



**SHINGLETON FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION**

COMPARTMENT # 134 ENTRY YEAR: 2010

Compartment Acreage: 2,748 County: Alger

Revision Date: Oct. 27, 2008

Stand Examiner: Kristen Matson

Legal Description: T49N, R15W, Sections 19, 20, 29-33

RMU (if applicable):

Management Goals: To manage the compartment in accordance with the principles of sustainable forest eco-system management.

Soil and Topography: Rubicon sand 0-35% slopes, with some areas of Kalkaska sand. Terrain is rolling to steeply ridged. High bluffs in section 30 provide a view of Lake Superior to the northwest.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Pictured Rocks National Lakeshore is adjacent to the north. State land surrounds the majority of the compartment, with some parcels owned by Heartwood Forestland Fund IV to the south and west.

Unique, Natural Features (include only non-site specific and non-sensitive information): Kettle Hole Lake in section 30.

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): Abandoned narrow gauge railroad grades, pine camp, white pine stumpfields.

Special Management Designations or Considerations: Within the Pictured Rocks National Lakeshore buffer zone.

Watershed and Fisheries Considerations: None. No flowing water, two shallow ponds (Kettle Hole and seasonally dry one to southeast).

Wildlife Habitat Considerations: Compartment 134 is located north of Kingston Lake at the intersection of H-58 and the Hurricane Truck Trail within the Grand Marais Sandy End Moraine and Outwash ecological sub-subsection. Pictured Rocks National Lakeshore is immediately adjacent to the north. Pre-settlement land cover consisted of hemlock and white pine. Current cover largely consists of white pine and red pine, with some birch, aspen, and hardwoods near the central part of the compartment and jack pine plantation near the northern extreme.

Wildlife management objectives include providing early successional young deciduous habitat where birch regrowth is encouraged, providing age class and structural diversity in northern hardwoods, maintaining super-canopy white pines within regenerating upland conifer stands, and maintaining diversity in mature pine habitats. Hemlock and oak will be retained, and cherry and a beech component will be left within

hardwoods for mast production. Species diversity will be encouraged within red and white pine habitats by leaving most cherry, maple, and oak.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and lacustrine (lake) sand & gravel. There is insufficient data to determine the glacial drift thickness. The Cambrian Trempealeau and Munising Formations subcrop below the glacial drift. The Trempealeau could be used for stone and the Munising was used as a building stone in the past. Gravel pits are not located in this area, but there could be some potential. There is no commercial oil and gas production in the UP.

Vehicle Access: H-58 runs north-south through the compartment. It is currently gravel, but is scheduled to be paved soon. Dirt two-track roads provide access throughout the compartment.

Survey Needs: A survey request was entered for a timber sale to be set up adjacent to PRNL.

Recreational Facilities and Opportunities:

Recreational facilities include the Fox River Pathway hiking trail and the snowmobile trail which is on H-58 and the Hurricane Truck Trail. The area is also used for hunting and berry picking.

Fire Protection: Recreational use of the area will likely increase following the completion of the H-58 improvement project. The increased activity could lead to a greater number of human caused wildfires in the area. An abundance of grass and pine types could contribute to a greater potential for large fire growth. Access to the area is generally good with some areas of steep slopes posing the greatest challenge to fire suppression efforts.

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

ALGER COUNTY

COMPARTMENT: 134

Table 3

(acres shown in boxes)

STAND AGE CLASS

COVER TYPE	Not	STAND AGE CLASS														All Aged	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
Aspen		17	68			2													87
Bog or Marsh	1																		1
Grass	199																		199
Hemlock												25							25
Jack Pine		65	108	33	16		52												274
Marsh	2																		2
Non Stocked	16																		16
Paper Birch			42			76	36	120											274
Red Pine		4				356	403	46	235	50									1094
Upland Hdwds			22															69	91
Water	2																		2
White Pine		11			8	73	113	10	267	109	47							45	683
Total	220	97	240	33	24	507	604	176	502	159	47	25						114	2748

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

LAKE SUPERIOR STATE FOREST

SHINGLETON FOREST AREA

ALGER COUNTY

COMPARTMENT: 134

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	87																										87
V Bog or Marsh			1																								1
G Grass					199																						199
H Hemlock						25																					25
J Jack Pine							248									26											274
N Marsh											2																2
X Non Stocked													16														16
B Paper Birch															274												274
R Red Pine																1094											1094
M Upland Hdwds																								91			91
Z Water																									2		2
W White Pine																										683	683
Total	87		1		199	25	248				2		16		274	1120								91	2	683	2748

