SHINGLETON FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION

COMPARTMENT # 34 ENTRY YEAR: 2009

Compartment Acreage: 1660 County: Schoolcraft

Revision Date: 6/25/2007

Stand Examiner: Adam Petrelius

Legal Description: T44N R16W Sections 31, 32, and 33

RMU (if applicable):

Management Goals: The main goal of this compartment is to conduct multiple resource management for current and future generations.

Soil and Topography: The topography in this compartment is mostly flat with slight elevations changes. One steep ridge exists and splits the compartment in half separating the lowland peat soils located in the west from the upland sandy soils in the east. About 1/3 of the acreage in the compartment is dominated by aspen, 1/3 lowland brush and marsh, and 1/3 is miscellaneous forest cover types. The major soil types found within the compartment, in order of abundance, are Markey Mucky Peat, Rubicon Sand, Rousseau Fine Sand, Dawson-Greenwood-Loxley, and Rousseau-Neconish-Deford. Habitat types within the compartment, in order of abundance, are unclassified wetland, PVE, PArV, and AFPo. Most of the compartment lies within the Mint Farm Land Type Association. Other Land Type Associations found are Hiawatha Moraine and Stutts Creek Sands.

Ownership Patterns, Development, and Land Use in and Around the Compartment: State land within this compartment was acquired between 1906 and 1952. With the exception of one private parcel along the northern boundary, this compartment is bordered by state land on the north and south. The western compartment boundary borders the Hiawatha National Forest. About ¾ of the eastern boundary borders Plum Creek Timber land, the other ¼ of the eastern boundary borders state land.

Unique, Natural Features (include only non-site specific and non-sensitive information): Oak forest cover types are rare within the Shingleton Management Unit. This compartment has 84 acres of cover types classified as oak stands. Most stands located in the upland soils also have a decent oak component.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): In the early 1900's a land development company dug miles of ditches to drain the watershed and promote the land as farmable. Most of the farming efforts failed and the land reverted over to the state. Five ditches are located in the western section of this compartment. They all drain into the Big Ditch which eventually flows into Indian Lake.

Special Management Designations or Considerations: There are no Special Conservation Areas located within the compartment. Much of the western portion of the compartment was harvested sometime between 1975 and 1996 for sharptail management. Currently most of these areas are grown in and dominated with aspen.

Watershed and Fisheries Considerations: The Big Ditch if found within this compartment. Standard BMP's should be implemented to control sediment sources from adjacent uplands. Fine sediments such as silt and sand negatively affect natural reproduction of fish, decrease the diversity of aquatic invertebrate and fish taxa, and result in lower overall fish populations.

Wildlife Habitat Considerations: Lying to the north of M-94, the west half of this compartment is substantially impacted by drains connected to the Big Ditch. The pre-settlement data show that the Fletcher's hill portion of this compartment was dominated by a mixture of hemlock, white pine, beech, white birch, and yellow birch. Oak and aspen were also present. The western portion of the compartment was primarily lowland forest of tamarack and spruce. This compartment has been substantially altered from the circa 1850 condition. The eastern portion now contains and abundance of oak, aspen, red pine and white pine. The western portion of the compartment has been significantly altered by draining and now consists of lowland brush, large openings and aspen. The wildlife habitat management regime consists of perpetuating the oak and enhancing the hemlock component in the east and maintaining the open character in the western portion of the compartment.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of lacustrine (lake) sand and gravel. There is insufficient data to determine the glacial drift thickness. The Ordovician Utica Shale and Stonington Formation subcrop below the glacial drift. The Stonington could be used for stone. Gravel pits are not located in the area and potential appears to be limited. There is no commercial oil and gas production in the UP.

Vehicle Access: There are 3 main forest roads located within the compartment. Vehicles can access the compartment by turning west off the Southside Road, turning north off M-94 onto the Fletchers Hill Road, or the Mint Farm Road. Roads accessing the compartment are not plowed during winter months and winter access is by snowmobile only. Upon entering the southern boundary of the compartment, the Mint Farm Road is of poor quality and is only passable during the driest portions of the summer.

Approximately 3 miles of forest roads are proposed for closure. The majority of these roads are located within this compartment, but one road travels slightly into Compartment 37. Portions of these roads were blocked in the past with previous timbersales, but berms have been knocked down and are being driven over. Roads are in excess to management needs and similar access is provided by an adjacent road.

Survey Needs: Survey work is not needed within the compartment.

Recreational Facilities and Opportunities: There are no recreational facilities located within the compartment. Opportunities for hunting and other forms of recreational activity exist within the compartment.

