland flats and low knolls which are dominated by jack pine stands commonly in association with red pine and oak species. This soil complex is characterized as being excessively drained with major management concerns including equipment limitation, seedling mortality and erosion from wind and water. Wind throw is also a concern throughout this soil type complex. The bottomlands of this compartment, mainly to the west of Jones Lake, are made up of Tawas-Lupton Muck, Dawson-Loxley Peat and Leafriver Muck associations. These soil complexes are characterized as being poorly drained and are most often associated with a water course or water body. Major management concerns in these areas include equipment limitation, windthrow and seedling mortality.

**Ownership Patterns, Development, and Land Use in and Around the Compartment:** Compartment 251 is surrounded by a great deal of state land, much of which is used for military training activities. The compartment is comprised of Military Board Lands intermixed with lands leased to the National Guard under L-1479, a long-term lease agreement with the Michigan National Guard, Department of Military Affairs. The agreement provides for use by the military during their encampment, with no permanent buildings or improvements to be erected. Military needs take precedence over resource management needs on long-term lease lands. The DNR will coordinate all prescribed activities with the National Guard to ensure they are compatible with military training needs.

Recreational use is moderate within the compartment throughout the year. During the winter months snowmobile use is heavy as trail #47 traverses the compartment. During the summer and fall, hunting and fishing opportunities are plentiful in the area. Jones Lake State Forest Campground offers camping and a boat launch.

**Unique, Natural Features (include only non-site specific and non-sensitive information):** Both Jones Lake and KP Lake are located within this compartment. Each provide a unique fishing opportunity as well as excellent wildlife habitat.

**Special Management Designations or Considerations:** There is potential for dry prairie plants in grassy openings to include pine barren's species of Hill's thistle, rough fescue, Alleghany plum and Pale Agoseris.

There also is potential for pine barren's species including dusted skipper, grizzled skipper and red-legged spittlebug to be present in these openings. Warbler species will be found in the young jack pine stands that abound in this region. There is also the potential for Eastern Massasauga rattler, wood turtle and loon to exist within the riparian zones of this compartment. Bald Eagle have been documented in this area.

**Watershed and Fisheries Considerations:** Jones Lake, KP Lake and the surrounding wetlands comprise the watershed/fisheries concerns within this compartment. Jones Lake is managed as a quality fishing lake and is closed to fishing during the winter months. The lake drains into the East Branch of the AuSable river, a designated natural river. KP Lake is surrounded by mainly private ownership. Forest Management adjacent to each of these water bodies has and should continue to take into account Best management practices. Riparian areas for wildlife habitat and the maintenance of water quality should be the primary goal of forest management adjacent to both KP Lake and Jones Lake.

**Wildlife Habitat Considerations:** This compartment is valuable for many species of wildlife. Jack pine plantations that are dense and large in terms of acreage provide tracts of land used for thermal and protective cover throughout the year by many wildlife species. The river corridor and surrounding swamps also provide large tracts of uninterrupted land used by a variety of wildlife species for breeding and nesting, protection from predators and forage grounds. Management decisions within this compartment are influenced greatly by wildlife considerations.

**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 Coldwater Shale. The Coldwater does not have a current economic use. The Bud Hill sand pit is located in Section 31 and potential is good on the uplands. Currently, there are no oil and gas leases in this compartment.

**Vehicle Access:** Access to this compartment is good with CR-612 bordering the north side of the compartment. County roads of Stephan Bridge Rd and Jones Lake Rd lead south of CR-612 with state forest two-tracks extending to remaining areas within the compartment. KP Lake Road, a county road, runs through the west portion of the compartment and provides primary access for most residents living around KP Lake. The compartment also contains one of Camp Grayling's designated tank trails.

**Survey Needs:** Further surveying needs to be done in the SESW of Section 32. A small parcel of private land exists here and the boundary lines are not delineated at this time.