LAKE SUPERIOR STATE FOREST

SHINGLETON FOREST AREA

ALGER COUNTY

COMPARTMENT: **134**

Table 10 - COMPARTMENT VOLUME SUMMARY - ALL STANDS

COMPARTMENT SUMMARY			
TOTAL VOLUME		CUT VOLUME	
Hardwood	5531 Cds	Hardwood	752 Cds
Hardwood	130 Mbf	Softwood	2960 Cds
Softwood	21164 Cds	Softwood	97 Mbf
Softwood	3575 Mbf	Sum CutVol	3906 Cds
Sum TotVol	34105 Cds		
Total Cmpt Acres		Acres Proposed For Cut.....	
2748		436	

SHINGLETON FOREST AREA

Proposed Treatments
With NO Limiting Factors

Compartment: 134 Entry Year: 2010

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDf Status
2	J6	23	54	53	jack pine	two aged	final harvest	1	natural regeneration	
comnts Fmd : Borders H-58 (snowmobile trail). Adjacent to PRNL - survey requested 1/08. Cut all trees except red pine, white pine, paper birch and oak. If necessary, leave small patches of trees to meet retention guidelines. Regenerate to jack pine, but plant some red pine near H-58. Habitat type=PVE. soil=Rubicon sand 0-6% slopes										
3	J6	7	54	53	red pine	mature	final harvest	1	planting	
comnts Fmd : Borders H-58/snowmobile trail near PRNL. Cut all trees except red pine, white pine, paper birch and oak. Hand plant red pine, white pine and oak. Habitat type=PVE. 91=red pine, paper birch and oak soil=Rubicon sand, 0-6% slopes										
8	R9	50	85	50	red pine	two aged	selection	1		
comnts Fmd : Mix of natural red and white pine - manage for both. Select cut to apx. 80-90 BA. Adjacent to PRNL - survey requested 1/08. soil=Rubicon Sand 0-6% slopes Habitat type=ParV										
Wld : Leave maple and cherry unless removal of some is necessary for equipment access.										
20	M6	21		58	northern hardwood	unevenaged	selection	1		
comnts Fmd : BBD is evident. Retain 1-3 large beech per acre for wildlife. Thinned in past; BA is variable. Mark to 80 BA promoting species and structural diversity. Some old orange paint on trees; may need to mark with a different color. Soil=Kalkaska Sand 0-6% slopes										
Wld : Agree with FMFM comments. Leave hemlock, cherry, and oak.										
25	J6	19	53	54	red pine	mature	final harvest	1	planting	
comnts Fmd : Mix of jack and red pine with other species. Regeneration species include: white pine, red pine, jack pine, red maple and oak. Next to H-58 (snowmobile trail), near PRNL. Clearcut with reserves: leave all oak and paper birch, leave some red and white pine. Hand plant with a mix of jack, red and white pine. 99=paper birch, oak and aspen Habitat type=PVE soil=Rubicon sand 0-6% slopes										
Wld : Agree with FMFM comments.										
29	R6	25	54	55	red pine	immature	thinning	1		
comnts Fmd : Adjacent to H-58/snowmobile trail. Some small areas of the stand may be too steep to cut. First thinning in plantation; some areas are densely planted and may need to have 2 rows removed for access. Follow BMP guidelines surrounding bog (s.42) within this stand. Soil=Rubicon Sand 6-35% slopes Habitat type=PVE										
Wld : Leave any oak, maple, and cherry unless removal of some is necessary for equipment access.										
33	B6	14	53	50	paper birch	mature	seed tree	1	natural regeneration	
comnts Fmd : Seed tree cut: try to regenerate paper birch by retaining scattered groups of paper birch. Supplement birch regeneration by prescribed burning. Also, leave white pine supercanopy trees, all hemlock and oak, and representatives of other species as needed for retention. Regeneration species currently consist of white pine, balsam fir, hemlock and beech. Some trees are marked with old orange paint. Soil=Rubicon sand 0-6% slopes, Kalkaska sand 0-6% slopes habitat type=ParV										
Wld : Agree with FMFM comments.										
52	B5	14	50	50	paper birch	mature	seed tree	2	planting	
comnts Fmd : The southeast portion of the stand is adjacent to H-58/snowmobile trail. Hilly terrain. Seed tree cut: leave scattered clumps of paper birch, leave all oak and hemlock, leave scattered white and red pine. Supplement birch regeneration by handplanting paper birch. Current regeneration is mainly white pine. 91/2=r.maple, aspen, r.pine soil=Rubicon sand 6-15% slopes										
Wld : Supplement birch regeneration by handplanting paper birch. Agree with FMFM comments.										
56	R6	7	58	51	red pine	immature	thinning	1		
comnts Fmd : Mixed pine stand. Remove jack pine (except those needed for retention), thin red and white pine to apx. 90 BA where applicable. Regeneration species include white pine, red pine, jack pine and red maple. Adjacent to PRNL - survey requested 1/08. Soil=Rubicon sand 0-6% slopes										
Wld : Leave any oak, maple, and cherry unless removal of some is necessary for equipment access.										
64	R6	22	46	50	red pine	immature	thinning	1		
comnts Fmd : Plantation along H-58/snowmobile trail. Row thin or equivalent where rows are not clear. Remove all Jack Pine and Aspen, unless needed for retention. Soil=Rubicon sand 0-15% slopes Habitat type=PVE										
Wld : Leave any oak, maple, and cherry unless removal of some is necessary for equipment access.										
76	J6	2	48	50	jack pine	mature	final harvest	2	natural regeneration	
comnts Fmd : Small area of natural jack pine. Cut all jack pine, leave all oak and a few red/white pine. Further retention is not needed due to small stand size. Habitat type=PVE. Soil=Rubicon Sand 0-6% slopes										

