



**SHINGLETON FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION**

COMPARTMENT # 96 ENTRY YEAR: 2009

Compartment Acreage: 2175 County: Delta

Revision Date: 12/6/2007

Stand Examiner: Bob Burnham

Legal Description: T39N R18W Sections 21, 28, 29 & 31-34

RMU (if applicable):

Management Goals: The goals in this compartment include conducting multiple resource management for current and future generations. Forest Health, Recreation, Biodiversity Stewardship, Wildlife and Timber Management are some of the key management components within this compartment.

Soil and Topography: The soils in this compartment are generally poorly drained due to their proximity to bedrock. The terrain in the area is relatively flat with the exception of the areas close to the lake which take on a dune and swale effect from glaciation and receding lake levels. The Eastern Upper Peninsula Eco-Regional Planning Process is using a Management Area Concept to manage on a broader scale and Land Type Associations (LTA's) are key components to defining the soils and topography within the Management Areas. This majority of this compartment lies within the Garden Wetlands/Outcrop LTA. In addition, there is a small amount of the compartment that lies within the Garden Outcrop LTA.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The compartment is nearly all contiguous State land with a single piece of private in the center of the compartment which is mainly hunting land. The edges of the compartment and most of the Garden Peninsula are fairly fragmented. There is little development within the compartment except for the Portage Bay State Forest Campground which increases the amount of use in the area.

Unique, Natural Features (include only non-site specific and non-sensitive information): Currently under review by Michigan Natural Features Inventory (MNFI).

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

Special Management Designations or Considerations: The compartment has several Special Conservation area (SCA) designations including High Conservation Value Areas (HCVA's) and Ecological Reference Areas (ERA's). The first SCA is deeryard which encompasses the entire compartment. Several of the stands located close to Lake Michigan were nominated in 1997 as Potential Old Growth (POG) stands and have been coded as SCA's as POG with the emphasis of protecting the integrity of the lakeshore and providing closed canopy forests. All stands within 1000' of Lake Michigan are considered an Environmental Area through the DEQ and are appropriately coded as HCVA's. Within sections 21, 28, 33 and 34 there is a Wooded Dune and Swale complex which qualifies as an ERA. Currently, there is a plan being written for this ERA.

Watershed and Fisheries Considerations: This compartment contains Fishery Lake and Charboneau Lake. No information is known regarding these lakes.

Wildlife Habitat Considerations: This compartment lies on the shores of Lake Michigan at Berndt and Portage Bays. The coast is lined with old beach ridges and interdunal wetlands which have been placed in the nomination for oldgrowth. Alvar dominates section 32. Pre-settlement data show the uplands contained a diverse mixture of white pine, hemlock, birch, beech, sugar maple and aspen. Lowlands were dominated by cedar with tamarack, spruce, and balsam fir scattered about. The current lowlands appear to be quite similar to circa 1850 conditions. The uplands, however, have shown a shift toward more aspen and less northern hardwoods. This compartment not only serves as an active deer yard, but also provides important resting areas for neo-tropical migrants after crossing Lake Michigan. Additionally the compartment contains sensitive habitats and plant species. As such, wildlife habitat management objectives are diverse ranging from maintaining coastal closed canopy coniferous forests to providing early successional deciduous forest and protecting unique alvar habitat and the associated plant community.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of lacustrine (lake) sand and gravel and medium-texture till sometimes thin to discontinuous. The glacial drift thickness varies between 0 and 10 feet. The Silurian Manistique Group subcrops below the glacial drift. The Manistique could be used for stone. A gravel pit is located in Section 20 and there may be some potential. There is no commercial oil and gas production in the UP.

Vehicle Access: The compartment has poor access to the majority of the interior of the compartment due to lack of roads or gates on private land. However, due to the sensitive areas within the compartment this bodes well for management of those sensitive areas.

Survey Needs: None at the present time.

Recreational Facilities and Opportunities: The Portage Bay State Forest Campground is within the compartment located on Lake Michigan in section 33. The campground offers 31 rustic camping sites, a primitive boat launch and a hiking trail. The trail is called the Ninga Aki Pathway and is a 2 looped interpretive pathway which starts and ends within the campground. In addition the area gets a lot of recreational users including hunters, birdwatchers, berry pickers, ORV users and snowmobilers.