Fire Protection: Response time to fires within this compartment will be slow to moderate. The compartment is located approximately half way between the Shingleton and Thompson offices. Although there are 3 main forest roads entering the compartment, much of the compartment is low ground. Peat soils located in the western portion of the compartment can make firefighting efforts difficult during the dry months of the year. The Big Ditch Fire in 1989, located just south of the compartment, is an example of this. Sandy soils in the eastern portion of the compartment support mixed pine and oak forest types which can be fire threats throughout spring, summer, and fall. The compartment has only 1 surface water source, the Big Ditch. However, nearby water sources are located within a couple miles.

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 | SCHOOLCRAFT COUNTY | COMPARTMENT: **34**

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		75	338	22	150			60											645
Black Spruce							12												12
Grass	77																		77
Jack Pine		2	78			40		4	66										190
Lowlnd Brush	260																		260
Marsh	186																		186
Mx Swmp Cnfr									7	16									23
Oak									79	5									84
Red Pine					70	27	46	2	2										147
Upland Brush			27																27
Upland Hdwds										9									9
Total	523	77	443	22	220	67	58	66	154	30									1660

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

LAKE SUPERIOR STATE FOREST | SHINGLETON FOREST AREA | SCHOOLCRAFT COUNTY | COMPARTMENT: **34**

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	645																										645
S Black Spruce		12																									12
G Grass					77																						77
J Jack Pine							190																				190
L Lowlnd Brush									260																		260
N Marsh											186																186
Q Mx Swmp Cnfr												23															23
O Oak														84													84
R Red Pine																147											147
U Upland Brush																							27				27
M Upland Hdwds																								9			9
Total	645	12			77		190		260		186	23		84		147							27	9			1660

LAKE SUPERIOR STATE FOREST | SHINGLETON FOREST AREA | SCHOOLCRAFT COUNTY | COMPARTMENT: **34**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY

TOTAL VOLUME		CUT VOLUME	
Hardwood	4700 Cds	Hardwood	2184 Cds
Hardwood	131 Mbf	Hardwood	46 Mbf
Softwood	4769 Cds	Softwood	2244 Cds
Softwood	276 Mbf	Softwood	127 Mbf
Sum TotVol	10283 Cds	Sum CutVol	4774 Cds

Total Cmpt Acres

1660

Acres Proposed For Cut..... 298

SHINGLETON FOREST AREA | **Proposed Treatments With NO Limiting Factors** | **Compartment: 34** | **Entry Year: 2009**

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
4	**J6**	4	63	53	jack pine	mature	final harvest	1	planting	

comnts Fmd **:** Stand consists of a ridge of jack pine surrounded by lowland spruce on both sides. Due to the size of the stand, scarification is impractical. It should be planted with inmates. Acceptable alternative management objectives include any species mixture currently found onsite.

Retention Guidelines: Leave all oak, red pine, white pine, and hemlock.

Wld **:** This stand types out as a PVE habitat. WLD agrees with FMFM comments

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
6	**R6**	3	46	48	red pine	immature	thinning	1		

comnts Fmd **:** Row thinned previous year of entry. Stand could benefit from another light thinning. Basal area is inconsistent due to removal of other species during last harvest.

Retention Guidelines: Do not cut hemlock and oak.

Wld **:** This Stand types out as a PVE habitat type. WLD agrees with FMFM comments

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
8	**O6**	51	69	42	oak	immature	selection	1		

comnts Fmd **:** Portions of stand were cut last year of entry with a firewood sale. Good stump sprout regeneration of oak is present in these areas. Recruitment of oak from seedlings to saplings was also noticed. Mark heavier densities of oak within stand to establish more regeneration. Acceptable alternative management objectives include any current species mixture presently found onsite. Some remaining trees which are marked in orange paint exist from previous sale. New marking may need a different color of paint.

Retention Guidelines: Leave all red pine, white pine, and hemlock.

Road Closure: Proposal RP-41-2007-09 will be presented at compartment review. If approved, timbersale specs should be added to close designated roads.

Wld **:** This stand types out as PVE habitat. WLD agrees with FMFMs prescription

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
13	**R6**	36	57	50	red pine	two aged	thinning	1		

comnts Fmd **:** Stand has multiple ages. Residual basal area will be variable due to clumps of thicker pine and aspen clones present. Some larger pine also exists within stand. Cut all species except oak and hemlock. Areas with higher densites of pine should be thinned.

Retention Guidelines: Do not cut oak or hemlock. Leave some supercanopy red pine and white pine. A portion of this stand extends south into compartment 37. This portion located in compartment 37 should not be included and reserved as a retention patch.

