



GRAYLING FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 218 ENTRY YEAR: 2010

GIS Compartment Acreage: 1061 County: Crawford

Revision Date: 2/1/2008

Stand Examiner: Patrick Cotant

Legal Description: T27N R3W Sections 28, 29 and 30

Management Goals: To maintain species diversity while also addressing sustainability, forest health, productivity, wildlife habitat requirements, aesthetics and best management practices. Furthermore, to provide for multiple use and military training needs as allowed by the twenty year management agreement.

Soils and Topography: Topography within this compartment is flat to very gently rolling with some ridges existing in the northern portions of section 30. As far as landforms present, this area consists of low flat's, depressions and drainage ways where saturated soils persists and upland ridges coupled with outwash plains on higher ground within compartment. This area is located near numerous tributaries to the east branch of the Ausable River and therefore Tawas-Leafriver mucks persist as the main soil type throughout. This soil type is characterized very poorly drained with highwater tables common throughout the year. Equipment limitation, seedling mortality and windthrow are the most common major management concerns. Other areas within the compartment consist mainly of Grayling/Graycalm sands that are characterized by being somewhat excessively drained with rapid permeability. Major management concerns include equipment limitations and seedling mortality. These soils are mainly found in the northern portions of sections 29 and 30 as well as within the state land boundary of section 28. High water tables persist in many of these areas as evidenced by certain ground flora species that are present throughout.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The majority of this compartment is contiguous state land with blocks of private ownership mainly concentrated along M-93 and to the eastern portions of the compartment along the east branch of the AuSable River. Recreation is quite popular in this area with fishing, hunting and camping being quite common. Wildlife viewing is also a major form of recreation in this region. The Grayling DNR Field Office is located within the compartment near the junction of M-93 and I-75. Military lease lands are present in sections 29 and 30.

Unique, Natural Features: The East Branch of the AuSable River along with many tributaries run through or directly adjacent to this compartment. This has created a great deal of densely wooded areas providing excellent habitat for numerous species of wildlife. The compartment is also located directly south of Hartwick Pines State Park which contains much of the old growth white pine and hemlock forests of the lower peninsula

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 the western areas of this compartment. 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: The East Branch of the AuSable River and accompanying tributaries exist within this compartment. This watercourse supports healthy populations of trout and is managed and designated as a Natural River and one of the main tributaries to the storied AuSable River.

Wildlife Habitat Considerations: A multitude of wildlife species abound in this area due to the diverse forest types present along with plentiful sources of water throughout the area.

Mineral Resource and Development Concerns and/or Restrictions: Mineral development is limited in this area because of wetland/watercourse issues and subsequent setbacks that are required. Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Marshall Sandstone. The Marshall was previously used as a building stone. A gravel pit is located in Section 20 and potential is good on the upland areas. None of the Compartment is currently leased for oil and gas development.

Vehicle Access: Access to the entire compartment is adequate. The swamp areas that are adjacent to M-93 and Lewiston Grade Road create access issues. This provides nice roadless areas where foot access is required.

Survey Needs: Survey records are good for this area.

Recreational Facilities and Opportunities: Hartwick Pines provides many camping and recreational opportunities in the area. There is also a bike trail which connects Grayling with Hartwick Pines State Park that traverses this compartment. The rivers and hunting grounds also support activities throughout the year. Snowmobile Trails also exist in this area and provide access to many connecting trails as well as easy access to the city of Grayling.

Fire Protection: Jack pine and red pine are common in localized areas of this compartment and therefore fire is a potential risk and concern in this area.

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

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

CRAWFORD COUNTY

COMPARTMENT: 218

Table 3

(acres shown in boxes)

STAND AGE CLASS

COVER TYPE	Not Coded	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150-159	All Aged	Total
Aspen		15	18		6			20											59
Black Spruce									15										15
Cedar											21	7							28
Grass	3																		3
Jack Pine		45	13	11			31	7										11	118
LowInd Brush	37		9			1				15									62
Marsh	5																		5
Mx Swmp Cnfr				15		46		92		12	20	62							247
Non Stocked	5																		5
Oak								46											46
Red Pine		17			59	58	69	53	37	39	4	11						7	354
Swamp Hrdwds								4			23								27
Tamarack			7							7									14
Treed Bog	22																		22
Upland Brush	4																		4
Upland Hdwds										14									14
White Pine							11				22	5							38
Total	76	77	47	26	65	105	111	222	52	87	90	85						18	1061

