



TRAVERSE CITY FOREST MANAGEMENT UNIT COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 230 ENTRY YEAR: 2007

Compartment Acreage: 1902 County: Kalkaska

Stand Examiner: Ken Rouston

Legal Description: T26N R5W, Sections 25, 26 & 27

Management Goals: Management goals within this compartment must be meshed with the needs of the military. Summer troop training areas are most useful when dense forest canopy cover is in place, so the goal shall be to retain a high percentage of timber stands with this condition. Some forest canopy covers will be reduced by thinnings and other partial cuttings. It is equally important, to have adequate understory and ground covers for military maneuver areas. In the end, a variety of stand conditions will be in place. The timber stands in this compartment are in need of considerable attention. There is a need to develop a more balanced rotational treatment schedule in order to maintain healthy, diverse vegetation that includes productive timber stands and essential habitat for the wide range of plants and animals that are found in this compartment. Diversity should focus upon age class distribution, cover types and species composition within the forested stands and maintaining a proper mixture of non-forested/semi-open or open areas. The high percentage of Oak timber type found in this area is being lowered by expanding the aspen type through clearcutting areas where aspen has naturally developed.

Soil and Topography: The main soil types are Rubicon sand and Roselawn sand. The terrain ranges from flat to hilly. The north half of the compartment is relatively flat and the south half is quite hilly. The water table is close to the surface in parts of Section 27.

Ownership Patterns, Development, and Land Use in and Around the Compartment:

There is one forty acre parcel in the very northwest corner of section 27 that is privately owned. The entire west side of this compartment is bordered by privately owned land that contains some seasonal and residential development near the compartment boundary. Otherwise, the entire land base in this compartment is state owned with the administrative authority being the Department of Military Affairs. These lands are commonly referred to as Military Board Lands. FMFMD manages the timber upon these lands with guidance and direction from the staff of the Michigan National Guard at Camp Grayling. Military troop training is the primary activity in this area. There are a couple of fenced ranges in Sections 25 & 26 (stands 409 & 410), where troops perform a variety of tasks including, demolition with explosives, detonation of ordnances from mine sweeping operations and they practice engineering exercises. Generally, no live ammunition exercises occur in this area. Some military bivouac areas are located in the compartment and they are used annually. In 2001, the military began an expansion of their original tracked vehicle trail. The tracked vehicle trail is not fully completed and it is commonly referred to as the tank trail. Part of that new route will pass through this compartment along the south edge of the Howe Road corridor, connecting to the original tank trail in the north part of Section 25 and continuing on into Crawford County. In the spring of 2005, a large area in Sections 26 and 27 was clearcut at the request of Camp Grayling for the purpose of developing a staging area for training troops that are about to be deployed to war zones. Some 300 acres of forest has been cleared in the last ten years to develop this staging area. Military Board lands are generally open to the public for recreational use. The adjacent lands north, south and east of the perimeter of this compartment are all state owned Military Board lands.

Unique, Natural Features (include only non-site specific and non-sensitive information):

There are a couple of small kettle-like pothole lakes near the east edge of Section 26. There is a large area of springs in the southwest corner of Section 27 that develops into a stream and becomes a tributary to the Manistee River. No endangered or threatened species of plants or animals are known to exist in the compartment. The terrain makes a drastic change from a flat level plains in the north part of the compartment to suddenly very hilly terrain that continues throughout the south half of the compartment.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): No known sites exist.

Special Management Designations or Considerations: This compartment is entirely under the jurisdiction of the Department of Military Affairs.

Watershed and Fisheries Considerations: The headwaters of Spring Creek are found in the SW corner of Section 27. Spring Creek is a small trout-stream tributary to the Manistee River, with naturally reproducing populations of brown and brook trout.

Wildlife Habitat Considerations: A small portion of the northwest corner of Sec. 27 consists of an outwash plain with peat or muck (LTA 5149). A maple stand and some aspen occur on this level and poorly drained formation. Historically, an occasional wildfire and windthrows were reported on this LTA type. The majority of Sec. 07 and the north ½ of Sec. 26 is part of a broad outwash plain (LTA 5111). Topography is generally level. Soils are excessively drained sand. Historically, large wildfires were reported within this LTA type. Within Compartment 230, jack pine stands dominate this LTA type. The majority of Sec. 25, the south ½ of Sec. 26, and a small portion of Sec. 27 are made up of an ice contact ridge (LTA 3111). Topography is irregular and rolling. Soils are excessively drained gravelly sand. Historically, an occasional wildfire or wind throw was reported. Within this compartment, oaks dominate. There are also some aspen, white pine, and small openings.