SHINGLETON FOREST AREA

Proposed Treatments
With NO Limiting Factors

Compartment: 134 Entry Year: 2010

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDI Status
78	J6	1	48	50	jack pine	mature	final harvest	1	natural regeneration	
comnts Fmd : Small stand adjacent to H-58/snowmobile trail. Clearcut all trees except Oak. Further retention is not needed due to small stand size. Soil=Rubicon sand 0-6% slopes Habitat type=PVE										
80	B6	28	58	50	paper birch	mature	seed tree	1	planting	
comnts Fmd : Paper birch with aspen and conifers mixed in. Try to regenerate paper birch by leaving scattered paper birch groups. Leave all oak and hemlock, and some scattered white and red pine. Stay at least 1 tree length from the edge of the slope to Kettle Hole Lake (s.27). The Fox River Pathway is in the southwest corner of the stand; leave extra retention trees near the trail. Soil=rubicon sand 0-35% slopes Habitat type=PVE										
Wld : Supplement birch regeneration by handplanting paper birch. Agree with FMFM comments.										
84	R6	5	46	50	red pine	immature	thinning	1		
comnts Fmd : The Fox River Pathway is the east boundary of the stand. Plantation - row thin or equivalent where rows are sparse. Soil=Rubicon sand 0-15% slopes, burned Habitat type=PVE										
Wld : Leave any oak, maple, and cherry unless removal of some is necessary for equipment access.										
85	R6	19	46	48	red pine	immature	thinning	1		
comnts Fmd : Plantation - row thin or equivalent where rows are sparse. Soil=Rubicon sand 0-15% slopes, burned Habitat type=PVE										
Wld : Leave any oak, maple, and cherry unless removal of some is necessary for equipment access.										
90	R6	1	46	50	red pine	immature	thinning	1		
comnts Fmd : Small stand - remove apx 1/3 of the red pine BA. Scattered large red and white pine. Soil=Rubicon sand 0-15% slopes, burned Habitat type=PVE										
Wld : Leave any oak, maple, and cherry unless removal of some is necessary for equipment access.										
92	R6	29	50	48	red pine	immature	thinning	1		
comnts Fmd : Plantation with some sparse areas; variable BA. Remove every third row where applicable. Habitat type=PVE. Soil=Rubicon Sand, 0-6% slopes, burned 35/1=red and white pine 91/2=white pine, paper birch, red maple, aspen										
Wld : Leave any oak, maple, and cherry unless removal of some is necessary for equipment access.										
94	R6	9	50	48	red pine	immature	thinning	1		
comnts Fmd : Plantation with some sparse areas; variable BA. Scattered large white and red pine. Remove every third row where applicable. Habitat type=PVE. Soil=Rubicon Sand, 0-6% slopes, burned										
Wld : Leave any oak, maple, and cherry unless removal of some is necessary for equipment access.										
95	R6	13	50	48	red pine	immature	thinning	1		
comnts Fmd : Plantation with some sparse areas; variable BA. Scattered large white and red pine. Remove every third row where applicable. Habitat type=PVE. Soil=Rubicon Sand, 0-6% slopes, burned										
Wld : Leave any oak, maple, and cherry unless removal of some is necessary for equipment access.										
97	R6	9	50	48	red pine	immature	thinning	1		
comnts Fmd : Plantation with some sparse areas; variable BA. Scattered large white and red pine. Remove every third row where applicable. Habitat type=PVE. Soil=Rubicon Sand, 0-6% slopes, burned										
Wld : Leave any oak, maple, and cherry unless removal of some is necessary for equipment access.										
100	R6	48	50	50	red pine	immature	thinning	1		
comnts Fmd : A portion of the stand is adjacent to H-58/snowmobile trail. Plantation with scattered openings (variable BA). Remove every third row where applicable. Cut Jack pine, aspen and red maple, except those needed for retention. Do not cut oak. Habitat type=PVE. Soil=Rubicon Sand, 0-6% slopes, burned.										
101	R6	8	50	49	red pine	immature	thinning	2		
comnts Fmd : Red pine plantation with some sparse areas. Variable BA. Scattered large red and white pine. Remove every third row where applicable. Cut Aspen, unless needed for retention. Do not cut Oak. Habitat type=PVE. Soil=Rubicon Sand, 0-6% slopes, burned.										
102	J2	2	6	60	jack pine	immature		0	planting	
comnts Fmd : Habitat type=PVE soil=Rubicon sand 0-6% slopes										
105	R6	8	50	49	red pine	immature	thinning	2		
comnts Fmd : Plantation with scattered openings. Variable BA. Remove every third row where applicable. Cut red maple and aspen, unless needed for retention. Do not cut oak. Habitat type=PVE. Soil=Rubicon Sand, 0-6% slopes, burned.										