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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: 218

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	59																										59
S Black Spruce		15																									15
C Cedar				28																							28
G Grass					3																						3
J Jack Pine							118																				118
L Lowlnd Brush									62																		62
N Marsh											5																5
Q Mx Swmp Cnfr												247															247
X Non Stocked													5														5
O Oak														46													46
R Red Pine															354												354
E Swamp Hrdwds																			27								27
T Tamarack																				14							14
D Treed Bog																						22					22
U Upland Brush																							4				4
M Upland Hdwds																								14			14
W White Pine																										38	38
Total	59	15		28	3		118		62		5	247	5	46	354				27	14	22	4	14			38	1061

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

CRAWFORD COUNTY

COMPARTMENT: **218**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	1455 Cds	Hardwood	206 Cds
Hardwood	321 Mbf	Hardwood	87 Mbf
Softwood	7821 Cds	Softwood	1321 Cds
Softwood	3440 Mbf	Softwood	229 Mbf
Sum TotVol	16798 Cds	Sum CutVol	2159 Cds
Total Cmpt Acres		Acres Proposed For Cut.....	189
1061			

GRAYLING FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 218 Entry Year: 2000

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	fdf Status
2	O9	35	72	60	oak	mature	selection	1		
comnts Fmd : Descent quality oak stand with some nice sawlog sized trees. Red maple is also a major component throughout, mainly in the sapling layer (3-6"). Red pine is also scattered throughout and white pine is becoming more of a component in the understory, namely on the western edge due to an area of white pine that is beginning to seed. Aspen is also present however not on a consistent basis. Terrain is somewhat hilly with a ridge running parallel to the 2-track that bisects the stand. Ground flora along with tree species/growth/form indicate that this is falls into Kotar's VHa classification and it should be expected that red maple will continue to become more prevalent and in some cases may overtake the stand as it is beginning to do in areas. To treat, cut canopy gaps throughout stand in order to obtain oak regeneration in these openings. Between canopy gaps, pockets can be thinned based on timber quality and composition as well as to improve access through stand for equipment. Aspen clones can be harvested as well to increase aspen component in stand and maintain diversity that is present. Residual BA following harvest will be variable with some areas higher based on quality and species composition. Regeneration of oak species, red maple, aspen and white/red pine should be considered successful following harvest. (old comment) FAIR TO GOOD RED OAK - MANAGE FOR SAWTIMBER. ALOT OF HYBRID OAK (NORTHERN PIN, RED OAK).										
29	R9	17	54	60	red pine	immature	thinning	1		
comnts Fmd : Descent quality red pine with jack pine, oak and red maple scattered throughout. Open understory that varies between blueberry and bracken fern groundcover. Some areas have thick sedge. Some small areas of red and jack pine regeneration. Aspen is also present in small numers, mainly along road and in small open areas. Some open pockets exist throughout stand and jack pine becomes more common towards I-75. Thin stand by removing jack pine, oak, aspen and red maple. Leave all red pine except in areas where red pine BA is high, most likely concentrated in north and eastern portions of the stand. Special care should be taken not too damage any of the red pine/jack pine regeneration within the stand.										