Maple and oak stands are very important for many species of wildlife. Wildlife considerations for northern hardwood and oak stands involve maintaining tree species diversity, the protection of den/nesting trees & snags, Coarse Woody Debris (CWD), and maintaining a scattering of mast-producing trees and shrubs. Acorns and beechnuts are important food sources for many species of wildlife. Examples include fox & gray squirrel, white-tailed deer, wild turkey, eastern chipmunk, and chickadee. Ruffed grouse use different aged aspen throughout their life cycle. Younger stands provide cover while older stands provide catkins (food source) for the winter months. Clearcutting helps facilitate age class diversification of aspen by mimicking the necessary disturbances vital for regeneration. The inclusion of CWD trees for drumming logs and maintaining berry-producing shrubs is also desirable. Woodcock prefer areas that are similar to grouse, but with a higher water table. The moist soils allow woodcocks to forage. Many wildlife species rely on small forest openings. Openings are evaluated for wildlife value and may require hand-felling or prescribed burning to reduce woody encroachment and/or stimulate native herbaceous vegetation. Examples include little bluestem, jack pine, and rough blazing star. These openings provide grassy nest sites, plentiful seeds and insects, and cover. Examples of wildlife include northern flicker, meadow vole, and green snake.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium and dune sand. The glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift are the Mississippian Marshall Sandstone and Coldwater Shale. The Marshall was previously used as a building stone. The nearest gravel pit is located two miles to the south, but there should be potential on the uplands. This area is located three miles north of the Beaver Creek Field. Beaver Creek produces from the Devonian Richfield and Detroit River Formations and the Ordovician PdC. There are no leases currently in the Compartment, but leases are located to the south.

Vehicle Access: Numerous trails and roads are found in the compartment. The road system is extensive and will remain as it is since the roads are needed for modern day military training. Roads developed during timber harvests will be closed once the harvest is complete unless an evaluation by the military determines that the road is one that they would like to keep open for incorporation into training activities.

Survey Needs: No additional survey corners are necessary.

Recreational Facilities and Opportunities: There are no facilities within the compartment. It is common to find deer hunting camps in this area during the fall deer hunting seasons. Snowmobilers use the pipeline corridor during winter. The mushroom hunters and berry pickers use the compartment seasonally. Since the military uses the area for training during the summer, the recreational camping opportunities are limited.

Fire Protection: This compartment is located along a good road (Howe Road) that is maintained by the Military. The primarily timber types are oak, aspen and jack pine. Forest fire control efforts are hampered by an extended response time due to the fact that the Kalkaska DNR Field Office is 28 miles away. Initial attack crews from the Grayling DNR Field Office and the Military Fire Station are much closer and usually cover the initial attack on fires in this area. A nearby water supply is available via a dry hydrant in Portage Creek which is only a mile north of this compartment. The south half of the compartment is quite hilly and fire control crews will need to assess the topography and insert fire control lines accordingly. There are some individual jack pine stands scattered through the compartment that could host fast moving crown fires but there are no huge contiguous blocks of jack pine fuels. There are lots of oak and aspen timber stands that would aid fire crews in the event of a crown fire. Fires in open grass areas and fires burning up the hillsides may consume a fair amount of area before they can be controlled. Since slash is required to be removed from timber sales that are upon Military Board land, cut-over areas will not contain the usual heavy fuel loads following harvests and may actually act as fuel breaks. Considering all these factors, the concern regarding a large catastrophic fire occurrence is somewhat reduced but fire control could still be quite a challenge.

Additional Compartment Information: Timber harvests upon Military Board lands must be done in such a manner that slash is removed from the sale area, stumps must be cut as low as possible and equipment/forest products must be removed from the sale area during the summer. Logging operations are limited to the period of May 1 - October 1. A balance must be met between the desire to maintain good canopy cover and reduction of the stand basal area low enough to facilitate whole tree harvests to accomplish the low density of slash that the military requires.