SHINGLETON FOREST AREA

Proposed Treatments
With NO Limiting Factors

Compartment: 134 Entry Year: 2010

Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FDF Status
109	R6	9	50	48	red pine	immature	thinning	2		
comnts Fmd : Red pine plantation with sparse areas. Variable BA. Scattered large red and white pine (35/1). Remove every third row where applicable. Cut aspen, jack pine and red maple. Do not cut Oak. Habitat type=PVE. Soil=Rubicon Sand, 0-6% slopes, burned.										
114	R6	11	50	48	red pine	immature	thinning	2		
comnts Fmd : Red pine plantation, with sparse areas. Variable BA. Remove every third row where applicable. Cut aspen, red maple and jack pine, unless needed for retention. Do not cut Oak. Habitat type=PVE. Soil=Rubicon Sand, 0-6% slopes, burned										
116	R6	12	50	49	red pine	immature	thinning	2		
comnts Fmd : Plantation with scattered openings. Variable BA. Remove every third row where applicable. Do not cut oak. Habitat type=PVE. Soil=Rubicon Sand, 0-6% slopes, burned.										
117	R6	22	50	50	red pine	immature	thinning	2		
comnts Fmd : Plantation with some sparse areas. Many trees 1-3" DBH. Scattered large red and white pine. Remove every third row or equivalent. Remove all Jack pine, unless needed for retention. Do not cut oak. Habitat type=PVE. Soil=Rubicon Sand, 0-6% slopes, burned.										
123	W2	11	3	50	white pine	immature		0	planting	
comnts Fmd : Previously stand 181. Clearcut last entry. Scattered hemlock, white and red pine residuals (less than 10 BA). JP, Oak and Hemlock were planted in 6/07. FTP C41-1005 is still open to plant. Regeneration species currently on site include: r.maple, w.pine, j.pine, aspen, b.fir, r.pine, and p.birch in varying densities. Soil=Rubicon Sand, 0-6% slopes, burned [5/22/07 jb] Stand had regeneration survey done this spring. Any WB that sprouted were eaten off by deer. There were really no other spp regenerating in the stand. MO, with approval, has been changed to a hemlock, white pine and jack pine mix. [6/6/07 jb] planted hemlock, oak and jack pine, check in 2008. [6/4/08 jb]Very north end needs jp. Didn't find any that really made it. Will replant.No wp necessary, those numbers were good.										
Total Acres.....		449								