**Recreational Facilities and Opportunities:** Jones Lake SF Campground and access site exists within the compartment and provides a great deal of recreational opportunities including camping, fishing and swimming. KP Lake Access Site also provides an opportunity to access KP Lake for fishing, boating and swimming. Lovell's Snowmobile trail #47 traverses the length of the compartment.

**Fire Protection:** Fire protection is considered in this area because of its close proximity to large jack pine plantations and its tendency for quite droughty soils. Many of the management decisions within this compartment are based on and influenced by the stands probability to be a fire hazard before and after treatment.

**Additional Compartment Information:**

**LOTS Compartment Acreage:** \_\_\_\_\_

- **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

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

CRAWFORD COUNTY

COMPARTMENT: 251

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	389																										389
V Bog or Marsh			22																								22
G Grass					102																						102
J Jack Pine							546																				546
L Lowlnd Brush									22																		22
O Oak														530													530
R Red Pine																66											66
E Swamp Hrdwds																				12							12
Z Water																									43		43
W White Pine																										18	18
<b>Total</b>	<b>389</b>		<b>22</b>		<b>102</b>		<b>546</b>		<b>22</b>					<b>530</b>		<b>66</b>				<b>12</b>					<b>43</b>	<b>18</b>	<b>1750</b>

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

CRAWFORD COUNTY

COMPARTMENT: **251**

**Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS**

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	7780 Cds	Hardwood	2445 Cds
Hardwood	561 Mbf	Hardwood	65 Mbf
Softwood	6445 Cds	Softwood	2688 Cds
Softwood	385 Mbf	Softwood	144 Mbf
Sum TotVol	16117 Cds	Sum CutVol	5551 Cds
<b>Total Cmpt Acres</b>		Acres Proposed For Cut.....	351
1750			

