



**GRAYLING FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW RESENTATION**

COMPARTMENT # 18 ENTRY YEAR: 2010

GIS Compartment Acreage: 2070 County: Oscoda

Revision Date: September 12, 2008

Stand Examiner: Joan Charlebois

Legal Description: T28N R2E Sections 16, 17, 18, 19, 20, 21 & 29
Elmer Township – North Part

Management Goals: To maintain forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment while providing for multiple use and visual management.

Soils and Topography: The terrain is flat to gently-rolling, except for in the southeast portion where ice-contact kettle holes - some of them very steep and hitting the water table - can be found. Soils are primarily Grayling, Graycalm, Roselawn & Rubicon Sands.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The compartment encompasses state land spread across seven sections, with a significant amount of private property interface. The compartment's south half has the most fractionalized ownership, in 40 to 120-acre blocks. Three forties have no legal access. Adjacent property development is largely seasonal/recreational, although there are some year-round residences.

Unique, Natural Features: Ice-contact kettle holes provide unique micro-climates in this largely flat, outwash plain area.

Archeological, Historical, and Cultural Features: Old railroad grades cross through the compartment and large, turn-of-the-century logging era pine stumps are common.

Special Management Designations or Considerations: If access across private property for management purposes cannot be obtained, consider for disposal the SENE of section 19 and the W1/2SW of section 20. To provide more direct access to state land in the W1/2SW section 29, consider pursuing for acquisition the narrow strip of private property separating that block of state land from Farrington Road.

Watershed and Fisheries Considerations: Remnants of LaBelle Lake (stands 99 & 100) occur within stand 1.

Wildlife Habitat Considerations: The compartment's jack pine, aspen, oak, upland brush and grass cover types provide potential habitat for a variety of game and non-game wildlife species, including deer, grouse and opening-dependent songbirds.

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. Beneath the glacial drift is the Coldwater Shale. There is not a current economic use for the Coldwater Shale. Gravel pits are located two miles to the east and potential appears to be good. The entire compartment is leased and Sections 16 - 21 have been developed for the Antrim Shale. Sixteen well sites, associated flow lines and a pump station occur within the compartment.

Vehicle Access: Most of the compartment is accessible by county roads, including Town Line, Pennsylvania Crossing, Oak Lake, and Farrington Roads, and also by a network of two-tracks and gas well access roads. The W1/2SW of section 29 is not directly accessible off Farrington Road (there is a narrow strip of intervening private) but the block can be reached through compartment 19 to the west. Two blocks should be considered for disposal (SENE section 19 and W1/2SW section 20) because the State has no legal access to them.

Survey Needs: Much of the area had been surveyed by the State in the last thirty years, and nearly all of the corners were located despite the deep snow. Additional corners needed for establishing private lines are likely to be identified during timber sale field work when the ground is not snow-covered.

Recreational Facilities and Opportunities: No designated trails or facilities occur within the compartment, but the habitat types provide good opportunity for deer and grouse hunting.

Fire Protection: The compartment has relatively large stands of jack pine, ranging from young plantations to mature poletimber. Gas wells and buried pipelines occur within the compartment, although none were identified as hydrogen sulfide hazards. Several nearby water sources (Oak, Perry, Rudd & Indian Lakes) are all surrounded by private property.

LOTS Compartment Acreage: ___2034_____

- **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

OSCODA COUNTY

COMPARTMENT: 18

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	635																										635
G Grass					59																						59
J Jack Pine							503							177													680
N Marsh											3																3
X Non Stocked													27														27
O Oak														278													278
R Red Pine					20											120											140
U Upland Brush																								244			244
W White Pine																										4	4
Total	635				79		503				3		27	455		120								244		4	2070

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

OSCODA COUNTY

COMPARTMENT: **18**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	5941 Cds	Hardwood	1248 Cds
Hardwood	1016 Mbf	Hardwood	548 Mbf
Softwood	4334 Cds	Softwood	2665 Cds
Softwood	638 Mbf	Softwood	218 Mbf
Sum TotVol	13583 Cds	Sum CutVol	5445 Cds
Total Cmpt Acres		Acres Proposed For Cut.....	522
2070			