35	R6	7		61	red pine	immature	thinning	1		
comnts Fmd : Descent red pine however the stand has been suppressed for quite awhile. Stand has narrow rows which may present issues when cutting. Stand should be thinned removing every third row while also removing all aspen and jack pine regardless of what row it is in. Stand has a nice level of balsam fir throughout. This is currently providing a good refuge for songbirds and also grouse within the stand. For this reason, all balsam fir should be left. (old comment) CUT WHEN STAND 42 IS CUT										
50	J6	7	70	52	jack pine	mature	final harvest	1	direct seeding	
comnts Fmd : Stand was marked with boundary paint when inventoried in 2007, however no treatment had been undertaken. Currently stand is set up along with stands 51 and 52 under the Wet-Dry Jack timber sale and are in the process of being cut (9/08). (old comment) TREAT WITH STAND 24, REPLANT JP.										
51	J6	15	66	48	jack pine	mature	final harvest	1	direct seeding	
comnts Fmd : Under tsale proposal and in the process of being cut along with stands 50 and 52 under the Wet Dry Jack timber sale (9/08). (old comment) TREAT WITH STAND 52										
52	J6	12	66	48	jack pine	mature	final harvest	1	direct seeding	
comnts Fmd : Currently on proposal and in the process of being cut along with stands 50 and 51 under the timbver sale proposal Wet Dy Jack (9/08) (old comment) FINAL HARVEST AND REPLANT, OR SEED. The Abney's submitted an LTA in 2007 for outright purchase of that part of the stand west of their property to Lewiston Grade Road. The narrow strip they requested extends south and includes compt 219 stand 12. **This exchange will occur in fall of 2008 or winter of 2009.										
63	R6	59	44	60	red pine	mature	thinning	1		prescribed for fdf treatment
comnts Fmd : Descent red pine stand, not quite the overall quality of stand 66 for some reason. Row thinned in 2000 and responding relatively well. Density increases in the eastern/northern portions of the stand, DBH increases slightly. Blue berry is thick in places serving well as low ground cover. Some illegal ORV use throughout this area. Thin stand again removing 1/3, possibly slightly more in some places. Thin to improve overall form by removing forked, suppressed or otherwise lesser quality trees. Could wait until next YOE but stand BA is high enough to warrant thinning at this time. (old comment) stand third row thinned 2000.										
66	R9	37	49	60	red pine	immature	thinning	1		
comnts Fmd : Nice red pine stand that has been third row thinned with possibly a subsequent thinning. Responded well and should possibly be thinned again to remove suppressed, poorly formed individuals. Variable size distribution as well as density in some places. Some open spots as well as some porky damage that has caused pockets of top dieback. Scattered oak exist throughout stand and are of very poor quality. Edge of stand has noticeably greater DBH. Thin removing approximately 1/3, possibly less in areas where BA is lower. Thin heavier in areas of high BA removing forked, suppressed or otherwise poorly formed individuals. Could leave oak or remove. Possibly girdle and let fall to increase DWD and structure on the ground. Determine at time of thinning. (no old comment)										
Total Acres.....		189								