**GRAYLING FOREST MGT UNIT**

**Proposed Treatments  
With NO Limiting Factors**

**Compartment: 251 Entry Year: 2011**

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	fdf Status
<b>3</b>	<b>J2</b>	14	17	49	jack pine	sparse		0	natural regeneration	
comnts Fmd : J2/J3 stand that was left to naturally regenerate after harvest in 1992. Stand is progressing ok however not fully stocked. Some moist ground evidenced by leatherleaf/blueberry, also dry in spots. Stand seems to provide a good example of jack pine barren area being lightly stocked with openings established with grass and other groundcover species. (no old comment)										
<b>10</b>	<b>O5</b>	21	75	51	oak	immature	final harvest	1		
comnts Fmd : Low density stand-a mixture of oak, aspen and jack pine with red and white pine present in low numbers. Overall stand is poor in terms of quality with a few pockets along SE edge that are of fair quality. JP is patchy with the majority near stands 10/16 border. Lots of mortality in all species types. Understory is slight overall with oak and cherry brush making up the majority of understory composition. Treat stand by final harvesting all trees greater than 4.5"DBH. Mark some of the highest quality white oak to leave focusing this residual near Jones Lake Rd. White oak seem to be regenerating at the highest rate within the stand so hopefully by combining some of this natural regeneration with the expected stump sprouting, regeneration will increase throughout the stand. It can be expected that aspen pockets will develop within the stand following harvest and this should be encouraged. Jack pine, white pine and red maple regeneration should also be considered successful. (no old comment)										
<b>16</b>	<b>O6</b>	101	75	50	oak	immature	improvement	1		
comnts Fmd : Oak stand with heavy aspen component in 5-8" range. Oak is of fair quality with some nice stems, aspen is ok, better quality in places. Not very much regeneration throughout stand, some white pine and oak pockets, oak is heavily browsed. Some areas of the stand are A6, this is not represented very well through the sampling of the stand. There are some large red pine on western side of stand that have seeded nicely and are now surrounded by fair quality regeneration. Aspen is more of a component to the east of the 2-track that transects the stand. Some red maple, not much. Treat stand by removing all aspen greater than 4.5"DBH. Also remove all jack pine and red maple. Some oak should be harvested in places in order to further release aspen and to promote stump-sprout regen in these areas. Since most of the aspen within the stand is in pockets, treatment should produce mixed regeneration in the understory of the oak with areas of heavier aspen being regenerated. Treatment should also promote enhanced oak regeneration along with the other species present including jack pine, red maple and red pine. Do not cut red pine along western edge and protect advanced regeneration of red pine and oak whenever possible. Maintaining red pine will help with aesthetic issues along Jones Lake Rd. (Depending on regeneration following harvest, white pine should be considered to plant in areas throughout the understory of the stand. This will increase diversity of regeneration while also promoting a mixed oak/pine stand with aspen regen scattered. (old comment) Need to thin out patches of pole size aspen next time. Hilly area. If possible in the solid oak use the five spot with military restrictions.										
<b>28</b>	<b>O6</b>	18	70	50	oak	immature	thinning	2		
comnts Fmd : Mixed stand adjacent to jones lake rd. Stand is dominated by oak however aspen and jack pine are quite numerous in places and are consistently in the 10BA range throughout the stand. Tank trail/old RR grade/2-track bissects stand in a N/S direction. Overall quality of stand is fair to poor with some oak and jack pine being of descent quality. Stand was previously treated however was not cut. Treat stand by removing all jack pine and aspen. Do not cut oak or white and red pine. Stand should develop into a mixed stand with aspen, jack pine and oak regeneration common. Oak and small amount of coniferous residual should help to alleviate visual concerns along road and from campground. (old comment) Just take out the JP when stand 29 is cut. Tank trail runs through stand. Leave JP by the water west of Jones lake road. Stand is part of timbersale (7204101-01) which was sold to Helsel Forest Products who were high bidders. After cutting unit 4 only (17 acres), went out of business. Sale will be re-advertised with the reduced acres and forest product.										
<b>29</b>	<b>A6</b>	29	68	60	aspen (upland)	mature	final harvest	2		
comnts Fmd : Descent aspen stand. Variable in terms of composition, stocking and density. Fair amount of oak mixed in, of poor quality. Some RP/WP poles. Stand was prescribed previously but was not treated. Treat stand by final harvesting all aspen and leaving red and white pine poles. Also mark to leave some oak adjacent to CR-612 while also leaving 1-2 retention islands within 400' of road right of way. The retention suggested should alleviate visual concerns and will also create enhanced diversity within the stand. Use rabbit habitat specifications within stand in order to improve habitat and create a greater amount of DWD within stand. May need to exclude small areas depending on steepness of slope. Determine at time of sale preparation. (old comment) South half cut all, North half cut all except oak over 8 inches DBH, steep hill on east side. Twp. Supervisor said no problem with no buffer for this stand along Co. RD. 612. Stand is part of timbersale (7204101-01) which was sold to Helsel Forest Products who were high bidders. After cutting unit 4 only (17 acres), went out of business. Sale will be re-advertised with the reduced acres and forest product.										
<b>35</b>	<b>J6</b>	65	70	51	jack pine	immature	final harvest	1	planting	
comnts Fmd : Nice JP stand with some poor quality oak and scattered RP present. JP is doing well, some mortality but not as much as would be expected in a stand of this age and density. Lots of DWD from both oak and JP that have fallen. Some small aspen pockets on eastern side of stand along with some blending into adjacent stands on the west side of stand 35. Treat stand by final harvesting and leaving all jack pine and oak 4"DBH and less. May want to apply this diameter limit to certain payment units of the sale area. Leave retention islands for structural diversity and aesthetic value along Stephan Bridge rd. Replant stand to jack pine while avoiding areas of heavy released oak regeneration in order to protect this regen and promote more mixture of species within the stand. Leave some areas open when planting to promote small pockets mimicing jack pine barrens ecosystem type. Mark to leave some red pine and oak as well for diversity of overstory species and a seed source for natural regeneration. Stand 135 was previously part of this stand but was separated because of Stephan Brdge Rd running through stand. (old comment) Stand 38 is the cut area for this stand. No need for a fuel break along Stephan Bridge rd.										