Wld **:** This stand types out as a PArV-Ao habitat. WLD agrees with FMFMs prescription

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
14	**M6**	9	87	55	northern hardwood	mature	thinning	1		

comnts Fmd **:** Even aged hardwood stand that is ready for a thinning. Stand dips slightly into adjacent compartment by about 2 acres. This area should be included. Illegal blind located within stand has been referred to CO.

Retention Guidelines: Leave all conifers. Leave some large diameter beech and yellow birch.

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
15	**A6**	14	61	52	aspen (upland)	mature	final harvest	1	natural regeneration	

comnts Fmd **:** Mark to leave red pine and white pine.. Acceptable alternative management objectives include any species mixture currently found onsite.

Retention Guidelines: Leave all oak, hemlock, and some supercanopy red pine and white pine.

Wld **:** This stand types out as a PVE habitat. WLD. WLD recommends also cutting out all small diameter pine (above 4" dbh).

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
18	**A6**	38	61	55	aspen (upland)	immature	final harvest	1	natural regeneration	

comnts Fmd **:** Some red pine and white pine exist within stand. Mark red pine and white pine to cut. Acceptable alternative management objectives include any species mixture currently found onsite. Existing pine and oak regeneration should be protected in timbersale specs.

Retention Guidelines: Leave all oak and hemlock. Some supercanopy red pine and white pine should be left. Two retention patches should be left within the stand boundaries approximately 1 acre in size.

Road Closure: Proposal RP-41-2007-09 will be presented at compartment review. If approved, timbersale specs should be added to close designated roads.

Wld **:** This stand types out as a PArV-Ao habitat. Wld agrees with FMFMs prescription

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
19	**O6**	7	76	41	oak	immature	selection	1	planting	

comnts Fmd **:** Stand has an even mixture of oak and pine. Mark red pine, white pine, and oak to cut. Most of the mature pine should be removed. Harvest oak in thicker areas to establish some regeneration. Pine and oak regeneration should be protected in timbersale. Acceptable alternative management objectives include any species mixture currently found onsite.

Retention Guidelines: Leave all hemlock. Some supercanopy red pine and white pine should be left, along with most of the younger pine.

WLD would like to underplant hemlock within this stand.

Road Closure: Proposal RP-41-2007-09 will be presented at compartment review. If approved, timbersale specs should be added to close designated roads.

Wld **:** This Stand types out as a PArV-Ao habitat. In addition to FMFMs recommendation. WLD would like to try underplanting hemlock in this stand.

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
20	**R6**	10	50	45	red pine	immature	thinning	1		

comnts Fmd **:** Row thinning. Southern portion of stand has more jack pine and aspen with lower basal areas of red pine.

Retention Guidelines: Do not cut oak and hemlock. Trees outside designated rows can be cut, but a mixture of all species should be left within stand.

Wld **:** This stand types out as a PVE habitat. Although there is some oak regen, in general there is very little understory. WLD agrees with FMFM prescription.

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
27	**Q6**	16	86	45	mixed swamp conifer	mature	final harvest	1		

comnts Fmd **:** Adjacent stand in compartment 37 is similar to this one and has regenerated well. About 1/3 of the acreage, located in the NE corner has some higher densities of cedar. Some strips may need to be marked for operability. Acceptable alternative management objectives include any species mixture currently found onsite.

Retention Guidelines: Do not cut hemlock, oak, red pine, white pine. Most of the cedar should be left, where operability is not a concern.

Wld **:** WLD agrees with FMFMs prescription for this stand

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
31	**J6**	66	71	46	jack pine	mature	final harvest	1	other - specify in remarks	

comnts Fmd **:** Lowground jack pine stand with a few ridges of red pine present. Quality of jack pine increases towards the western portions of the stand. Jack pine located on low ground is smaller due to site conditions, but mortality was noticed. Site is too wet to scarify, but adjacent stands have regenerated well to a mix of jack pine, spruce, and tamarack. Acceptable alternative management objectives include any species mixture currently present onsite.

Approximately 38 acres of compartment 37, stands 56 and 57, should be included.

Retention Guidelines: Leave all hemlock, oak, and most of the red pine. Some red pine located on the ridges may be marked to cut. Leave approximately 3 acres of retention patches within stand.

Harvesting was attempted on portions of this stand during previous years. It was never cut, and was factor limited as too wet.

Wld **:** This is a lowland jack pine stand. WLD agrees with FMFMs prescription

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
61	**R9**	2	71	50	red pine	two aged	thinning	1		

comnts Fmd **:** Stand appears to have 3 age classes of red pine - saplings, poles, and sawlogs. Cut all species except oak and hemlock. Mark red pine and white pine to cut. Existing pine regeneration should be protected in timbersale specs.

Retention Guidelines: Leave some supercanopy red pine and white pine trees. Do not cut oak or hemlock.