Fire Protection: This area is nearly an hour away from the Thompson Station so response times to a wildfire will be lengthy, however, there is a small pumper located at Fayette State Park with 2 qualified firefighters which will help in getting personnel to a fire more quickly. The area has very rocky terrain and also contains some very sensitive areas. The Wooded Dune and Swale ERA plan should contain guidance on fire protection when the plan is completed. However, due to the moist micro-climate that is created by Lake Michigan fire threats are relatively low.

Additional Compartment Information:

- **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

LAKE SUPERIOR STATE FOREST

SHINGLETON FOREST AREA

DELTA COUNTY

COMPARTMENT: 96

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			206	61	71			29											367
Black Spruce										14									14
Bog or Marsh	3																		3
Cedar							47	13	21	317	129	629					37		1193
Grass	21																		21
LowInd Brush	22																		22
LowInd Poplr										10									10
Marsh	75																		75
Mx Swmp Cnfr			11		24					54		15							104
Red Pine							44												44
Spruce Fir			40	19		23	26	9		11			50						178
Swamp Hrdwds					37					8		29							74
Tamarack												24							24
Upland Hdwds																		7	7
Water	23																		23
White Pine									16										16
Total	144		257	80	132	23	117	51	37	414	129	697	50				37	7	2175

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

LAKE SUPERIOR STATE FOREST

SHINGLETON FOREST AREA

DELTA COUNTY

COMPARTMENT: 96

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	367																										367
S Black Spruce		14																									14
V Bog or Marsh			3																								3
C Cedar				1193																							1193
G Grass					21																						21
L LowInd Brush									22																		22
P LowInd Poplr										10																	10
N Marsh											75																75
Q Mx Swmp Cnfr												104															104
R Red Pine																44											44
F Spruce Fir																			178								178
E Swamp Hrdwds																				74							74
T Tamarack																					24						24
M Upland Hdwds																								7			7
Z Water																									23		23
W White Pine																									16	16	
Total	367	14	3	1193	21				22	10	75	104			44			178	74	24				7	23	16	2175

LAKE SUPERIOR STATE FOREST

SHINGLETON FOREST AREA

DELTA COUNTY

COMPARTMENT: **96**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	4176 Cds	Hardwood	894 Cds
Hardwood	165 Mbf	Hardwood	13 Mbf
Softwood	23089 Cds	Softwood	1418 Cds
Softwood	1078 Mbf	Softwood	82 Mbf
Sum TotVol	29751 Cds	Sum CutVol	2502 Cds
Total Cmpt Acres		Acres Proposed For Cut.....	143
2175			

SHINGLETON FOREST AREA

Proposed Treatments
With NO Limiting Factors

Compartment: 96

Entry Year: 2009

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	fdf Status
3	A6	19	61	52	aspen (upland)	old growth (potential or actual)	final harvest	2	natural regeneration	
comnts Fmd : SCA - Deeryard Stand is quite diverse with several different ages. There is some hemlock, white spruce and red pine logs that didn't show on plots. Stand is mainly a high ridge which flattens out to lower ground to north and northwest. Stand should be cut so long as it doesn't impact the adjacent ERA. Leave all hemlock, and some white pine as well as cedar so long as its operable when left. Retention will be the species listed above. Any of the current species mix is an acceptable regeneration alternative. Lower ground is Cathro Muck soil. Wld : This stand types out as Par-Vo. It appears to be an old series of beech dunes with substantial contour. If stand is logged, Wld recommends underplanting red oak after cutting. WLD agrees with FMD comment to retain all hemlock, cedar, and some white pine.										
43	F6	9	67	46	spruce-fir (uplands- including upland black spruce)	old growth (potential or actual)	final harvest	2		
comnts Fmd : SCA - Deeryard Stand is mostly a subtle ridge but there is some low ground in areas. Retention will be patches, try and concentrate on the lower ground if possible and cedar areas if applicable. Acceptable regeneration includes any of the current species mix. Wld : Determining habitat type in this area is difficult. However, it appears that this is a PARV site. The canopy closure value for wintering deer is marginal. As mentioned in FMFMD comments, cedar trees are scattered throughout the stand and should be retained as seed source with the hope of increasing the cedar component in the regenerating stand. In addition, also retain two super-canopy pine trees as potential eagle/osprey nesting sites. Due to the area being deeryard and by mutual agreement with FMFMD harvest should occur between December 1 and March 31.										
48	M9	7		54	northern hardwood	old growth (potential or actual)	selection	2	planting	
comnts Fmd : SCA - Deeryard Nice stand of Hard Maple. Thick layer of thimbleberry in the understory. Mark to complete Marker standards and retention guidelines, concentrate on providing regen holes since regen will be challenging due to the deer. Regeneration should mainly be maple, however a mix of the other dominant species in the stand is acceptable. Fir is not acceptable. Wld : The Stand types out as an AFD habitat and contains inclusions of hemlock. In agreement with FMFMD, do not cut within the hemlock inclusions. Marking should be done in a manner that maintains a portion of the large diameter trees and promotes additional hemlock regeneration. After the sale is complete underplant hemlock.										
49	E6	29	100	46	swamp hardwoods	old growth (potential or actual)	final harvest	2		
comnts Fmd : SCA - Deeryard Plots don't seem to be reflective of the amount of deciduous species. Concentrate on leaving pure cedar patches for retention and cut the remaining cedar. Any of the current species mix will be an acceptable alternative for regenerating the stand. Wld : The low ridges in this stand type out between PARV and PARV-Ao habitat types. The stand contains a fair amount of cedar, much of which is clumped as inclusions. Canopy closure within the stand is sporadic with the most dense canopy being associated with the cedar inclusions. WLD agrees the the cutting prescription for this stand. WLD also agrees with the cutting of scattered cedar with the stipulation, as stated in the FMD comments, that logging operations be excluded from the cedar inclusions. Due to the area being deeryard and by mutual agreement with FMFMD harvest should occur between December 1 and March 31.										
50	S6	4	82	40	black spruce-swamp	old growth (potential or actual)	final harvest	2		
comnts Fmd : SCA - Deeryard Some sporadic cedar within stand. Leave any pure cedar inclusion for retention. Any of the current species mix will be an acceptable alternative for regenerating the stand. Wld : The majority of the cedar appears to be located along the southern and western fringes of the stand. The canopy closure within the spruce dominated portions of this stand are marginal for winter deer use. WLD is agreeable to cutting the scattered cedar throughout the majority of the stand. However, areas of denser cedar should be retained.										