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	fdf Status
39	J6	27	70	51	jack pine	immature	final harvest	1		
<p>comnts Fmd : Red pine dense in SW corner near road/snowmobile trail. Descent JP throughout, some mortality. More of a pure jack pine stand away from road/trail. There are some larger jack pine throughout stand and overall, jack pine is doing quite well in terms of form and overall health. Treat stand by final harvesting. Leave red pine in SW portion of stand along with some trees marked to leave along stephan br rd. Replant stand to JP. Avoid pockets of red pine regen when planting operations occur. (old comment) This stand the same as Stand 35</p>										
46	O6	49	80	48	oak	immature	seed tree	1		
<p>comnts Fmd : Relatively poor quality oak throughout with some descent stems. Some red maple and occasional red pine with white pine in understory alongside oak. Stand is located along KP lake rd adjacent to stand 50 that was thinned last YOY. Treat stand by a seed tree harvest with higher residual along KP lake rd and less residual as you move south through stand. Some areas in the southern portions of the stand could be final harvested to promote more oak regeneration in the stand in order for it to compete successfully with red maple and aspen regen. Focus on leaving 30 BA of the highest quality oak species near road. As you move south through stand, leave an average of 10 BA with some pockets more and some less. Some red/white pine should be left as residual to maintain stand diversity and a seed source for the conifers present within the stand. (old comment) Limby oak, some red pine north.</p>										
59	O6	21	70	50	oak	immature	final harvest	1		
<p>comnts Fmd : Very mixed stand with aspen, oak, red maple and red pine being dominant. Red pine is present in low numbers (&lt;10BA) however in small areas of northern portion of stand the red pine is more common with some locations approaching 50-60BA. Thought about separating this area of the stand but left it as is. Oak is of poor quality, aspen is fair. Red pine is of descent quality throughout stand. In the central and southern portions of the stand oak becomes more dominant with few coniferous species present. Little regeneration in most areas of stand, lots of DWD. Treat stand by final harvesting. Leave heavier pockets of red pine for vertical structure and to improve aesthetics following harvest. Also mark to leave 10-20 BA of all representative species near snowmobile trail. Concentrate leave trees within 3 chains of trail. Leave appropriate buffer near Little KP lake and avoid steep slope leading to lake when delineating stand boundary. (old comment) Limby stump sprout oak.</p>										
<b>Total Acres.....</b>		<b>345</b>								

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
60	J6	20	75	48	jack pine	immature	final harvest	1		

TREATMENT LIMITING FACTORS: Delayed treatment for age/size class diversity

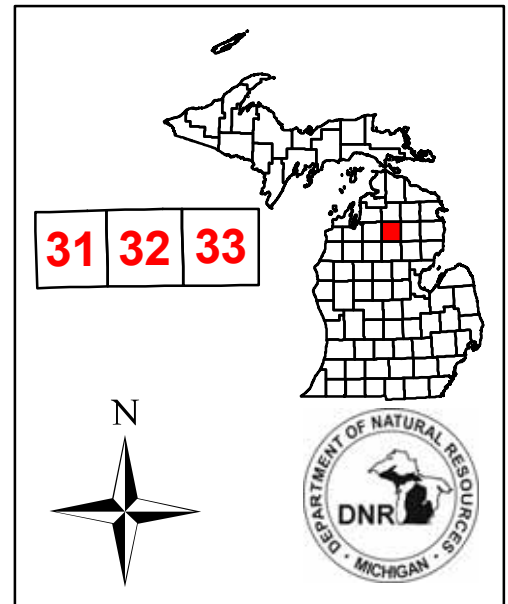
comnts Fmd : Very mixed stand, JP, RP along edge of stand 62 with more aspen/oak mixture further to the west. Lots of WP in southern areas of stand, near SW corner of stand 62. JP is present in higher numbers in north central portions of stand as well as southern areas near snowmobile trail. Treat stand by final harvesting. Mark to leave 10-20BA of red pine, white pine and jack pine near snowmobile trail to address aesthetic issues as well as to deter off trail use. All JP and aspen are designated for cutting, as are all species that are not marked to be left. Mixed regeneration should be the goal for this stand with aspen, JP and oak all expected to regenerate well following harvest. If portions of stand do not regenerate sufficiently, may want to consider planting to JP. (old comment) Valley, some scattered red pine. R8 south side of private lake.