GRAYLING FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 18

Entry Year: 2010

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDf Status
4	J6	26	60	47	oak	mature	final harvest	1	natural regeneration	
comnts Fmd : Variable size/density JP pole stand with very overmature JP saw, small inclusions of TA and BTA (also variable in age/size, with some very overmature stems). Nice oak seedlings and saps O1-O2. Some scattered NPO and RP. Final harvest the JP (1-stick and up) and aspen (2" and up). Retention: leave all oak and RP (~6% of BA). Goal is a mix of natural regeneration: oak, aspen and pine. Used previous SI.										
6	O8	26	90	52	oak	sparse	final harvest	2	natural regeneration	
comnts Fmd : NPO stand, progressively breaking up. Popular with fuelwood cutters. Contains <10BA each of JP saw & younger poles, TA, BTA & RM. Nice oak regen in pockets, but not enough to average out to O1. Some WP seeding in. Final harvest the oak, JP and aspen, marking to leave ~5 BA scattered or in clumps of the healthier oak for retention, and leaving all other pine. Goal is a mix of natural regen, including oak, aspen and pine. Used previous SI.										
7	J6	27	45	58	oak	mature	removal	1	natural regeneration	
comnts Fmd : 7 & 107: Mature JP poles with a component of very overmature JP saw. Pockets of recent mortality and windthrow. Minor component of NPO saw. Aspen inclusions with mature-to-overmature stems. Nice advanced oak regen, O1-O3. Harvest the JP & aspen. Leave the oak and any other pine (~15% retention). Goal is to release the existing oak regen and also regenerate the aspen. Stand 107 is that part south of Oak Lake Road. Included along stand 107's southeast boundary is a strip of overmature TA. Used previous SI.										
12	J6	117	55	47	oak	two aged	removal	1	natural regeneration	
comnts Fmd : Variable age/size/stocking JP in 3 classes: mature JP poles, young poles, overmature JP saw. Small inclusions of U/G and very overmature TA. O0-O3 in seedlings and saps. Half a dozen ground blinds. Averaged age & SI with previous. Harvest the merchantable JP & aspen in order to release the established oak regen and to regenerate the aspen. Retention: exclude from sale boundary the ~4-acre peninsula that extends into stand 16, and create a 1-acre island east of stand 14 (~4% of total area).										
15	R6	9	44	61	red pine	immature	thinning	1		
comnts Fmd : Stand 15 & 115: RP plantation. Variable stocking & areas of stunted trees where planted around a lot of residual NPO, TA & JP (primarily N of P. C. Road). ~10% of stems have moved into the saw class. Stand 115 is that part S of P.C. Rd. Third row thin. Dated plantation based on old records.										
16	A8	19	52	57	aspen (upland)	sparse	final harvest	3	natural regeneration	
comnts Fmd : Small sparse mixed stand of overmature TA (more to N) and NPO, both recruiting into the CWD layer. JP mixed in along the boundary with stand 12. A strip of oak had been cut along the NW edge: there now are nice large oak stump sprouts. Both the aspen and oak are equally poorly represented in terms of BA; was typed as an aspen stand based on plot occurrence frequency by species. Harvest the merchantable JP, aspen and oak. Due to small stand size, do not leave retention other than the sub-merchantable stems. The goal is to regenerate the aspen & oak before it completely breaks up, and release the existing oak regen. Used previous SI.										
17	R6	3	44	62	red pine	immature	thinning	1		
comnts Fmd : Planted in '64 (per old records). RP with ~1/3 of stems just crossed over into the saw class. Was planted around JP, NPO and old pine stumps. More oak residual to the north. JP saw limby, cull. Stunted RP around the residual. Some weevil damage and doubles, but generally decent quality RP. Third-row thin the RP, remove all JP, and cut only that oak needed to get through the rows. Stand 117 is that part south of P.C. Rd.										
27	O8	163	88	52	oak	sparse	final harvest	2	natural regeneration	
comnts Fmd : Varying mixture of NPO saw (low-density, declining, a lot on the ground) and aspen (mostly TA, ranging from poles to overmature saw). Old notes indicate that the oak was cut during 1967 to 1971 and mast trees were left. The stand has areas of nice oak regen (large stump sprouts and single saps) up to O3, but it averages only to O1. U inclusions are common. Two narrow bands of JP that were prescribed but not cut last YOE are also included within the stand. Cut all oak greater than 6" DBH, and all merchantable JP, aspen and RM. Leave the few RP & WP (<5BA). The goal is to salvage the mature-overmature trees, release the advanced oak regen and maintain aspen as a component within the stand. Retention: in addition to the residual oak and pine, create four 1-acre islands (three on an E-W line through the stand's S1/2 and one in the stand's N1/2, avoiding areas with good advanced oak regen. Used the previous SI. See locked comments.										
64	O9	52	99	55	oak	mature	shelterwood-seed	2	natural regeneration	
comnts Fmd : Decent-quality RO saw with ~10 BA each of WO saw, RO poles, BTA, and NPO. The stand's perimeter on the flats has lower-quality and lower-BA oak, while the central higher ground has the denser, nicer oak. All RM, PB, TA and pine were cut in '90-'91 under #013-90-1, all oak were left. The harvest area -- except ~13 acres south of the E-W two-track -- was Rx burned in '99 under FTP C72-412 and in 2000 under FTP C72-429, both with the goal of reducing the RM competition. The understory within the burn area is much more open, averaging Mr1 versus the unburned area's Mr3+. The stand area was heavily worked-over by deer digging through the snow down to the leaf litter. The stand should have a regen cut applied before the benefits of the Rx burning are lost. Per August 21, 2008 field review, additional prescribed burning is not needed; apply a shelterwood cut, aiming for 50% crown closure, and create two 90-foot diameter regen gaps per acre. Used previous SI.										