****** Cover type details, proposed treatments and stands designated as FDF are listed in the attached reports:**

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 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

PERE MARQUETTE STATE FOREST

TRAVERSE CITY FOREST MGT UNIT

KALKASKA COUNTY

COMPARTMENT: 230

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		2			51			14	101	98									266
Grass	341																		341
Jack Pine		27		84	154	90	50	42	24										471
Non Stocked	20																		20
Oak		17				22	12		108	156	163	27	160						665
Upland Brush	79																		79
Upland Hdwds		20																	20
Water	2																		2
White Pine							38												38
Total	442	66		84	205	112	100	56	233	254	163	27	160						1902

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Michigan Department of Natural Resources - Operations Inventory System
Individual Compartment Report

PERE MARQUETTE STATE FOREST

TRAVERSE CITY FOREST MGT UNIT

KALKASKA COUNTY

COMPARTMENT: 230

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	266																										266	
G Grass					341																						341	
J Jack Pine					13		376							36		46											471	
X Non Stocked													20														20	
O Oak	119													546													665	
U Upland Brush																								75		4	79	
M Upland Hdws																								20			20	
Z Water																									2		2	
W White Pine																										38	38	
Total	385				354		376						20	582		46								75	20	2	42	1902

PERE MARQUETTE STATE FOREST

TRAVERSE CITY FOREST MGT UNIT

KALKASKA COUNTY

COMPARTMENT: **230**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	15399 Cds	Hardwood	7231 Cds
Hardwood	1332 Mbf	Hardwood	390 Mbf
Softwood	4512 Cds	Softwood	682 Cds
Softwood	10 Mbf	Softwood	10 Mbf
Sum TotVol	22595 Cds	Sum CutVol	8713 Cds
Total Cmpt Acres		Acres Proposed For Cut.....	385
1902			

TRAVERSE CITY FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 230 **Entry Year: 2007**