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**Total Acres..... 20**

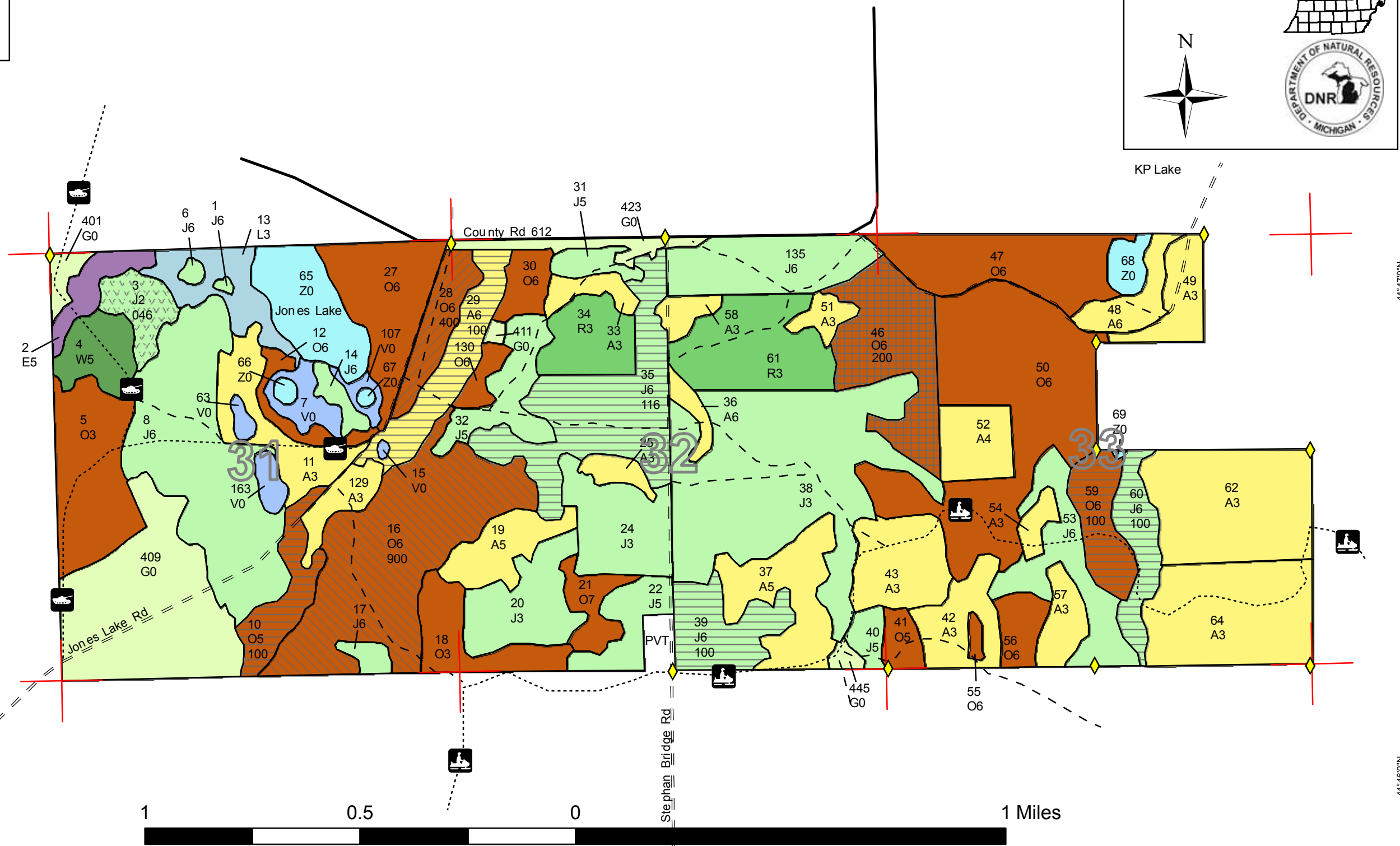
# Covertypes & Treatment Map

Compartment 251  
 T28N, R02W, Sec. 31-33  
 County: Crawford  
 Unit: Grayling  
 YOE: 2011  
 Acres: 1,750 GIS Calculated  
 Stand Examiner: Patrick Cotant  
 Map Revised: 9/03/2009  
 Map Phase: Pre-review



## Legend

- RIs Corners
- Miris Corners
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Trails
- Tank Trails
- Snowmobile Trails
- Stand Boundary
- 046 - Natural Regeneration
- 100 - Final Harvest
- 116 - Final Harvest/Planting
- 200 - Seed Tree
- 400 - Thinning
- 900 - Improvement
