



**GRAYLING FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION**

COMPARTMENT # 194 ENTRY YEAR: 2008

Compartment Acreage: 1265 County: CRAWFORD

Revision Date: 5/10/06

Stand Examiner: Patrick Cotant

Legal Description: T25N R04W Sections 34, 35, 36

Management Goals: To maintain species diversity while also addressing sustainability, forest health, productivity, wildlife requirements, aesthetics, best management practices and recreational opportunities throughout the compartment.

Soil and Topography: Topography varies from level to slightly rolling with some localized areas of steeper terrain present. Aside from an area of cedar/alder swamp in the southwest portion of section 34, this compartment consists mainly of upland flats, knolls and small hills dominated by oak, red pine and white pine forest types. The soils in the southern portion of section 34 are of the Tawas-Lupton-Leafriver association. This association is on low flats and depressions and in drainage ways. Major management concerns in this soil type are equipment limitation, seedling mortality, windthrow hazard and plant competition. The remaining portions of section 34, along with the majority of sections 35 and 36, consist of the Graycalm-Klacking association. This association is often found on broad upland flats, knolls and ridges, and on the side slopes of ridges. Graycalm soils are somewhat excessively drained, while Klacking soils are considered to be well drained. In the western portion of section 36, there is a small area made up of the Graycalm-Grayling association.

Ownership Patterns, Development, and Land Use in and Around the Compartment: North Higgins Lake State Park borders the southern edge of the compartment. From this, a number of recreational hiking trails originate and meander northward, traversing sections 35 & 36. Because of these trails, along with an ORV trail that is located in the northern portions of section 34, and the close proximity to the state park, this area is used heavily for recreation of many kinds. Old US-27 and US-127 traverse the compartment in a north/south direction, between sections 34 & 35.

Unique, Natural Features (include only non-site specific and non-sensitive information): This compartment contains two oak regeneration research plots in the northern portion of section 35. These plots were established in 1990 and were undertaken to test the hypotheses that (1) regeneration of northern red oak is more successful in pine stands than in oak stands and (2) the removal of overstory and understory competitors will increase the performance and survival of oak seedlings. Gypsy Moth impact is also being studied at these sites. Secretive Locust and the Massasauga Rattlesnake have been found in section 35.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): Directly to the south of this compartment is the site of the former Higgins Lake Nursery which opened in 1903 on 3 acres, expanded in 1952 to 48 acres, and then closed in 1964. Species grown in the nursery include: Ponderosa Pine, Red Spruce, Cedar, Western Spruce, Sitka Spruce, Blue Spruce, Norway Spruce, Engleman Spruce, Scotch Pine, White Pine, European Larch, Redwood, Sequoia, Douglas Fir,

Limber Pine and Catalpa. A number of these species can be found scattered about in the stands of this compartment.

Watershed and Fisheries Considerations: The compartment is adjacent to Higgins Lake. There are also numerous swampy areas fringing the lake that may be influenced by management decisions within this compartment.

Wildlife Habitat Considerations: Numerous species of wildlife, including deer and turkey, use this area heavily as habitat. There were also fox, coyote, bald eagle, barred owl and red-shouldered hawk observed while conducting field work in the area. For this reason, all obvious hollow snags and den trees should be reserved when any management activities take place in the compartment.

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 200 and 400 feet. Beneath the glacial drift is the Michigan Formation. The Michigan is quarried for gypsum elsewhere in the State. A gravel pit is located in Section 36 and potential is good. Most of the compartment is leased for oil and gas and a small part of it is in the Beaver Creek Field. The field has produced over 21 MBO from the Devonian Richfield and over 5 Bcf gas from the Ordovician Prairie du Chien.

Vehicle Access: Access is achieved from the county roads: Moorestown, Military, King and Oak Roads. The compartment is also accessible from County Road 200, Old 27 and the North Higgins Lake State Park exit on US-127. Within the compartment, 2-tracks help to provide access as they are located between each 40-acre parcel. All new roads created during management activities should be closed.

Survey Needs: Currently no surveys are needed.

Recreational Facilities and Opportunities: Numerous recreational and educational opportunities exist throughout the compartment. There are a number of hiking trails, including the Get-Fit Fitness Trail which has detailed instructions for fitness training posted along the length of the trail. The area has high recreational value, mainly because of its proximity to North Higgins Lake State Park.