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
3	U0	67			upland brush	nonstocked		0	opening maintenance	
<p>comnts Fmd : 2005 kgr comments: Typical U-type. Lots of cherry shrubs, mostly open spaces with grass ground cover, a couple of small pockets of Jack Pine that are pretty insignificant.</p> <p>Wld : Stand 3: 2005 SGG: Burn to set back encroachment of woody species and stimulate herbaceous ground cover. If Military says no to burning then possibly hand fell some encroachment.</p>										
11	J5	9	29	45	red pine	immature		0	planting	
<p>comnts Fmd : 2005 kgr comments: Jack Pine buffer stand designed to discourage motor vehicles from entering the training area that is being established south of Howe Road and west of the pipeline. This stand is rather sparse in places. Mostly Jack Pine timber with some cherry mixed in. Plant red pine parallel to the road to perpetuate the longevity of the effectiveness of this area as a buffer. SI is from an adjacent stand.</p> <p>Wld : Stand 11: 2005 SGG: Concur with FMFM.</p>										
20	O6	45	109	45	aspen (upland)	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : 2005 kgr comments: Stand is on a significant slope with a NW aspect. Oak dominates the stand but there is a significant aspen presence. Clearcutting will convert the stand to aspen dominance. Some oak seedlings are present but few have advanced beyond 18" tall. Widely scattered White Pine saplings are present. Some Red Maple and Witch Hazel. No noticeable mortality in the oak but some aspen stems have died out. Crowns are narrow and the BA is relatively consistent. Clearcut and convert to Aspen.</p> <p>Wld : Stand 20: 2005 SGG: Leave ~9 small (~ ¼ ac) islands of oak for mast production. WLD can mark. Include a spec to create course woody debris (~1-2/acre) if Military will allow.</p>										
21	U0	4		55	white pine	nonstocked		0	planting	
<p>comnts Fmd : 2005 kgr comments: Mostly small cherry with scattered Jack Pine poles. Ground cover is grass and knappweed.</p> <p>Wld : Stand 21: 2005 SGG: Concur with FMFM. Suggest planting to white pine instead for better wildlife cover.</p>										
26	O6	3	109	45	aspen (upland)	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : 2005 kgr comments: Stand is on a significant slope with a NW aspect. Oak dominates the stand but there is a significant aspen presence. Clearcutting will convert the stand to aspen dominance. Some oak seedlings are present but few have advanced beyond 18" tall. Widely scattered White Pine saplings are present. Some Red Maple and Witch Hazel. No noticeable mortality in the oak but some aspen stems have died out. Crowns are narrow and the BA is relatively consistent. Clearcut and convert to Aspen.</p> <p>Wld : Stand 26: 2005 SGG: Include a spec to create course woody debris (~1-2/acre) if Military will allow.</p>										
28	O6	24	74	69	aspen (upland)	mature	final harvest	1	natural regeneration	
<p>Wld : Stand 28: 2005 SGG: Leave ~4 small (~ ¼ ac) islands of oak for mast production. WLD can mark. Include a spec to create course woody debris (~1-2/acre) if Military will allow.</p>										
29	A6	101	72	74	aspen (upland)	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : 2005 kgr comments: Aspen is old and mortality is showing up. Red Oak and N. Pin Oak are mixed in. Some widely scattered White Pine and Red Pine seedlings/saplings. Pockets of the stand are pure oak. During the sale set-up, leave +/- 6 acres uncut where oak or pine dominates. These uncuts areas should be approximately 1 to 2 acre patches. Terrain is rolling hills.</p> <p>Wld : Stand 29: 2005 SGG: Include a spec to create course woody debris (~1-2/acre) if Military will allow.</p>										
32	J5	12	56	36	red pine	immature		0	planting	
<p>comnts Fmd : 2005 kgr comments: From viewing the aerial photographs, it appears that some planting was done in this stand around 1960. Portions of the stand may have hazards in the form of military ordnances as those that were found in 1998 in this area. Prescription for this YOE is to plant the more open areas along Howe Road with Red Pine to perpetuate the effectiveness of the buffer that this stand will provide for the staging area that the military is developing.</p> <p>Wld : Stand 32: 2005 SGG: Concur with FMFM.</p>										
35	A6	65	80	56	aspen (upland)	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : 2005 kgr comments: Rollings hills, not steep, lots of aspen with widely scattered White Pine saplings. Some mortality in the Aspen (5%). High Priority to cut.</p> <p>Wld : Stand 35: 2005 SGG: Leave ~10-12 small (~ ¼ ac) islands of oak/aspen for mast/catkin production (catkins should be from male aspen clone). WLD can mark. Include a spec to create course woody debris (~1-2/acre) if Military will allow.</p>										
40	A9	33	85	75	aspen (upland)	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : 2005 kgr comments: Hilly terrain, understory is Red maple. No mortality in the oak. Some widely scattered White Pine saplings. Cut this now.</p> <p>Wld : Stand 40: 2005 SGG: Leave ~10-12 small (~ ¼ ac) islands of oak/aspen for mast/catkin production (catkins should be from male aspen clone). WLD can mark. Include a spec to create course woody debris (~1-2/acre) if Military will allow.</p>										

TRAVERSE CITY FOREST MGT UNIT

**Proposed Treatments
With NO Limiting Factors**

Compartment: 230 **Entry Year: 2007**

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	fdf Status
48	J6	12	50	48	oak	immature	final harvest	1	natural regeneration	
<p>comnts Fmd : 2005 kgr comments: Stand features Jack pine with a fair amount of oak in it. White Oak and N Pin Oak. Take all the merchantable timber in the harvest and minimize the damage to the advanced oak regeneration during the harvest. Some old signs along the perimeter of the stand indicate that this may have been an impact area for the military. Cut in the winter with snow cover. Terrain is flat with heavy stocking of advanced oak regeneration. A mixed stand of Jack Pine and Oak is acceptable regeneration if it reaches medium stocking or higher.</p> <p>Wld : Stand 48: 2005 SGG: Leave scattered oak (~6 trees) for mast production. WLD can mark.</p>										
55	O6	13	71	56	aspen (upland)	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : 2005 KGR comments: Stand is on a NW Aspect. Aspen is smaller diameter but is healthy. Oak is old, poor quality and is in poor condition.. Lots of oak seedlings present. Scattered WP & RP seedlings present. Clearcut it now.</p> <p>Wld : Stand 55: 2005 SGG: Leave ~2 small (~ ¼ ac) islands of oak for mast production. WLD can mark. Include a spec to create course woody debris (~1-2/acre) if Military will allow.</p>										
56	J6	25	64	48	red pine	mature	shelterwood-seed	1	planting	
<p>comnts Fmd : 2005 kgr comments: Cut all Jack Pine now and leave the oak. Plant Red Pine after the harvest. Red Pine is the preferred species for reforestation of this stand since it is relatively long lived, it can provide good cover along the roadway for the military and it is a species that can be thinned in the future. Jack Pine in this stand is now old and is in poor condition. There is a fair amount of advanced Oak regeneration in places.</p> <p>Wld : Stand 56: 2005 SGG: Concur with FMFM.</p>										
68	O6	12	71	56	aspen (upland)	mature	final harvest	1	natural regeneration	
<p>comnts Fmd : 2005 KGR comments: Aspen/Oak mixture. Oak is old, poor quality and is in poor condition.. Some oak seedlings present. Scattered WP & RP seedlings present. Clearcut it now.</p> <p>Wld : Stand 68: 2005 SGG: Leave 1 small (~ ¼ ac) island of oak for mast production. WLD can mark. Include a spec to create course woody debris (~1-2/acre) if Military will allow.</p>										
Total Acres.....		425								