- A - Aspen
- E - Swamp Hardwoods
- G - Grass
- J - Jack Pine
- L - Lowland Brush
- O - Oak
- R - Red Pine
- V - Bog or Muskeg
- W - White Pine
- Z - Water



44°48'0"N  
44°47'0"N  
44°46'0"N

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

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

44°47'0"N  
44°46'0"N

# Stand Boundary Map

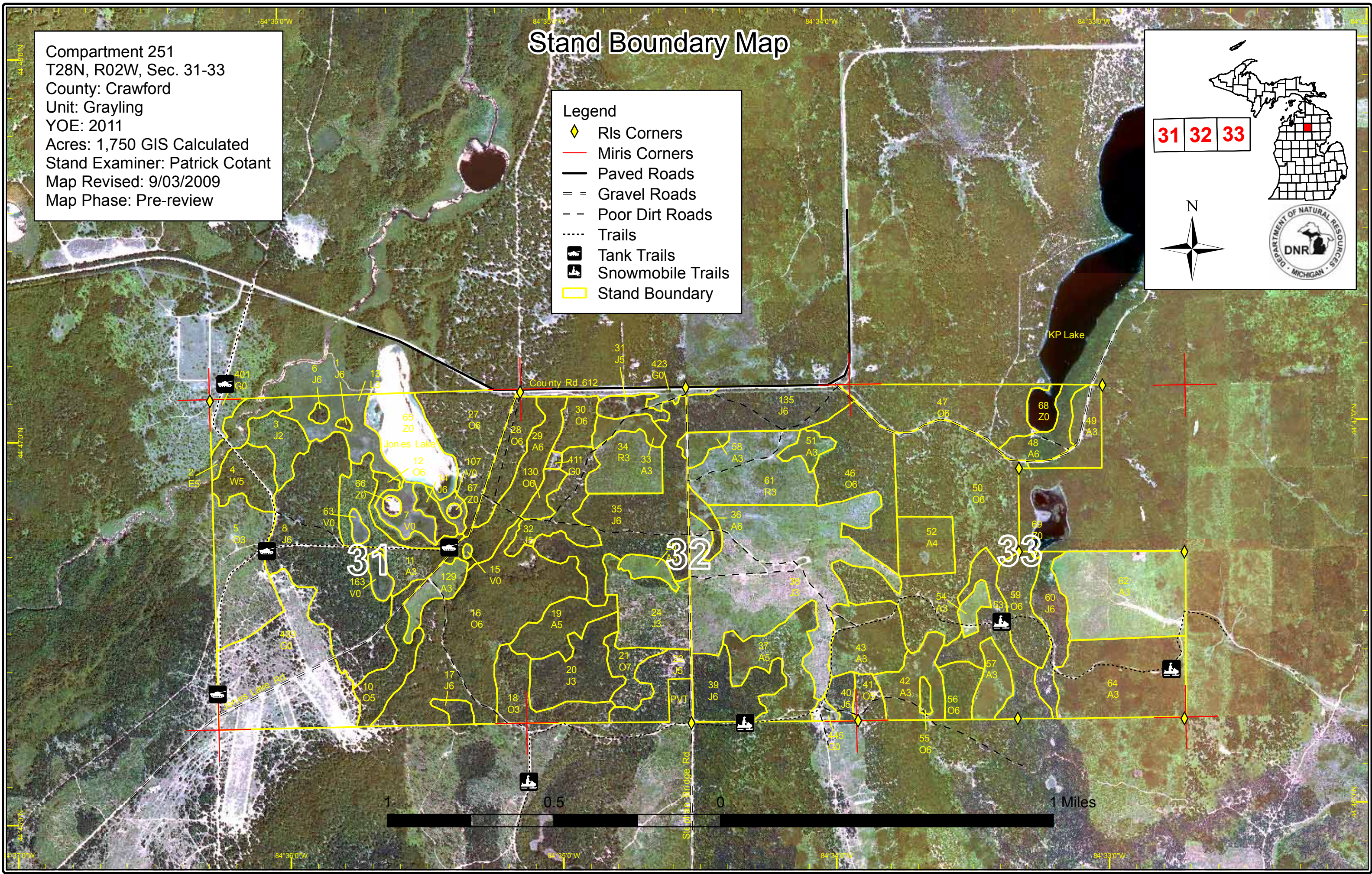
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- Legend
- ◆ RIs Corners
  - Miris Corners
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  - - Gravel Roads
  - - Poor Dirt Roads
  - ⋯ Trails
  - 🚛 Tank Trails
  - 🚙 Snowmobile Trails
  - ▭ Stand Boundary