Fire Protection: The existing 2-track system, along with the road system in the area is adequate for fire suppression to be effective. The local area does not contain large tracts of “flashy” fuels, such as jack pine or dense red pine, and therefore timber type conversion is not necessary.

Additional Compartment Information: The proximity of this compartment to Higgins Lake State Park expands the need and opportunity for aesthetic consideration.

- **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: 194

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			30			2													32
Local Name										3									3
Marsh	94																		94
Mx Swmp Cnfr										14		15							29
Non Stocked	5																		5
Oak						6			30	20	66	531	7					19	679
Red Pine						18	18			8	77		64						185
Upland Hdwds			2					2											4
White Pine							79	57	18	17	24	39							234
Total	99		32			26	97	59	48	62	167	585	71					19	1265

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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: 194

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	32																										32
I Local Name								3																			3
N Marsh											94																94
Q Mx Swmp Cnfr												29															29
X Non Stocked													5														5
O Oak														647		32											679
R Red Pine																185											185
M Upland Hdwds																									4		4
W White Pine																										234	234
Total	32							3			94	29	5	647		217									4	234	1265

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

CRAWFORD COUNTY

COMPARTMENT: **194**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	3145 Cds	Hardwood	445 Cds
Hardwood	3279 Mbf	Hardwood	360 Mbf
Softwood	5289 Cds	Softwood	514 Cds
Softwood	2682 Mbf	Softwood	314 Mbf
Sum TotVol	20356 Cds	Sum CutVol	2307 Cds
Total Cmpt Acres		Acres Proposed For Cut.....	
1265		177	

GRAYLING FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 194 **Entry Year: 2008**

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
3	O9	32	100	61	red pine	mature	shelterwood-seed	1		
<p>comnts Fmd : Leave all red and white pine regardless of size. Harvest all other species in order to release pine component, leaving scattered red and white oak for wildlife habitat and species diversity. Use caution during harvesting as there are many pockets of dense red and white pine advanced regeneration that should be protected. Little hardwood regen. Seams and scars on oak with numerous dead limbs. More red pine poles than adjacent stand 1. White pine is 40-50 yrs old @ 5" DBH. (old) 1978 red pine was marked for harvesting. Pole size red pine throught out the stand along with a significant stocking of white pine poles. Found gypsy moth egg mass quarter size. NEED TO MONITOR FOR GYPSY MOTH. Thin oak to 70 BA, and harvest all aspen.. Leave mature red and white pine scattered. Review in YOE 2008. Compartment is on a 5 year rotation, check percription in 2008.</p>										
20	O9	29	105	55	oak	mature	shelterwood-seed	1	natural regeneration	
<p>comnts Fmd : Stand thinned 1978. The only thing regenerating is the red maple. Shelterwood then final harvest. /Nice 2-4" red pine regen. Scattered RP?WP poles/logs throughout. Lot's of turkey tracks, wildlife activity. Pine component is greater in southern/western portion of stand. Protect red/white pine regen when harvesting.</p>										
42	R9	42	93	62	red pine	mature	thinning	1		
<p>comnts Fmd : Need to think about the hardwood regeneration. A lot of suppressed red pine trees. Stand was thinned in 89-90. Stand appears to have received two different treatments, in general stand west of trail has a lighter stocking than stand to the east. Also oak regen to the west appears to be younger. For both sides of trail there is greater percentage of poles in the south. Leave oak and other hardwoods scattered were possible. Release understory oak. Thin to residual BA of 90. Treat in YOE 2003.</p>										
43	W6	3	70	56	white pine	mature	thinning	1		
<p>comnts Fmd : Overall BA of stand is approximately 150 square ft/acre. Thin stand to 90 square ft/acre. White pine are not of great quality, however focus on leaving the highest quality WP poles along with some red and white pine sawlog sized trees for diversity. Remove Oak and aspen, while marking to leave a few larger oak throughout the stand for diversity and wildlife habitat. Protect oak regeneration when possible as there are areas of thicker regeneration. There are occasional WP saw sized individuals as well as red pine. Management objective is White Pine. Treat with stands 44, 46 and 3. (old) Pole stand with some trees reaching sawtimber size. Boring show stand being much younger (60 years old) than records indicated. Some old growth red pine and some pole size aspen.</p>										
Total Acres.....		106								

GRAYLING FOREST MGT UNIT

**Proposed Treatments
With Limiting Factors**

Compartment: 194 **Entry Year: 2008**

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDI Status
9	R9	11	97	64	red pine	mature		0	natural regeneration	

TREATMENT LIMITING FACTORS: Retention of stand for regeneration purposes (ie. shelterwood)

comnts Fmd : CUT ALL RED PINE AND OAK WITH STAND 53 COMP-192 YEAR 2007 /RP/WP dominants with some scattered oak and red maple. Red maple understory with pockets of thick white pine regen. Scattered fir throughout. In SW corner, two red pine witness trees were found, however no corner post was located. Prescribed to be harvested, recommend to un prescribe because of unique stand components.

