



**TRAVERSE CITY FOREST MANAGEMENT UNIT  
COMPARTMENT REVIEW PRESENTATION**

**COMPARTMENT # 104 ENTRY YEAR: 2009**

**Compartment Acreage: 1922      County: Kalkaska**

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**Stand Examiner:** Dave Johnson

**Legal Description:** T28N-R05W-Sec. 16,17,18,19&20

**Management Goals:** Maintain age class diversity within the Aspen and Northern Hardwood types and recreational opportunities on established Snowmobile, ORV and North Country Trails.

**Soil and Topography:** Ranges from Blue Lake Loam, Emmet, Rubicon, Kalkaska Sands and Greenwood Peat.

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

Area is mixed blocks of state and private. Residential/vacation home development around lakes.

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

This compartment falls within landtype associations (LTAs) **3121**, **5149**, and **5211** of sub-subsection VII.2.2. **LTA 5211**, which is found in the northwestern portion of the compartment, is a pitted outwash plain with excessively well drained sand. For a brief description of the vegetation circa 1800, current land cover, and prevalent disturbance of **LTA 5211** please refer to the comments for *Compartment 42*. **LTA 3121**, which occurs throughout the compartment, is characterized by large irregular ice-contact ridges, few kettle lakes, and well drained loamy sand. Northern hardwood forests of beech and sugar maple occurred on 73% of this LTA circa 1800. Hemlock and white pine probably occurred in low numbers throughout most of these hardwood forests, and these two conifers also co-dominated forests on the remainder of the LTA. Specifically, hemlock, was co-dominant with either beech or white pine on about 19% of the LTA. In addition to its association with hemlock, white pine also occurred in mixed forests with red pine on about 6% of the LTA. Northern hardwood forests remain the dominant cover type on **LTA 3121**, covering about 70% of its surface. However, most of these second growth forests lack the structural complexity of mature northern hardwoods and, in addition, the conifer component has been greatly reduced or eliminated. Conifer dominated forests, once common on this LTA, have been essentially eliminated, whereas aspen/white birch forests now cover about 19% of the area. **LTA 5149**, which occurs in the southeastern portion of the compartment, is a broad outwash plain with very poorly drained peat or muck. Circa 1800, almost 70% of the LTA supported conifer-dominated wetlands (7% of this area was bog and muskeg). Forests of white pine with red pine or hemlock collectively covered another 11% of the LTA and occurred on better drained, sandy inclusions often within the extensive peatlands. In addition, both white pine and hemlock were probably also important components of the beech/sugar maple forests that covered another 6% of the LTA. The remainder of the LTA supported small amounts of pure hemlock forests, alder/willow thickets, marshes, and aspen/white birch forests. Lowland-conifer forests, which once covered almost 70% of the LTA, now occur on only 22% of the landtype. Conversely, lowland hardwood swamps and shrub/scrub wetlands, which did not occur here circa 1800, now cover about 16% and 15% of the LTA, respectively. Further, aspen/white birch forests have increased from about 1% to 21% cover today. Pine-dominated forests persist on only about 6% of the LTA and northern hardwoods on another 5%.

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

**Special Management Designations or Considerations:**

**Watershed and Fisheries Considerations:**

Indian Lake is the only large waterbody in this compartment. For treatments near Indian Lake in Stand 8, or those near bogs or ponds in the compartment, MDNR BMPs should be adhered to.

**Wildlife Habitat Considerations:** The majority of this compartment is underlain by steep, broken ice contact ridges (LTA 3121). The sandy soils found on these ridges have moderately low fertility and low available moisture. Even though much of this area was probably once covered with various northern hardwood communities, the dry soils did allow occasional wildfires on this landscape. Currently, aspen and northern hardwood stands co-dominate the compartment. The western edge of the compartment just begins to level off onto a pitted outwash plain (LTA 5211). This outwash plain consists of sandy, excessively drained soils. Northern hardwood and aspen communities are found on this land formation within compartment 104. A small inclusion of a narrow outwash channel (LTA 5521) is located in the south central part of the compartment. Again this formation consists of sandy, dry soils, but does have occasional patches of poorly drained muck, which in this compartment support small wet meadows.