**Proposed Treatments
With Limiting Factors**

Compartment: 134

Entry Year: 2010

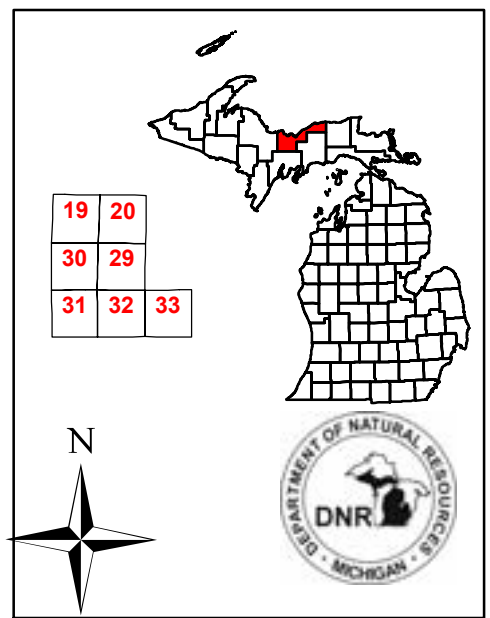
Stand	Cover Type	Acres	Age	Site Index	Mgt Obj	Condition	Method Cut	Harvest Priority	Cultural Need	FD Status
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TREATMENT LIMITING FACTORS:

Total Acres..... 0

Covertypes & Treatment Map

Compartment 134
 T49N, R15W, Sec. 19, 20, 29 - 33
 County: Alger
 Unit: Shingleton
 YOY: 2010
 Acres: 2,748 GIS Calculated
 Stand Examiner: Kristen Matson
 Map Revised: 10/29/2008
 Map Phase: Pre-Review



Legend

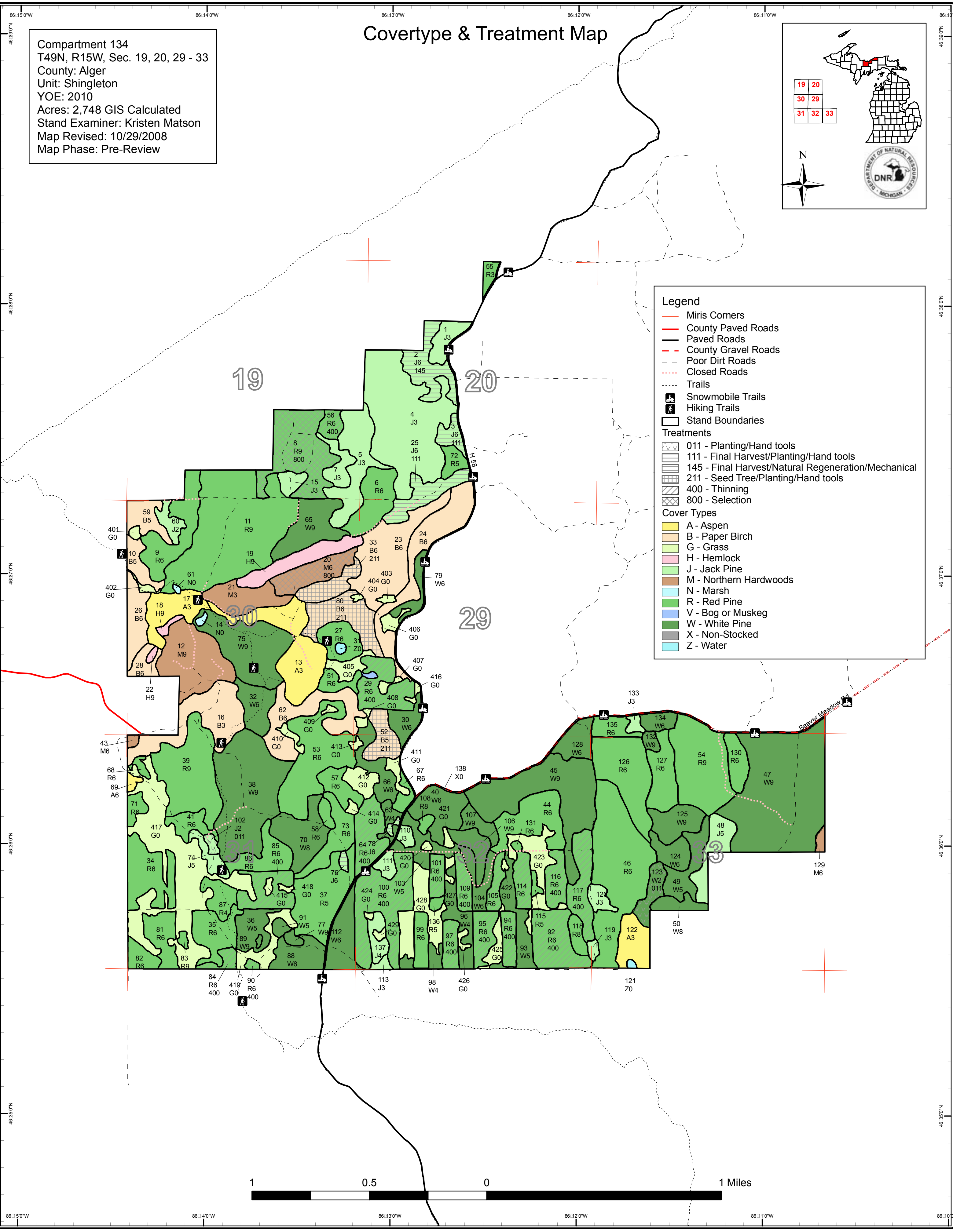
- Miris Corners
- County Paved Roads
- Paved Roads
- - - County Gravel Roads
- - - Poor Dirt Roads
- - - Closed Roads
- - - Trails
- Snowmobile Trails
- Hiking Trails
- Stand Boundaries

