



**GRAYLING FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW RESENTATION**

COMPARTMENT # 281 ENTRY YEAR: 2008

GIS Compartment Acreage: 1754 County: Crawford

Revision Date: October 9, 2006

Stand Examiner: Joan Charlebois

Legal Description: T26N R1W Sections 4, 9 and T27N R1W Sections 32, 33

Management Goals: The emphasis of management shall be on retaining and enhancing the natural beauty, health, sustainability and biological diversity of the area. While not intended as a road map, Conner's Marsh Flooding Master Plan concepts will be incorporated, where appropriate, along with the compartment-wide goals of enhancing wildlife habitat and providing for hunting and wildlife viewing opportunities. The underlying theme of all management activities will continue to be the maintenance of forest health, productivity, sustainability and species and structural diversity, while providing for visual management and multiple uses.

Soils and Topography: The terrain is gently rolling to rolling, on primarily Grayling and Graycalm sands, with various organic soil types adjacent to the flooding.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The compartment is comprised of solid State ownership in Sections 32 and 33, with the recent acquisition of a land-locked private parcel in the N1/2SE of Section 32. Sections 4 and 9 have private property interface adjacent to the Au Sable River, with several cabins being accessed across State land.

Unique, Natural Features (include only non-site specific and non-sensitive information): Secretive Locust has been found within the compartment. Eagle and Osprey have been reported in the Conner's Marsh Flooding area. There is the potential for occurrences of Kirtland's warbler and prairie warbler in young jack pine; massasauga rattlesnake, Blanding's turtle, and wood turtle along the Au Sable River; great blue heron rookeries associated with the flooding; red-shouldered hawk and goshawk; dry prairie plants and dusted skipper, grizzled skipper and red-legged spittlebug in grassy openings and open jack pine stands.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): None known.

Special Management Designations or Considerations: Section 33 and the northeast quarter of Section 4 lie within the Conner's Marsh Flooding project area boundary, where the primary management goal is “. . . the restoration and management of wild birds and mammals and provision for the public use of those wildlife resources” (see the 2003 draft Master Plan). Sections 33 & 4 have also been identified as historical deeryard areas.

Watershed and Fisheries Considerations: The Conner's Marsh Flooding - maintained by a water control structure in Compartment 283 - is drained by a small stream into the main branch of the Au Sable, a designated Natural River. The compartment fronts two segments of the Au Sable River.

Wildlife Habitat Considerations: Conner's Marsh Flooding Master Plan concepts include considering: longer rotations for coniferous forest types that border the impoundment, snag retention or creation, clear-cutting aspen, oak and jack pine to maintain a mix of forest types, applying prescribed fire to simulate historic occurrences, and maintaining the current level of public access while discouraging new trail roads (see the 2003 draft Master Plan). Waterfowl, Eagles, Osprey and various fur-bearing mammals use the marsh and associated beaver ponds. Snowshoe hare specifications should be applied in aspen stands that are scheduled for harvest. Winter deer cuts, initiated through Forest Treatment Proposals, can be made in and along the swamp conifer types that constitute major deer yards. Sections 33 & 4 have been identified as historical deeryard areas.

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 200 and 400 feet. Beneath the glacial drift are the Coldwater Shale and Marshall Sandstone. The Marshall was previously used as a building stone. A gravel pit is located one mile to the southeast and there should be potential. Part of the Compartment is leased for oil and gas and is partly in the Conner's Marsh Field. The field has produced over 20 Bcf gas from the Ordovician Prairie du Chien.

Vehicle Access: County roads include Conners Flat Road and Dyer Truck Trail. A road that is signed "Gorski Trail" is not part of the county road system and a private landowner to the north of the compartment has claimed that it is a private road. Survey corners found indicate that the road is almost entirely on state land, with the exclusion of a narrow strip of the road's north edge near the Martindale Road intersection. Access is good within the compartment on forest trail roads. Trail roads south of Conners Flat Road represent the sole means of access for several private parcels along the Au Sable River.

Survey Needs: None.

Recreational Facilities and Opportunities: Dispersed recreation, in the form of hunting, fishing, wildlife viewing and canoeing, is concentrated in and around the Conners Marsh Flooding and the Au Sable River. The Conners Flat Canoe Access is maintained by Parks and Recreation Division in Section 9.