SHINGLETON FOREST AREA

Proposed Treatments
With NO Limiting Factors

Compartment: 96

Entry Year: 2009

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
53	A6	10	58	52	aspen (upland)	old growth (potential or actual)	final harvest	2	natural regeneration	
<p>comnts Fmd : SCA - Deeryard Stand is a mix of upland and lowland aspen as well as fir. Stand transitions to low ground on west side. Retention will be accomplished by leaving patches especially if there are heavy pockets of cedar. Any of the current species mix will be an acceptable alternative for regenerating the stand.</p> <p>Wld : Habitat typing in this area is difficult. However, this stand appears to be primarily PArV-Ao. WLD is in agreement with the FMFM prescription for this stand. Due to the area being deeryard and by mutual agreement with FMFMD harvest should occur between December 1 and March 31.</p>										
58	F6	11	82	46	spruce-fir (uplands-including upland black spruce)	old growth (potential or actual)	final harvest	2		
<p>comnts Fmd : SCA - Deeryard This stand seems to have similar composition to a wooded dune swale complex. Retention should be concentrated in swales by leaving patches. Any of the current species mix will be an acceptable alternative for regenerating the stand. Stand 16 in compartment 97 should also be treated at the same time with the same prescription. However, within stand 16 the lower ground swales with the dominant cedar component should be excluded.</p> <p>Wld : As mentioned in the FMD comments, this stand is a series of low ridges and swales. The upland portions of this stand type out as ParV-Ao. Similar habitat in the compartment to the south was perviously cut and shows sparce regeneration on the ridges. WLD recommends hand planting spruce on the ridges after harvest. In addition, two super-canopy red pine should be retained for raptor nesting opportunities. Due to the area being deeryard and by mutual agreement with FMFMD harvest should occur between December 1 and March 31.</p>										
59	S6	5	82	40	black spruce-swamp	old growth (potential or actual)	final harvest	2		
<p>comnts Fmd : SCA - Deeryard South end of stand includes a ridge of red and white pine, leave some wind firm red and white pine seed trees on ridge. This will be the retention for the stand. Any of the current species mix will be an acceptable alternative for regenerating the stand.</p> <p>Wld : This is a nearly pure spruce stand with marginal closed canopy value. In agreement with FMD comments, leave a few super-canopy pine (either red or white) for raptor nesting opportunities. Due to the area being deeryard and by mutual agreement with FMFMD harvest should occur between December 1 and March 31.</p>										
70	C6	6	82	42	cedar	old growth (potential or actual)	thinning	2	planting	
<p>comnts Fmd : SCA - Deeryard Stand is a bunch of small stands rolled into 1. Entire thing has been cut through. Schedule for a species thinning to guage how well the cedar can be cut through to harvest some of the pine logs. The effectiveness of this approach can be analyzed for cutting some of the larger stands of similar composition for next entry. Soils are listed as limestone rock. Very south end has an aspen inclusion about 30 yrs old which can either be excluded or included. Do not cut hemlock.</p> <p>Wld : This is a very transitional stand ranging from ATFD habitat type in the south to PVE in the north. South of the road, management activities should feature hemlock regeneration opportunities. Most of the cedar is found north of the road. Due to the small size of this stand and the amounts of cedar generally distributed across the landscape in this area, WLD is in agreement with the FMD proposal to experiment with the removal of the red pine. WLD would like to see the aspen inclusion cut to try and expand the hemlock within the stand. After sale is completed underplant hemlock.</p>										
77	T6	24	98	37	tamarack	old growth (potential or actual)	final harvest	3		
<p>comnts Fmd : SCA - Deeryard Stand is over-mature tamarack on low wet organic soils. Stand may be in-operable. Tamarack does seem to regenerate naturally in the area. There will not be any retention within stand, retention will include tamarack that is excluded with the paint line. Regeneration may take longer than the 5 years called for under certification due to the poor site conditions. Spruce and cedar would be an acceptable alternative regeneration species.</p> <p>Wld : Wildlife is in agreement with FMFMD's prescription. This stand contains a fair amount of white birch. Conduct the cutting in a manner that will leave approximately 50% of the birch as a seed source, potentially by using a diameter limit cut where trees of larger size would be harvested. Due to the area being deeryard and by mutual agreement with FMFMD harvest should occur between December 1 and March 31.</p>										