**Proposed Treatments
With Limiting Factors**

Compartment:218

Entry Year:2010

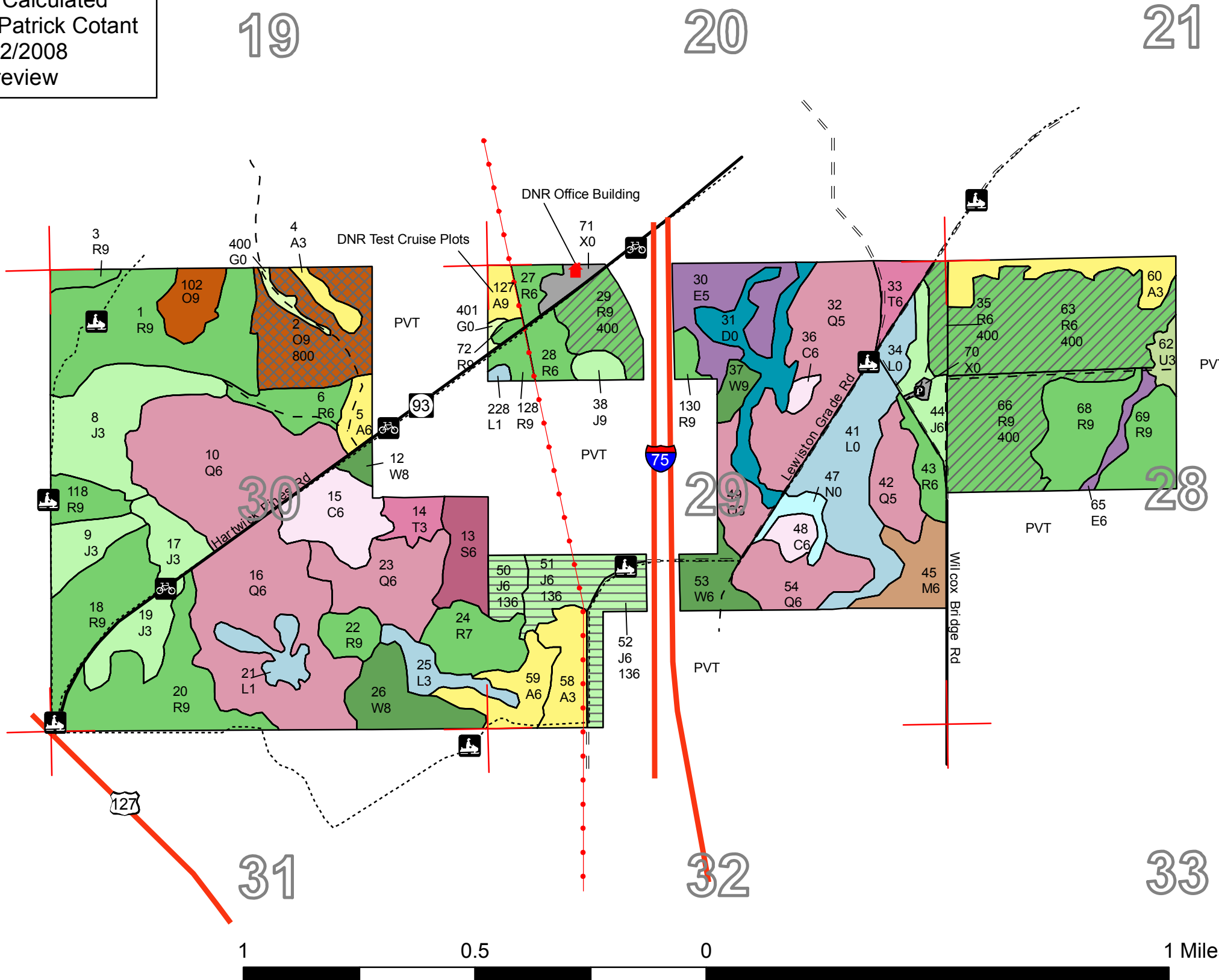
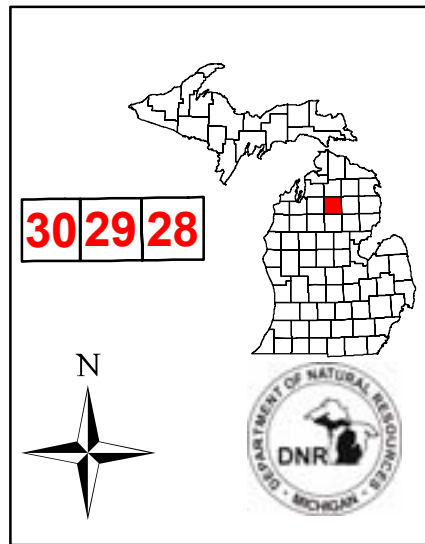
Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FD Status
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TREATMENT LIMITING FACTORS:

Total Acres..... 0

Cover Type and Treatment

Compartment 218
 T27N, R03W, Sec. 28, 29, 30
 County: Crawford
 Unit: Grayling
 YOE: 2010
 Acres: 1,061 GIS Calculated
 Stand Examiner: Patrick Cotant
 Map Revised: 9/12/2008
 Map Phase: Pre-review



Legend

- Miris Corners
- Highways
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Pipelines
- Trails
- Interstate Highway
- US Highway
- State Highway
- Snowmobile Trails
- Bike Trails
- Snowmobile Parking Lot
- Stand Boundary
- 136 - Final Harvest/Direct Seeding
- 400 - Thinning
- 800 - Selection
- A - Aspen
- C - Northern White Cedar
- D - Treed Bog
- E - Swamp Hardwoods
- G - Grass
- J - Jack Pine
- L - Lowland Brush
- M - Northern Hardwoods
- N - Marsh
- O - Oak
- Q - Mixed Swamp Conifers
- R - Red Pine
- S - Black Spruce Swamp
- T - Tamarack
- U - Upland Brush
- W - White Pine
- X - Non-Stocked