31 32 33

N

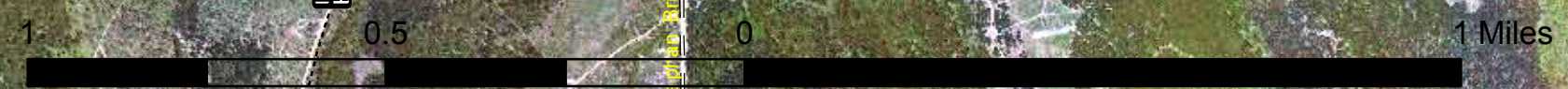
DEPARTMENT OF NATURAL RESOURCES  
DNR  
MICHIGAN



31

32

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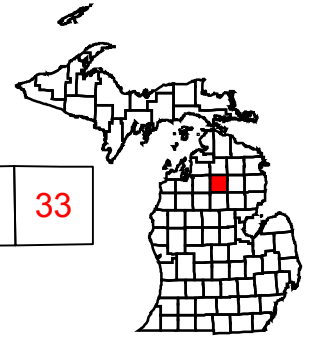


# Dedicated & Proposed Special Conservation Area Map



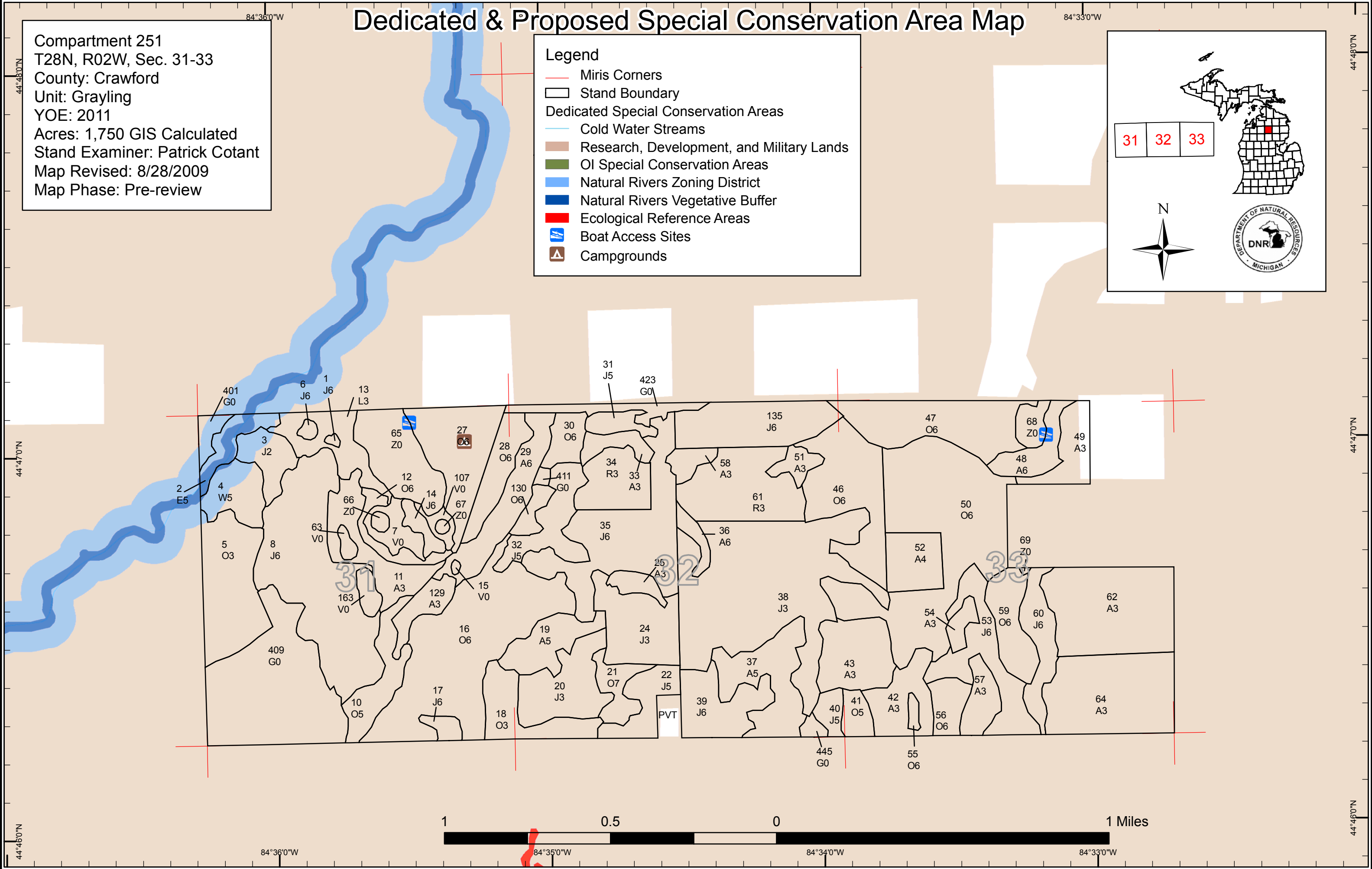
Compartment 251  
 T28N, R02W, Sec. 31-33  
 County: Crawford  
 Unit: Grayling  
 YOE: 2011  
 Acres: 1,750 GIS Calculated  
 Stand Examiner: Patrick Cotant  
 Map Revised: 8/28/2009  
 Map Phase: Pre-review

**Legend**

-  Miris Corners
-  Stand Boundary
- Dedicated Special Conservation Areas**
-  Cold Water Streams
-  Research, Development, and Military Lands
-  OI Special Conservation Areas
-  Natural Rivers Zoning District
-  Natural Rivers Vegetative Buffer
-  Ecological Reference Areas
-  Boat Access Sites
-  Campgrounds



31 32 33



## 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	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
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.
SCA	Potential Old Growth Areas	This category contains stands were identified for a broad range of reasons and were coded in the OI database as stand condition 8 as potential old growth (POG). Approximately 310,000 acres have been identified through the Operations Inventory (OI)/Compartment Review process. For stands in Year of Entry 2008 and forward, potential old growth is managed for the identified objective until it is: 1) vetted through the Biodiversity Conservation Planning Process (BCPP) and given a specific designation and objective (as an ERA, HCVA, or other type of SCA) and is released from the potential old growth designation; or 2) it is released from the potential old growth designation via the Compartment Review process.
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.