SHINGLETON FOREST AREA

**Proposed Treatments
With NO Limiting Factors**

Compartment: 96

Entry Year: 2009

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDf Status
80	Q6	14	82	38	mixed swamp conifer	old growth (potential or actual)	final harvest	3		
<p>comnts Fmd : SCA - Deeryard Fairly even composition of swamp conifers. Retention should be thicker patches of cedar. Any of the current species mix will be an acceptable alternative for regenerating the stand.</p> <p>Wld : The stand types out as a PArVAa habitat. The stand contains cedar inclusions that provide good closed canopy value. Outside of those inclusions, the canopy closure is marginal. In agreement with FMD comments, retain the cedar inclusions. However, individual cedar trees scattered throughout the stand can be harvested. Due to the area being deeryard and by mutual agreement with FMFMD harvest should occur between December 1 and March 31.</p>										
82	Q6	5	82	38	mixed swamp conifer	old growth (potential or actual)	final harvest	3		
<p>comnts Fmd : SCA - Deeryard Fairly even composition of swamp conifers. Retention should be thicker patches of cedar. Any of the current species mix will be an acceptable alternative for regenerating the stand.</p> <p>Wld : WLD is in agreement with FMD comments. Due to the area being deeryard and by mutual agreement with FMFMD harvest should occur between December 1 and March 31.</p>										
Total Acres.....		143								

**Proposed Treatments
With Limiting Factors**

Compartment: 96

Entry Year: 2009

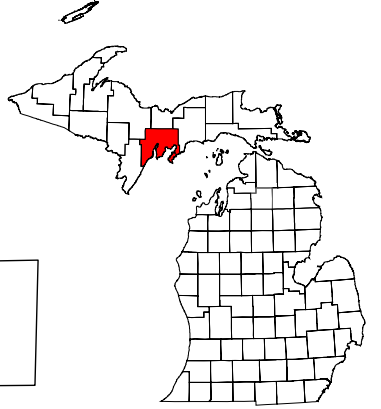
Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FD Status
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TREATMENT LIMITING FACTORS:

Total Acres..... 0



Compartment: 96
 T39N, R18W, Sec. 21, 28, 29, 31-34
 County: Delta
 Unit: Shingleton
 YOE: 2009
 Acres: 2,175 GIS Calculated
 Stand Examiner: Robert Burnham
 Map Revised: 12/06/2007
 Map Phase: Pre-review

Field Map



		21	
	29	28	
31	32	33	34

N

Legend

-  Miris Corners
-  Gravel
-  Poor Dirt
-  Closed
-  Trails
-  Hiking Trails
-  Stand Boundary
-  Biodiversity/Old Growth Area
-  100 - Final Harvest
-  141 - Final Harvest/Natural Regeneration/Hand Tools
-  411 - Thinning/Planting/Hand Tools
-  811 - Selection/Planting/Hand Tools