Aspen harvests should be designed to mimic wildfires of various intensities, when possible. This creates a mosaic of age classes and increases structural diversity within an area. The creation of dead and downed logs should be incorporated into timber prescriptions within to provide habitat for various wildlife including ruffed grouse, white-footed mice, and redbelly snakes. Standing dead timber is usually left during harvest operations unless deemed a safety hazard. Other species benefiting from continued management and age class diversification of aspen include deer, yellow-billed cuckoos, and snowshoe hares. Considerations for northern hardwood stands include maintaining tree species diversity, the protection of den/nesting trees & snags, coarse woody debris (CWD), and maintaining a scattering of mast-producing trees/shrubs. This will insure use by many species of wildlife. Examples of species include scarlet tanager, raccoon, broad-winged hawk, wild turkey, and white-tailed deer.

Many wildlife species rely on small forest openings and upland shrubland. These openings provide grassy nest sites, plentiful seeds and insects, and cover. Examples of species include wild turkeys, northern flicker, eastern chipmunk, and blue racer. Upland shrub stands are important because they contain many berry-producing trees and shrubs. Degraded sites (i.e. abandoned well sites) should be considered for revegetating to herbaceous cover. Other opening maintenance proposed for this compartment includes prescribed fire, hand felling, and mowing.

**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 600 and 1,000 feet. Beneath the glacial drift is the Mississippian Coldwater Shale. The Coldwater does not have an economic use. A gravel pit is located in Section 20 and potential is good on the uplands. This area is located in the Niagaran reef trend with many producing wells and one converted to Gas Storage operations. The Antrim Shale gas play may be too deep to produce in this area. The Compartment is currently leased for oil and gas development and some for Gas Storage.

**Vehicle Access:** Many County maintained roads along with forest trail and oil development roads are within this area

**Survey Needs:**

**Recreational Facilities and Opportunities:** Indian Lake Public Access Site, Blue Bear Snowmobile Trail, Kalkaska ORV Trail, Hiking-Riding- North Country Trail. Area provides good fishing and hunting opportunities.

**Fire Protection:**

**Additional Compartment Information:**

**\*\*\*\* 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: 104

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	563																										563
G Grass					122																						122
N Marsh											9																9
X Non Stocked													10														10
R Red Pine																36											36
U Upland Brush																								18			18
M Upland Hdws	27																							1131			1158
Z Water																									6		6
Total	590				122						9		10			36								18	1131	6	1922

PERE MARQUETTE STATE FOREST

TRAVERSE CITY FOREST MGT UNIT

KALKASKA COUNTY

COMPARTMENT: **104**

**Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS**

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	22459 Cds	Hardwood	3886 Cds
Hardwood	994 Mbf	Hardwood	177 Mbf
Softwood	1322 Cds	Softwood	230 Cds
Softwood	119 Mbf	Softwood	21 Mbf
Sum TotVol	26007 Cds	Sum CutVol	4512 Cds
<b>Total Cmpt Acres</b>		Acres Proposed For Cut.....	443
1922			

**TRAVERSE CITY FOREST MGT UNIT**

**Proposed Treatments  
With NO Limiting Factors**

**Compartment: 104**    **Entry Year: 2009**

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
2	M6	91	84	65	northern hardwood	immature	selection	2		
comnts Fmd : Rolling to steep terrain may limit parts of stand to harvet. Snowmobile trail only good access										
3	R6	10	46	65	red pine	immature	thinning	1		
5	R6	11	46	65	red pine	immature	thinning	1		
8	A5	30	51	56	aspen (upland)	high risk	final harvest	1		
comnts Fmd : A5M4M7- buffer marsh aea in southern part of stand										
11	R6	8	46	65	red pine	immature	thinning	1		
13	M6	27	65	62	northern hardwood	immature	selection	1		
comnts Fmd : Stand may have access problems with pipeline and rolling terrain.										
27	A5	29	60	56	aspen (upland)	mature	final harvest	1		
34	M6	149	70	60	northern hardwood	immature	selection	1		
comnts Fmd :										
36	M5	6	67	61	northern hardwood	immature	selection	1		
comnts Fmd : M5M7 - thin along with stand 34										
40	M5	27	47	59	aspen (upland)	low quality	final harvest	1		
comnts Fmd : M5A5 - convert to aspen										
43	A6	7	62	61	aspen (upland)	mature	final harvest	1		
comnts Fmd : M5A4										
50	A6	16	58	58	aspen (upland)	mature	final harvest	1		
comnts Fmd :										
54	A5	29	65	55	aspen (upland)	high risk	final harvest	1		
comnts Fmd : A5M5										
56	R6	2	46	65	red pine	immature	thinning	1		
57	R6	1	46	65	red pine	immature	thinning	1		

**Total Acres..... 443**

**Proposed Treatments  
With Limiting Factors**

**Compartment: 104**

**Entry Year: 2009**

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

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**Total Acres.....**      **o**