44°43'0"N

44°42'0"N

44°43'0"N

84°44'0"W

84°43'0"W

84°42'0"W

84°41'0"W

84°40'0"W

84°44'0"W

84°43'0"W

84°42'0"W

84°41'0"W

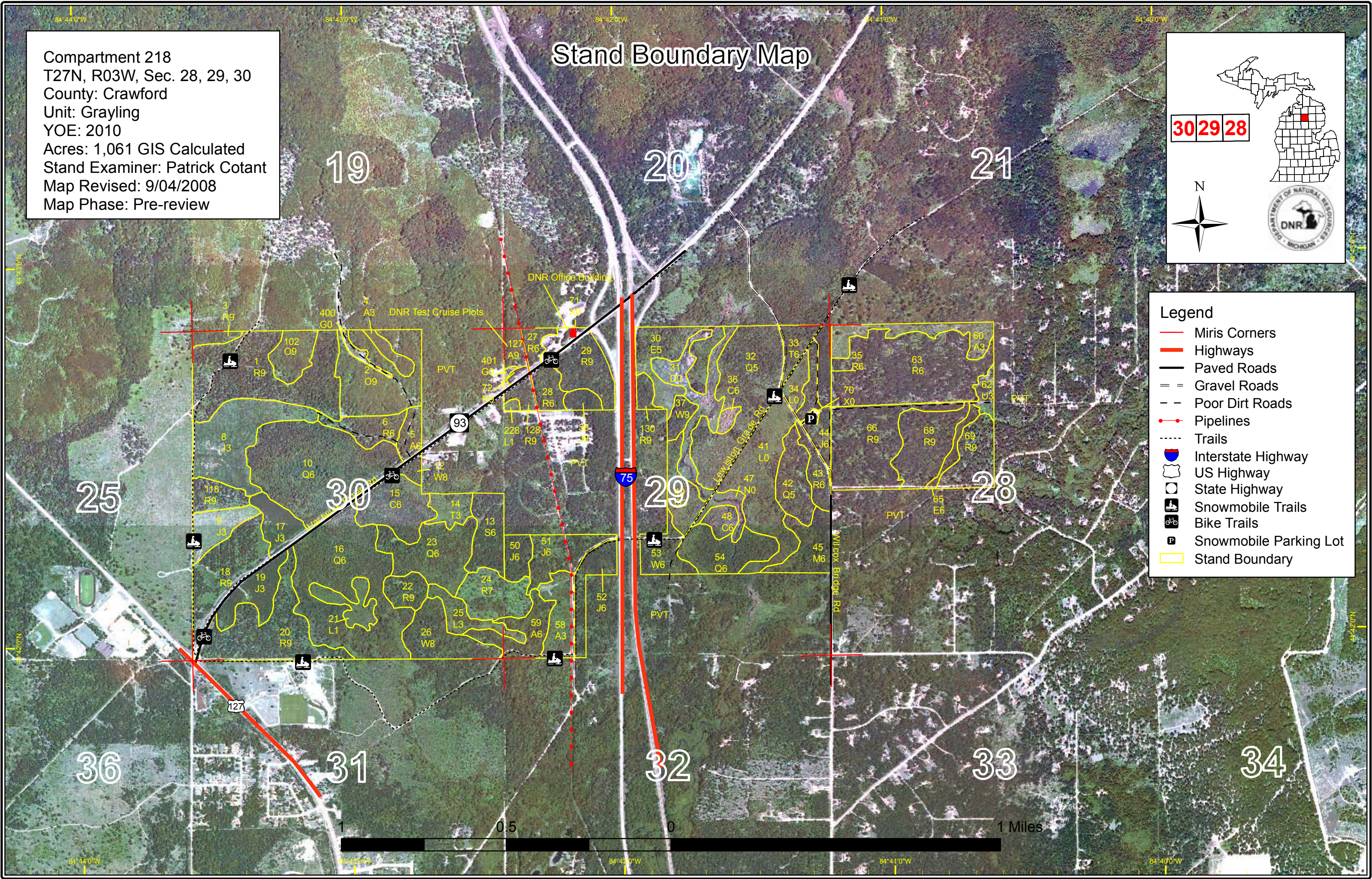
Stand Boundary Map

Compartment 218
 T27N, R03W, Sec. 28, 29, 30
 County: Crawford
 Unit: Grayling
 YOE: 2010
 Acres: 1,061 GIS Calculated
 Stand Examiner: Patrick Cotant
 Map Revised: 9/04/2008
 Map Phase: Pre-review

30 29 28
 N
 DEPARTMENT OF NATURAL RESOURCES
 MICHIGAN DNR

Legend

- Miris Corners
- = Highways
- Paved Roads
- = Gravel Roads
- - Poor Dirt Roads
- - Pipelines
- - - Trails
- Interstate Highway
- US Highway
- State Highway
- Snowmobile Trails
- Bike Trails
- Snowmobile Parking Lot
- Stand Boundary





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	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.