Fire Protection: The compartment's jack pine stands are small to moderate-sized, with good access to the largest blocks. The adjacent compartment to the north does contain a Kirtland's Warbler management zone. Section 32's poorer-quality oak stands have a considerable amount of downed wood that adds to the fuel loading and could hinder equipment operation. The Conners Flat Canoe Access is the only practical water source within the compartment. For Sections 32 & 33, the closest water source would be the culvert on Dyer Truck Trail a mile to the west.

LOTS Compartment Acreage: ___1774___

- **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: 281

Table 3

(acres shown in boxes)

STAND AGE CLASS

COVER TYPE	Not	STAND AGE CLASS																Total	
	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
Aspen			20	180	37	10													247
Black Spruce				19		10													29
Bog or Marsh	12																		12
Cedar												14	38						52
Grass	20																		20
Jack Pine		57	64			47	170												338
Lowlnd Brush	3																		3
Marsh	130																		130
Mx Swmp Cnfr							58												58
Non Stocked	6																		6
Oak				10					266	174	14								464
Red Pine		24				22	75												121
Swamp Hrdwds										3									3
Tamarack							6												6
Treed Bog	38																		38
Upland Brush	21			2			4												27
Upland Hdwds					7														7
Water	150																		150
White Pine			12					31											43
Total	380	81	96	211	44	89	313	31	266	177	14	14	38						1754

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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: 281

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	247																										247
S Black Spruce		29																									29
V Bog or Marsh			12																								12
C Cedar				52																							52
G Grass					20																						20
J Jack Pine							338																				338
L Lowlnd Brush									3																		3
N Marsh											130																130
Q Mx Swmp Cnfr												58															58
X Non Stocked													6														6
O Oak														464													464
R Red Pine																121											121
E Swamp Hrdwds																				3							3
T Tamarack																						6					6
D Treed Bog																								38			38
U Upland Brush																								27			27
M Upland Hdwds																									7		7
Z Water																									150		150
W White Pine																										43	43
Total	247	29	12	52	20		338		3		130	58	6	464		121				3	6	38	27	7	150	43	1754

AUSABLE STATE FOREST

GRAYLING FOREST MGT UNIT

CRAWFORD COUNTY

COMPARTMENT: **281**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	1744 Cds	Hardwood	269 Cds
Hardwood	1183 Mbf	Hardwood	909 Mbf
Softwood	4019 Cds	Softwood	352 Cds
Softwood	1621 Mbf	Softwood	255 Mbf
Sum TotVol	11371 Cds	Sum CutVol	2949 Cds
Total Cmpt Acres		Acres Proposed For Cut.....	373
1754			

GRAYLING FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 281 Entry Year: 2008