44	O9	34	104	75	oak	mature	seed tree	1		
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TREATMENT LIMITING FACTORS: Influence zones

comnts Fmd : Seed Tree red and white oak, focusing on leaving the highest quality of both species. Target 30 BA for oak residual following harvest. Leave a few uncut islands, 1-3 acres in size along adjacent Oak rd for aesthetics and structural diversity. Leave all red and white pine 6" or less using caution while harvesting to protect advanced pine regeneration. Some white pine may need to be marked to cut in order to remove marked oak. Oak and white/red pine is the overall management objective, however due to areas of heavy, advanced red maple understory, along with portions of the stand that have a heavier aspen component, a mixed stand with all above mentioned species present in respectable numbers should be expected. WP in SW corner. Heavy understory of red maple and some oak with aspen being a major component of understory in open areas. Larger aspen is beginning to fall in aspen stand that runs n/s along WP stand (104) in SW corner of stand. (old) Extremely variable due to past cutting. Some areas were cut heavily with heavy regen resulting. Other areas are a mix of white pine and oak. White pine is quite poor quality with a high percentage showing weevile damage. Scattered red pine sawlogs of good quality. Some patch cutting was performed in the past (firewood theft) which resulted in good regen.

46	O9	37	105	57	oak	mature	seed tree	1		
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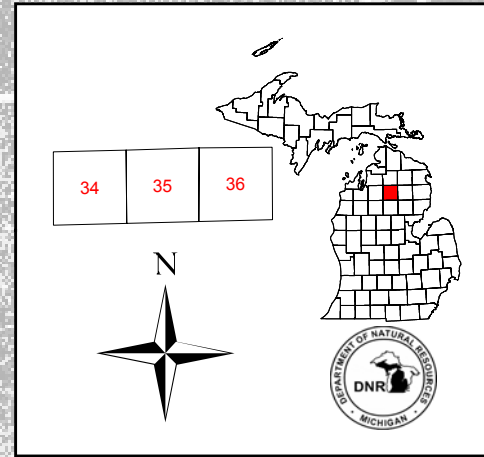
TREATMENT LIMITING FACTORS: Influence zones

comnts Fmd : Seed Tree with adjacent stand 44 to the north. Same prescription of leaving 30 BA of highest quality oak as well as islands of uncut areas along Oak rd, approximately 1-3 acres in size. Maintain smaller size class of red/white pine for diversity and aesthetics. Again, overall management objective is oak, however a mixture of species including red pine, white pine, red maple and aspen should be considered acceptable species once regeneration becomes established. Large red oak present. Some aspen in understory along with some good oak regen at edges and in open areas. Small WP/RP stand at western edge near 2-track could possibly be a separate stand, just north of stand 47. Do not cut any of these red/white pines as a number of them are 35"+ DBH and >100 yrs old. Heavy wildlife use in this isolated small stand. (old) Stand was thinned in the late 60 good regeneration of aspen, oak and red maple. More white oak in north. In north west coner mostly white pine logs.

Total Acres.....	82									
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Compartment 194
 T25N, R4W, Sec. 34, 35, 36
 County: Crawford
 Unit: Grayling
 YOY: 2008
 Acres: 1265 GIS Calculated
 Stand Examiner: Patrick Cotant
 Map Revised: 10/17/2008
 Map Phase: Pre-review

Field Map



Legend

- RLS Corners
- Miris Corners
- Highways
- County Paved Roads
- County Gravel Roads
- County Poor Dirt Roads
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Trails
- Powerlines
- Plots
- US Highway
- ORV Trails
- Hiking Trails
- Stand Boundary
- 046 - Natural Regeneration
- 200 - Seed Tree
- 300 - Shelterwood-seed
- 346 - Shelterwood-seed/Natural Regeneration
- 400 - Thinning