Road Closure: Proposal RP-41-2007-09 will be presented at compartment review. If approved, timbersale specs should be added to close designated roads.

Wld **:** This stand types out as PArV-Ao habitat. WLD agrees with FMFMs prescription.

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
64	**O6**	21	69	42	oak	immature	selection	1		

comnts Fmd **:** Stand has some supressed oak regeneration present. Small amounts of red pine, white pine, jack pine, aspen, and paper birch are present. Mark stand to favor oak regeneration and increase acorn production on remaining trees. Acceptable alternative management objectives include any species mixture currently found onsite.

Retention Guidelines: Leave all red pine, white pine, paper birch and hemlock.

Road Closure: Proposal RP-41-2007-09 will be presented at compartment review. If approved, timbersale specs should be added to close designated roads.

Insects/Disease: Oak was found with stand that was heavily infested with Lecanium scale.
Comments from Bob Heyd: High scale populations severely reduce tree vigor and cause branch or crown dieback. Pesticides can be used to protect shade trees, but no forest options. Generally, parasites and predators build up in a forest setting, and effectly reduce scale populaitons.

Wld **:** This stand types out as a PArV-Ao. It contains good Oak Regen. WLD agrees with FMFM prescription

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
66	**O6**	5	85	47	oak	mature	selection	1		

comnts Fmd **:** Cut with Compartment 33, stand 26, YOE 2008. Stand can be set up as soon as it is approved at compartment review.

This stand is mostly oak with a minimal amount of aspen present. Acceptable alternative management objectives include any species mixture currently onsite.

Retention Guidelines: Leave all hemlock. Oak and red pine may only be cut if needed for operability.

Wld **:** This stand types out as PVE habitat and contains good oak regen. WLD agrees with FMFM prescription

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
67	**A6**	8	61	60	aspen (upland)	mature	final harvest	1	natural regeneration	

comnts Fmd **:** Cut with compartment 33, stand 37, YOE 2008. Stand can be set up as soon as it is approved at compartment review.

Acceptable alternative mangement objectives include any mixture of current species onsite.

Retention Guidelines: Do not cut any hemlock or oak. Pockets of red pine exist in stand. Leave some supercanopy red pine and thin red pine poles where thicker densities exist.

Wld **:** This stand contains a mixture of habitat types including PArV-Ao, PArV-Aa, and a minor component of PVE. The stand contains a good component of red maple and red oak regen. WLD agrees with FMFMs prescription.

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
74	**R6**	8	31	45	red pine	immature	thinning	1	planting	

comnts Fmd **:** Stand is sparse with a mixture of oak, younger red pine, and mature jack pine. Cut all species except hemlock, oak, and red pine. Stand should not be trenched or scarified since decent amounts of red pine and oak regeneration are present which should be protected with a timbersale spec. Plant stand with jack pine in open pockets following harvest to inhance diversity. Future stand will have red pine logs, jack pine pulpwood, and a decent oak component.

Retention Guidelines: Leave all red pine, oak, and hemlock.

Road Closure: Proposal RP-41-2007-09 will be presented at compartment review. If approved, timbersale specs should be added to close designated roads.

Wld **:** This stand types out as a PVE habitat. WLD agrees with FMFM prescription.

Total Acres..... 298

Proposed Treatments With Limiting Factors

Compartment: 34 **Entry Year: 2009**

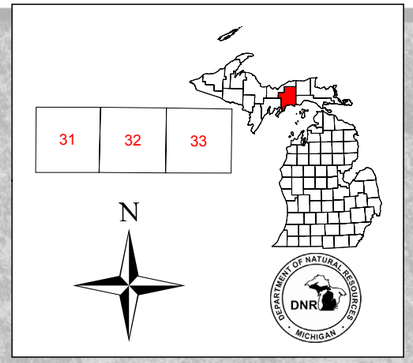
Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status

TREATMENT LIMITING FACTORS:

Total Acres..... **o**

Field Map

Compartment 34
T44N, R16W, Sec. 31, 32, 33
County: Schoolcraft
Unit: Shingleton
YOE: 2009
Acres: 1,660 GIS Calculated
Stand Examiner: Adam Petrelius
Map Revised: 12/06/2007
Map Phase: Pre-review



Legend
- RLS Corners
- Miris Corners
- Poor Dirt Roads
- Closed Roads
- Water Features
- Stand boundaries
- 100 - Final Harvest
- 111 - Final Harvest/Planting/Hand Tools
- 141 - Final Harvest/Natural Regeneration/Hand Tools
- 198 - Final Harvest/Other/Other
- 400 - Thinning
- 411 - Thinning/Planting/Hand Tools
- 800 - Selection
- 811 - Selection/Planting/Hand Tools