GRAYLING FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 18

Entry Year: 2010

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
107	J6	7	45	58	oak	mature	removal	1	natural regeneration	
<p>comnts Fmd : 7 & 107: Mature JP poles with a component of very overmature JP saw. Pockets of recent mortality and windthrow. Minor component of NPO saw. Aspen inclusions with mature-to-overmature stems. Nice advanced oak regen, 01-03. Harvest the JP & aspen. Leave the oak and any other pine (~15% retention). Goal is to release the existing oak regen and also regenerate the aspen. Stand 107 is that part south of Oak Lake Road. Included along stand 107's southeast boundary is a strip of overmature TA. Used previous SI.</p>										
115	R6	6	44	61	red pine	immature	thinning	1		
<p>comnts Fmd : Stand 15 & 115: RP plantation. Variable stocking & areas of stunted trees where planted around a lot of residual NPO, TA & JP (primarily N of P. C. Road). ~10% of stems have moved into the saw class. Stand 115 is that part S of P.C. Rd. Third row thin.</p>										
117	R6	10	44	62	red pine	immature	thinning	1		
<p>comnts Fmd : Planted in '64 (per old records). RP with ~1/3 of stems just crossed over into the saw class. Was planted around JP, NPO and old pine stumps. More oak residual to the north. JP saw limby, cull. Stunted RP around the residual. Some weevil damage and doubles, but generally decent quality RP. Third-row thin the RP, remove all JP, and cut only that oak needed to get through the rows. Stand 117 is that part south of P.C. Rd.</p>										
Total Acres.....		465								

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDf Status
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57	R6	16	44	57	red pine	immature	thinning	2		
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TREATMENT LIMITING FACTORS: Adjacent landowner denies access

comnts Fmd : Old notes indicate planted in '64. ~1/3 of stems just moved into the saw class. Some defect (porky, weevil, doubles) but nowhere near stand 61's level. Decent-quality overall, with poorer stocking where planted around residual RM, TA & JP (more to E1/2). Third-row thin. Was prescribed last YOE but not treated due to access issues - - is in a block of state land surrounded by private. If access for managing the W1/2SW of section 20 cannot be obtained, recommend disposal of the parcel.

59	R6	2	44	57	red pine	immature	thinning	2		
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TREATMENT LIMITING FACTORS: Adjacent landowner denies access

comnts Fmd : Old notes indicate was planted in '64. ~1/5 of stems moved into the saw class. Doubles common. Third-row thin. Access will be an issue - - is in a block of state land surrounded by private. If access for managing the W1/2SW of section 20 cannot be obtained, recommend disposal of the parcel.