TRAVERSE CITY FOREST MGT UNIT

**Proposed Treatments
With Limiting Factors**

Compartment: 230 Entry Year: 2007

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
12	J4	13	29	40	grass	immature	improvement	1	other - specify in remarks	

TREATMENT LIMITING FACTORS: No market for species/product

comnts Fmd : 2005 kgr Comments: Stand is west of the pipeline. This is a natural jack pine regenerated site. However, the area will be cleared and converted to grass by the military to expand a staging area for troop training. The timber and stumps will be cleared and grasses will be established. Some advanced oak regeneration is present. Browse damage was quite heavy. The stand is relatively flat with a slight northerly aspect.

57	O6	22	91	53	aspen (upland)	immature	final harvest	1	natural regeneration	
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TREATMENT LIMITING FACTORS: Other Agency concerns (name in comments)

comnts Fmd : 2005 kgr Comments: Mixed stand with Oak / Aspen. Aspen is small but healthy. Clearcut or just remove aspen. Some oak seedling component. Stand is being held for ten years because of the large amount of cutting prescribed within the compartment. No loss anticipated by holding this for ten years.

Wld : Stand 57: 2005 SGG: Leave ~2 small (~ ¼ ac) islands of oak for mast production. WLD can mark. Include a spec to create coarse woody debris (~1-2/acre) if Military will allow.

64	J6	17	60	57	jack pine	immature	removal	1		
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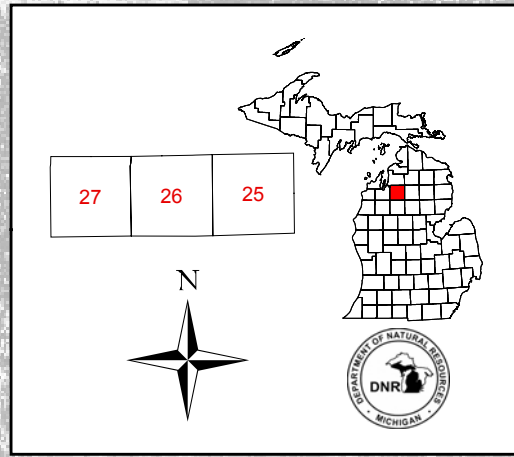
TREATMENT LIMITING FACTORS: Delayed treatment for age/size class diversity

comnts Fmd : 2005 kgr comments: Jack Pine stand with Red Pine and White Pine mixed in. Some advanced oak regeneration. Timber quality is fairly good. Remove Jack Pine and leave all other species. Terrain is rolling.

Wld : Stand 64: 2005 SGG: Concur with FMFM.

Total Acres..... 52

Compartment 230
 T26N, R5W, Sec. 25-27
 County: Kalkaska
 Unit: Traverse City
 YOE: 2007
 Acres: 1,902 GIS Calculated
 Stand Examiner: Ken Rouston
 Map Revised: 11/23/2005
 Map Phase: Pre-review



Field Map

Legend

- Miris Corners
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- Trails
- Gates
- Stand Boundary
- 016 - Planting
- 027 - Opening Maintenance/Prescribed Burning
- 149 - Final Harvest/Natural Regeneration
- 316 - Shelterwood-seed/Planting
- 500 - Removal
- 994 - Improvement/Other/Buldozer
- Name** County Gravel Roads
- Name** Public Gravel Roads