Treatments

- 011 - Planting/Hand tools
- 111 - Final Harvest/Planting/Hand tools
- 145 - Final Harvest/Natural Regeneration/Mechanical
- 211 - Seed Tree/Planting/Hand tools
- 400 - Thinning
- 800 - Selection

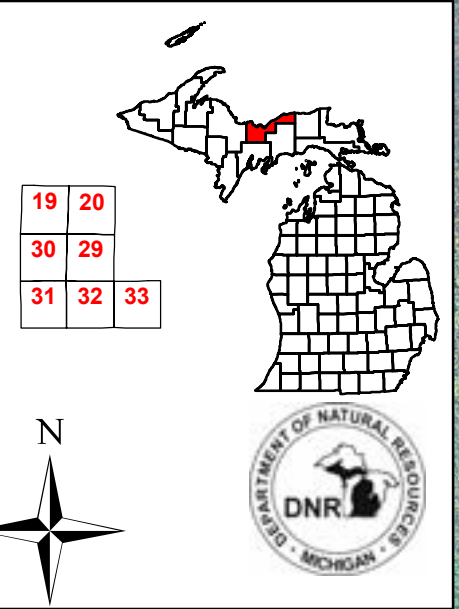
Cover Types

- A - Aspen
- B - Paper Birch
- G - Grass
- H - Hemlock
- J - Jack Pine
- M - Northern Hardwoods
- N - Marsh
- R - Red Pine
- V - Bog or Muskeg
- W - White Pine
- X - Non-Stocked
- Z - Water