61	R9	20	37	64	grass	low quality	final harvest	2		
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TREATMENT LIMITING FACTORS: Adjacent landowner denies access

comnts Fmd : RP plantation with atypical configuration: One and a half chain wide strips were planted (10 rows with ~10' wide spacing between rows), alternating with half-chain wide strips of grass. Old notes indicate that this was an experimental planting or, more specifically, an "Erbe Special" established in 1971. The inherent site quality itself is okay (64), but the lower planting density and tremendous amount of edge resulted in poor height growth, high taper, heavy persistent lower branches, and high weevil incidence. This lower stocking allowed stems to progress more quickly into the saw class, but the quality is very poor; easily 1 in 4 trees have defect (doubles, forked, crook, etc.). Stocking is poorer to the east. Plots were taken within the planted strips; BA there averaged 130. Overall stand BA, taking into consideration that 25% of the area was unplanted, is 100 BA. If access can be gained across private, final harvest the stand and allow it to revert to grass. The G-type to the east that grades into this stand has big and little blue stem and is contiguous with another larger opening with similar cover on the adjacent private. Retention: create three 1/3-acre island's, one each in the stand's W, NE & SE. This is in an area with large, old, heavily-burned pine stumps and old railroad grades. If access for managing the SENE of section 19 cannot be obtained, recommend disposal of the parcel.

63	A9	19	86	47	aspen (upland)	high risk	final harvest	3	natural regeneration	
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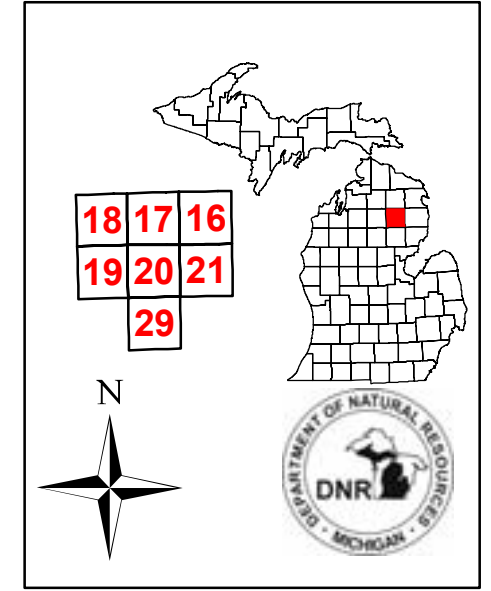
TREATMENT LIMITING FACTORS: Adjacent landowner denies access

comnts Fmd : Highly variable stand. Common thread is mature-overmature aspen (TA & BTA) with the older component of large cull stems moving into the snag class. Mixed in is a little bit of everything else: a few massive oak to the NW, sugar maple, ironwood, RM & paper birch to the SW, and small clumps of RP & WP saw and poles (species other than aspen totalling 35 BA). The stand was not cut in '86 when stand 58 was cut, even though permission to cross private was obtained and the haul access went through this stand. If access is granted, harvest the aspen and RM, but leave the other species. Used previous SI. See locked comments. If access for managing the SENE of section 19 cannot be obtained, recommend disposal of the parcel.