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
5	O9	55	81	58	oak	mature	final harvest	1		
<p>comnts Fmd : "Thinned" in 1999 under sale #012-98-01, cutting only aspen, RM & JP. Aside from fairly hybridized oak along the N edge, the stand on the high ground is fair-to-good quality RO small diam saw with good height growth & the best vigor of any oak stand in the compt. The "thinning" resulted in thick A3 & Mr2 regen below. While the RO is holding up well, it's growing extremely slow now, & with the A3 there is no hope for seed-origin regen. Final harvest now to get stump-sprout regen before the oak starts to lose vigor. Harvest will mean damage to existing BTA regen, but this is a unique oak stand for this area in terms of quality and efforts should be made to maintain an oak component, although a large RM & BTA component is expected to perpetuate the stand's mixed species composition. Harvest when the oak is dormant to reserve stores for stump sprouting.</p>										
8	O8	24	68	50	oak	high risk	improvement	1		
<p>comnts Fmd : NPO & overmature JP rapidly breaking up with a lot of snags & downed wood. Short RP saw, occasional BTA, small RM. A lot of firewood cutting, some illegal. Informal but heavily-used campsite to SW. Salvage the NPO, JP and BTA. Leave all RP. Harvest when the oak is dormant and leave scattered tops. Used previous SI since new SI on declining oak was very low and probably not representative.</p>										
10	O9	46	68	57	oak	high risk	improvement	1		
<p>comnts Fmd : Oak stand breaking up. Was fuelwood salvaged in 2002 under sale #27-01-02. More than the contract specs of 2 snags/ac were left due to excessive rot. A lot of overmature JP & NPO on the ground. Scattered RP (super-canopy, small saw, poles, <R1 regen overall), low-density RM stump clump poles and even some saw-sized. Salvage the NPO & JP. Leave all RP. Leave tops and cut when oak is dormant. Averaged SI between this and last YOEs.</p>										
13	O9	33	70	56	oak	high risk	improvement	1		
<p>comnts Fmd : Declining NPO: most of area was firewood salvaged once already in 2003. Oak is not seeding in. RP in all age/size classes nearly as large a component. Overmature JP saw with much mortality. Salvage the NPO & JP. Leave all RP & WP. Cut when oak is dormant and leave tops. Old OI notes indicate "some planted RP" - I did not pick up on that while walking through the stand.</p>										
17	R8	29	53	55	red pine	two aged	improvement	1		
<p>comnts Fmd : Most of stand fuelwood salvaged in 2004/2005. The NPO & overmature JP is rapidly declining, with a lot of snags and downed wood. Mix of age/size classes of RP along with WP small poles and regen. Salvage the NPO, JP & aspen. Leave all RP, WP & WO. Cut when the oak is dormant and leave tops scattered.</p>										
21	O9	23	76	50	oak	mature	seed tree	2	natural regeneration	
<p>comnts Fmd : Split from stand 25 by 2001 patch cuts. Declining NPO saw with RP saw & poles seeding in <R1, still open below. Used stand 25's SI. A lot of firewooding. The patch-cut oak stump sprouts were heavily browsed. Stand lies within the Conners Marsh project area boundary, making maintaining an oak component in this mixed stand a priority. Cut the oak now, at the same time as stands 25 & 34, in order to try regenerating through stump sprouts over larger areas to minimize the comfort level deer have with small patch-cut foraging and to try to overwhelm them with browse. Mark-to-leave 10 BA of NPO for seed. Leave all RP for seed trees and harvest only the mature JP. Do not chip tops; leave them scattered to inhibit deer movement and reduce browsing. Cut when the oak is dormant to conserve stores for sprouting. The goal is to regenerate a mix of species, including oak, RP, WP, JP & RM. Given the area's historical deeryard status and the importance of managing for a mixed stand with an oak component, lower stocking levels are acceptable and preferable to artificial regen (planting).</p>										
25	O8	32	76	50	oak	mature	seed tree	2	natural regeneration	
<p>comnts Fmd : Original stand split into 21, 25 & 34 by 2001 patch cuts. NPO is mature and declining, but patch cuts were heavily deer browsed & most oak stump sprouts were killed. Stand does have RP saw, poles & saps in clumps with areas of W, J, & RM regen. The coded "R1" understory is a composite of R, J, WP & RM regen. RM stump clump poles scattered around. Cut the oak (except mark-to-leave 10 BA NPO), merchantable JP & aspen. Leave all RP & WP & protect regen. Treat at the same time as stands 21 & 34. Stand lies within the Conners Marsh project area boundary, making maintaining oak in this mixed stand a priority. Cut when the oak is dormant to conserve stores for sprouting. Leave tops scattered. The treatment goal is to regenerate a mixed stand with NPO, RP, JP & RM. Given the area's historical deeryard status and the importance of managing for a mixed stand with an oak component, lower stocking levels are acceptable and preferable to artificial regen (planting).</p>										
34	O8	31	76	50	oak	mature	seed tree	2	natural regeneration	
<p>comnts Fmd : Original stand split into 21, 25 & 34 by 2001 patch cuts. NPO is mature and declining, but patch cuts were heavily deer browsed & most oak stump sprouts were killed. Stand does have RP saw, poles & saps in clumps with areas of W, J, & RM regen. The coded "R1" understory is a composite of R, J, WP & RM regen. RM stump clump poles scattered around. Stand lies within the Conners Marsh project area boundary, making maintaining an oak component in this mixed stand a priority. Cut all NPO (except mark 10 BA to leave for seed), JP & aspen. Leave all RP & WP & protect regen. Cut when oak is dormant to conserve stores for sprouting. Leave tops to inhibit deer movement and browsing. Watch low area N of stand 36 where there is a pocket of aspen over tag alder - equipment operation may need to be limited. Treat at the same time as stands 21 & 25. The treatment goal is to regenerate a mixed stand with NPO, RP, JP & RM. Given the area's historical deer yard status and the importance of managing for a mixed stand with an oak component, lower stocking levels are acceptable and preferable to artificial regen (planting).</p>										