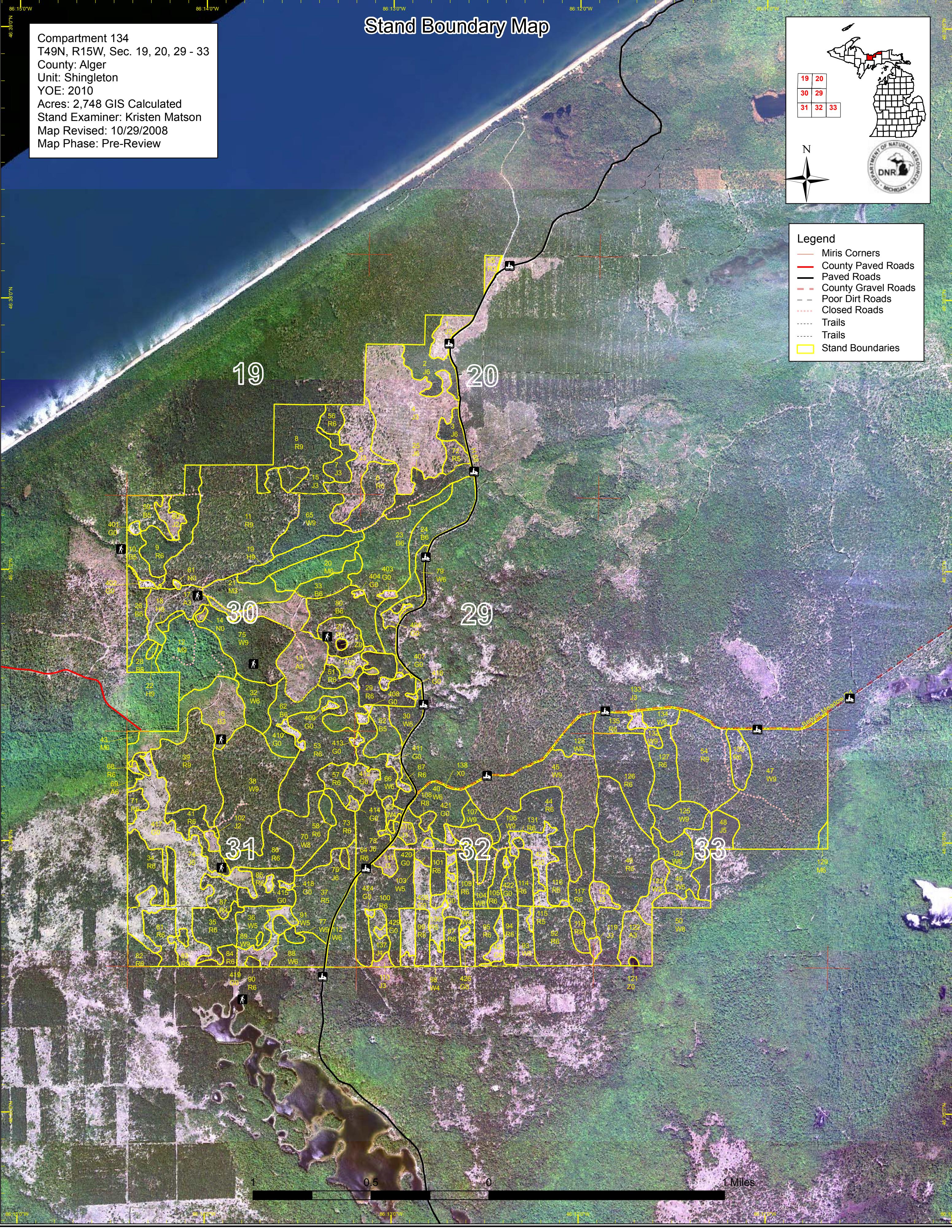


Stand Boundary Map

Compartment 134
T49N, R15W, Sec. 19, 20, 29 - 33
County: Alger
Unit: Shingleton
YOE: 2010
Acres: 2,748 GIS Calculated
Stand Examiner: Kristen Matson
Map Revised: 10/29/2008
Map Phase: Pre-Review

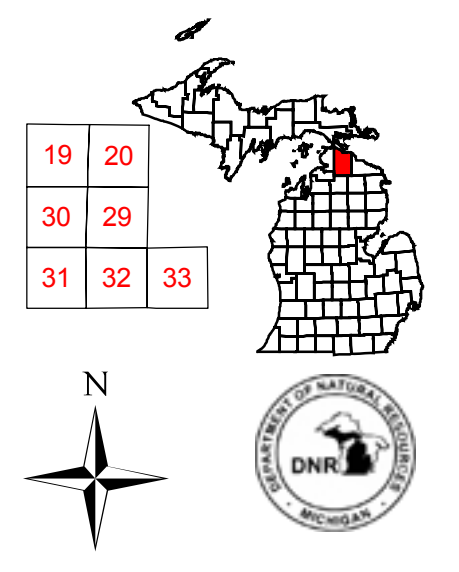


- Legend**
- Miris Corners
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Poor Dirt Roads
 - Closed Roads
 - Trails
 - Trails
 - Stand Boundaries