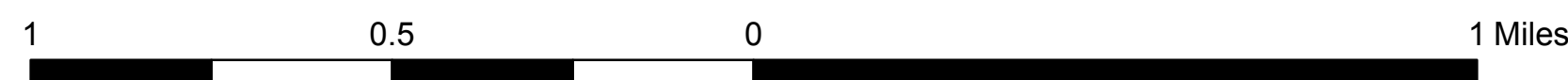
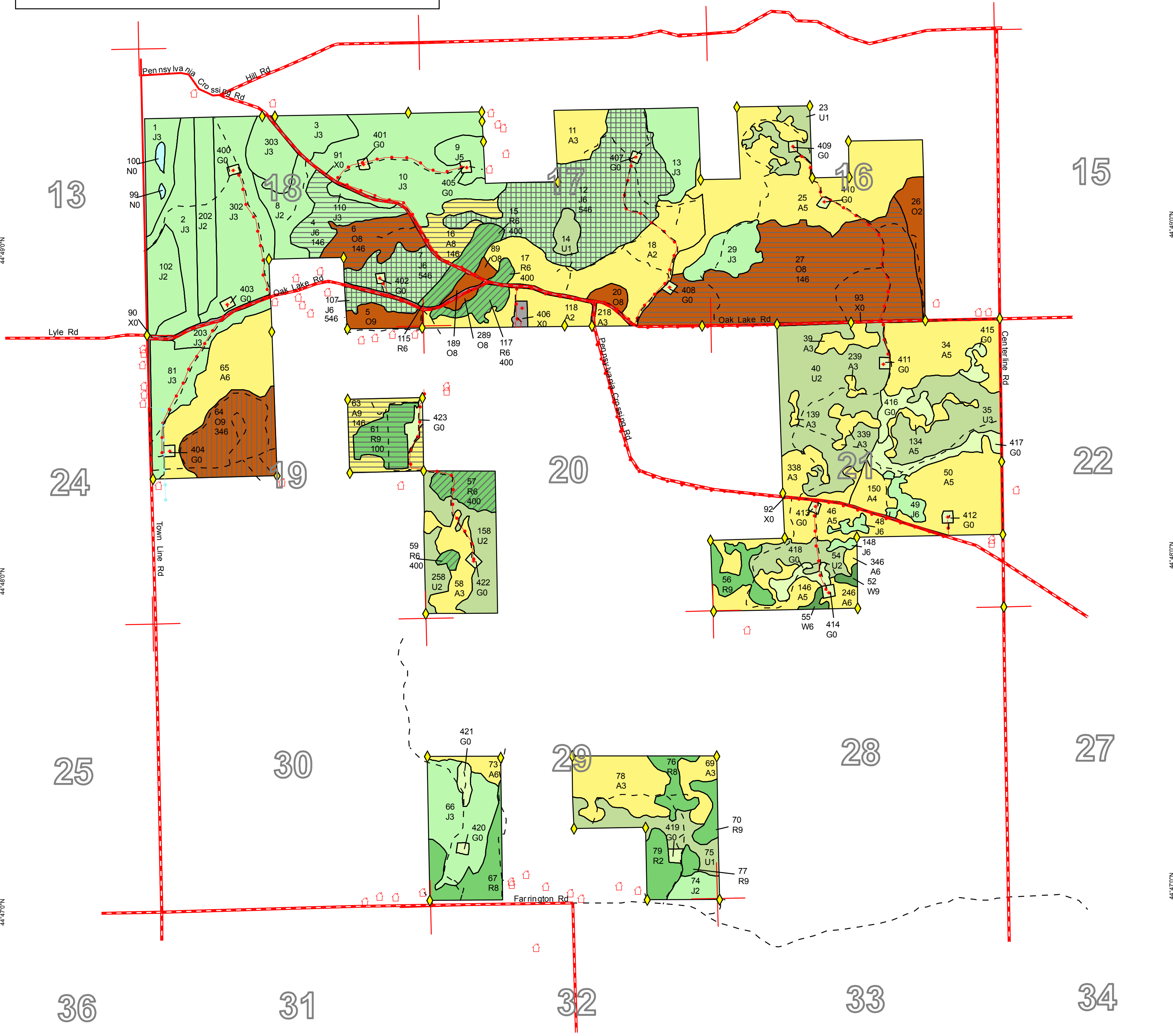
Total Acres..... 57

Compartment 18
 T28N, R02E, Sec. 16-18, 19-21, 29
 County: Oscoda
 Unit: Grayling
 YOY: 2010
 Acres: 2,070 GIS Calculated
 Stand Examiner: Joan Charlebois
 Map Revised: 9/12/2008
 Map Phase: pre-review

Cover Type and Treatment



Legend	
	Rls Corners
	Miris Corners
	County Paved Roads
	County Gravel Roads
	Poor Dirt Roads
	Powerlines
	Gaslines
	Wells
	Structures
	Stand Boundary
	100 - Final Harvest
	146 - Final Harvest/Natural Regeneration
	346 - Shelterwood - seed/Natural Regeneration
	400 - Thinning
	546 - Removal/Natural Regeneration
	A - Aspen
	G - Grass
	J - Jack Pine
	N - Marsh
	O - Oak
	R - Red Pine
	U - Upland Brush
	W - White Pine
	X - Non-Stocked





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	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.