GRAYLING FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 281 Entry Year: 2008

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FD Status
49	R9	22	50	62	red pine	immature	thinning	2		
<p>comnts Fmd : High ground surrounded on three sides by marsh/flooding. Actively breaking up NPO (that is being picked at by firewood cutters) that had RP & a little scotts pine planted under & around it except for E & S peninsulas. There is also older, naturally-recruited RP scattered throughout along with JP. In order to try to maintain an oak component for the long term, harvest the oak now to secure stump sprouts, but mark-to-leave oak in clumps for mast on the east peninsula. Remove the mature JP, scotch pine and aspen, as well as 20 BA of the RP (focussing on reducing competition with the leave oak & stump sprouts). Cut when oak is dormant to conserve stores for sprouting. Leave oak tops to inhibit deer movement and reduce browsing on stump sprouts. While RP predominates in this mixed stand, the overall goal is to maintain the existing mixture of tree species, with particular focus on perpetuating the oak component.</p>										
62	O8	60	87	53	oak	high risk	final harvest	1	planting	
<p>comnts Fmd : Most of stand had all 10"+ JP cut in 1970 under sales #36-70, 46-70, 49-70 & 54-70. Actively declining, very poor quality NPO on rolling hills to N, flatter to S. JP in overmature saw and younger small poles as large a component, with occasional WP & RP sm saw, sm poles & regen. Along Conners Flat Road: old burn area to SW, BTA to SE. Used previous SI. The oak is dying without having seeded in any regen. Salvage the NPO, merchantable JP & BTA. Leave all WP, RP & WO. Chip tops to facilitate trenching & planting. Cut when the oak is dormant in order to conserve stores for stump sprouting. Plant to JP, avoiding the steep slopes to the N and the areas to the SE along Conners where the BTA will be regenerating. The treatment goal is to maintain an oak component through stump sprouting and to achieve adequate overall stand stocking with a mixture of natural regeneration (oak, WP, RP, JP, BTA) and planted JP. To mitigate the treatment's visual impact, mark oak to leave along Conners Flat Road.</p>										
75	O9	18	81	50	oak	mature	seed tree	1	natural regeneration	
<p>comnts Fmd : Part of stand had 10"+ JP cut in 1970 under sale #52-70. Variable species mix, but common theme is NPO saw with some mortality, along with: TA & BTA to N, RP to NE, JP to W, RM to E, WP to E & SE. The oak is not regenerating and the stand is converting to mixed pine. Cut all of the RM, BF & aspen, diameter-limit cut the JP >6", and remove the mature RP in order to reduce competition for the oak. Leave the WP & WO and mark-to-leave NPO for a total of 10 BA reserved oak. Apply snowshoe hare specs. Do not allow chipping of the tops: leave them scattered, except keep tops well back from Conners Flat Road. Cut when the oak is dormant to conserve stores for stump sprouting. The treatment goal is to maintain an oak component through stump sprouting and seeding while also regenerating a mixture of species such as RP, WP, BF, RM & JP. Given the area's historical deeryard status and the importance of managing for a mixed stand with an oak component, lower stocking levels are acceptable and preferable to artificial regen (planting).</p>										
401	G0	1			grass	nonstocked		0	opening maintenance	
<p>comnts Fmd : U/G type with sweetfern, scattered oak & pine lg saps. In shallow depression. WLD will do opening maintenance by FTP's.</p>										
Total Acres.....		374								

**Proposed Treatments
With Limiting Factors**

Compartment: 281

Entry Year: 2008

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

Total Acres..... 0

Field Map

Compartment 281
 T26N, R01W, Sec. 4, 9
 T27N, R01W, Sec. 32, 33
 County: Crawford
 Unit: Grayling
 YOE: 2008
 Acres: 1,754 GIS Calculated
 Stand Examiner: Joan Charlebois
 Map Revised: 10/16/2006
 Map Phase: Pre-review

Legend

- RLS Corners
- Miris Corners
- County Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Powerlines
- Water Features
- Gates
- Stand Boundary
- Biodiversity/Old growth area
- 026 - Opening Maintenance
- 100 - Final harvest
- 116 - Final harvest/Planting
- 246 - Seed tree/Natural regeneration
- 400 - Thinning
- 900 - Improvement