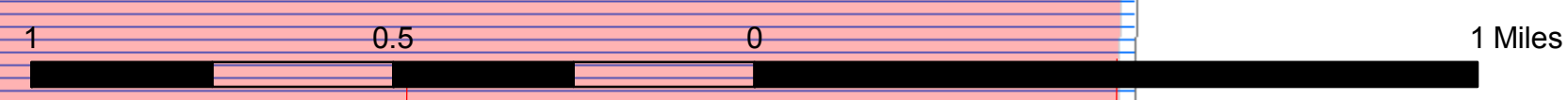
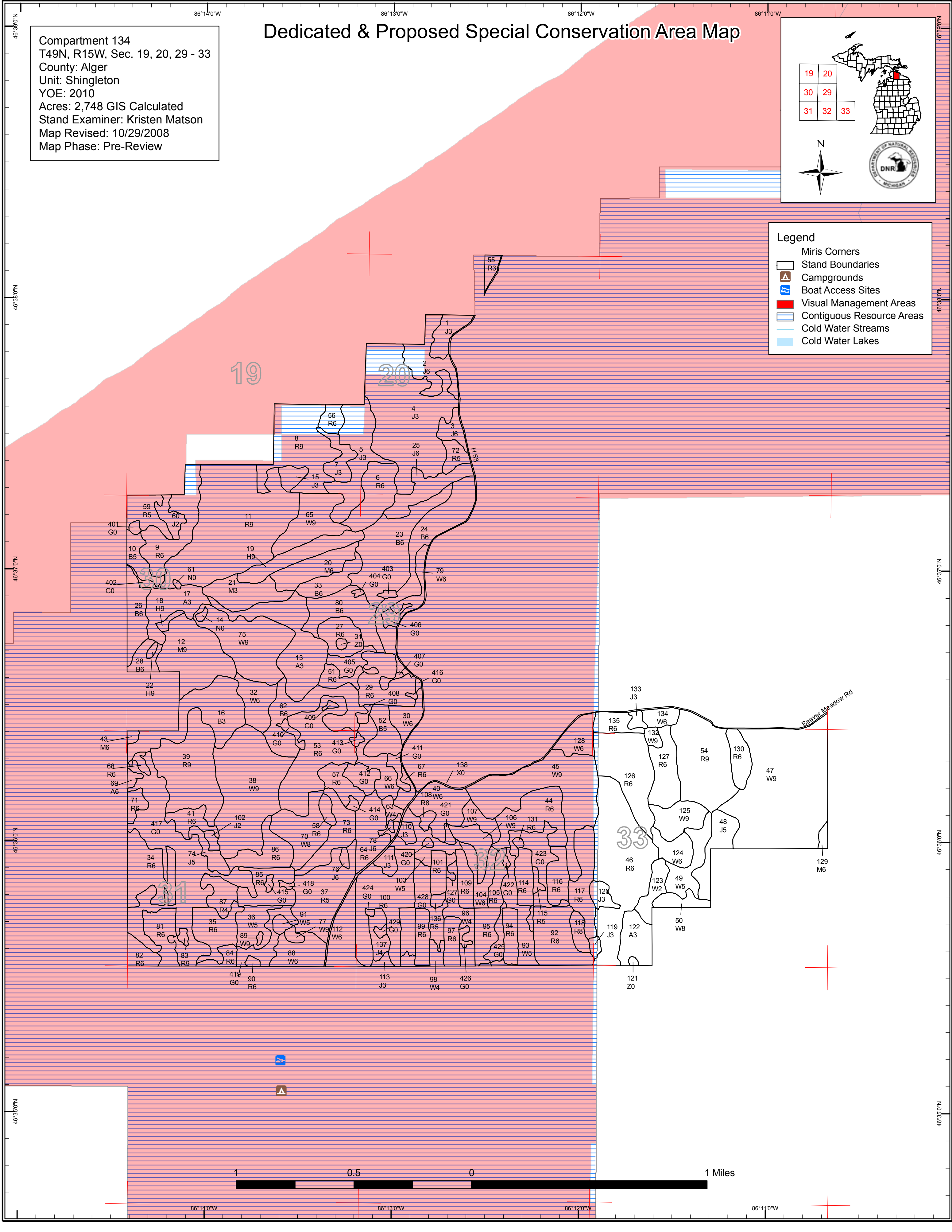


Dedicated & Proposed Special Conservation Area Map

Compartment 134
 T49N, R15W, Sec. 19, 20, 29 - 33
 County: Alger
 Unit: Singleton
 YOE: 2010
 Acres: 2,748 GIS Calculated
 Stand Examiner: Kristen Matson
 Map Revised: 10/29/2008
 Map Phase: Pre-Review



- Legend**
- Miris Corners
 - Stand Boundaries
 - Campgrounds
 - Boat Access Sites
 - Visual Management Areas
 - Contiguous Resource Areas
 - Cold Water Streams
 - Cold Water Lakes



86°14'0"W 86°13'0"W 86°12'0"W 86°11'0"W



DEDICATED CONSERVATION AREA DETAILS

* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

ERA = Ecological Reference Area
HCVA = High Conservation Value Area
SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
SCA	Contiguous Resource Area	These are DNR-owned lands that are directly contiguous to adjacent ownerships, where there is potential for coordination of landscape-level management for similar purposes. Such lands include distinct but contiguous DNR-owned lands, such as State Parks, State Forest and Wildlife Areas. Such lands also include DNR-owned lands that are adjacent to other ownerships such as Federal Parks, National Forest wilderness areas, National Wildlife Refuges, conservancy lands, and private lands such as the Huron Mountain Club.
SCA	Visual Management Area	An area of general social appreciation that is managed to recognize and preserve a particular visual value. Examples of these areas include scenic vistas, scenic or natural beauty roads, and lakeshore areas.