



SHINGLETON Forest Management Unit
Compartment Review Presentation
Compartment #132 Entry Year: 2013
Compartment Acreage: 1903 County: Alger

Revision Date: 08/15/2011

Stand Examiner: Jesse Bramer

Legal Description: T49N R15W sections 22, 23, 25, 26, 27, 34, 35, and 36

RMU (if applicable): Pictured Rocks Buffer

Management Goals: To provide multiple use benefits for the citizens of Michigan.

Soil and Topography: Rubicon sand in upland pine areas, AuTrain sand in Preacher Lake Hardwood area.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Sections 22 and 23 fall within the Pictured Rocks National Lakeshore buffer zone. There is State ownership to the west of this compartment - mainly pine types. The rest of the compartment is mainly surrounded by Forest Land Group (hardwood types) with a few parcels of private ownership.

Unique, Natural Features: The Hurricane River headwaters and associated swamp are in sections 25 and 36.

Archeological, Historical, and Cultural Features: None known.

Special Management Designations or Considerations: Stands in section 36 are proposed for Old Growth.

Watershed and Fisheries Considerations: Fisheries Values are good. The Hurricane River is classified First Quality Cold Water (FQCW), mostly for its steelhead fishery. Most of that fishery exists at the mouth of the river, but we have surveyed young-of-the-year steelhead, coho salmon and brook trout upstream from the Hurricane River Truck Trail. This river is one of three in the Pictured Rocks National Park that we are targeting with coaster brook trout plants. We hope to re-establish the historic coaster runs. All three of the road crossings are causing severe erosion. The H-58 crossing is apparently scheduled for replacement during the paving project of the near future, while the Alger County Conservation District may be applying for grant moneys for the Alger County Road Commission to repair the two upper crossings on the Hurricane River Truck Trail.

Wildlife Habitat Considerations: This compartment is located within the Grand Marais Sandy End Moraine Outwash sub-subsection. The average growing season is approximately 120 days. The extreme winter temperature generally reaches approximately -35 F. Snowfall in this compartment averages 160 inches or more annually. General Land Office (GLO) Surveyor notes indicate that the upland forest contained a mixture of softwood and hardwoods. Principle species included white pine, hemlock, yellow birch, beech, balsam fir, red pine, cedar, sugar maple, and red maple. Lowlands contained cedar, black spruce, and tamarack. Windthrow and fire were likely the major sources of natural disturbance. Current forests appear to have shifted toward a heavier pine component than was found in the presettlement condition. In particular, white pine plays a larger role in present day ecology of the area, while the hardwood species appear to have been reduced. Wildlife habitat objectives include restoring large diameter deciduous

trees to the landscape, increasing hard mast production through oak planting, protecting and enhancing hemlock across the landscape, recreating the interior forest characteristic by planting trees in old logging roads, and providing within stand diversity. There are no known occurrences of endangered, threatened, or special concern species within this compartment. Common loons could potentially use Preacher Lake. Other species of interest in this compartment include black-throated blue warblers, hairy woodpecker, marten, fisher, and black bear.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of lacustrine (lake) sand and gravel, end moraines of coarse-textured till and minor glacial outwash sand and gravel and postglacial alluvium. There is approximately 370 feet of local relief in the compartment. There is insufficient data to determine the glacial drift thickness. The Cambrian Trempealeau Formation subcrops below the glacial drift. The Trempealeau could be used for stone. There are not any gravel pits in the area, but there appears to be gravel potential in the southeast corner of the compartment. There is no commercial oil and gas production in the UP.

Vehicle Access: Existing trail roads cover most of the compartment.

Survey Needs: Some treatments border private land and survey work may be needed.

Recreational Facilities and Opportunities: The West Grand Marais snowmobile trail #8 runs through the compartment on the Hurricane River Road. This road is also heavily used during the summer.

Fire Protection: Within this compartment, there is a low fire history.

Additional Compartment Information:

- **The following reports from the Inventory are attached:**
 - ◆ **Total Acres by Cover Type and Age Class**
 - ◆ **Proposed Treatment Summary**
 - ◆ **Proposed Treatments – No Limiting Factors**
 - ◆ **Proposed Treatments – With Limiting Factors**
 - ◆ **Stand Details (Forested and Nonforested)**
 - ◆ **Dedicated and Proposed Special Conservation Areas**

- **The following information is displayed, where pertinent, on the attached compartment maps:**
 - ◆ **Base feature information, stand boundaries, cover types, and numbers**
 - ◆ **Proposed treatments**
 - ◆ **Details on the road access system**

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Table 1 – Total Acres by Cover Type and Age Class



	Age Class														Total	
	Non-Forested	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +		Unrepen Age
Aspen	0	0	23	0	3	0	0	13	0	0	0	0	0	0	0	40
Bog	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Cedar	0	0	0	0	0	0	22	0	4	24	0	59	0	0	0	110
Hemlock	0	0	0	0	0	0	0	0	2	24	1	0	0	0	0	28
Low-Density Trees	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35
Lowland Conifers	0	0	0	0	0	26	56	8	21	34	15	61	0	0	0	220
Lowland Deciduous	0	0	0	0	7	0	0	21	6	0	0	0	0	0	0	35
Lowland Mixed Forest	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	5
Lowland Shrub	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
Marsh	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
Mixed Upland Deciduous	0	0	0	0	13	0	0	6	0	0	0	0	0	0	0	19
Natural Mixed Pines	0	0	0	0	0	0	62	420	13	29	66	0	0	0	0	590
Northern Hardwood	0	0	0	0	15	42	356	19	0	0	0	0	0	0	0	432
Treed Bog	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
Upland Conifers	0	16	0	0	0	45	0	0	0	0	0	0	14	0	17	91
Upland Mixed Forest	0	0	0	0	0	3	0	9	0	0	0	0	0	0	0	12
Upland Spruce/Fir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96	96
Urban	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Water	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
White Pine	0	0	0	0	0	0	0	20	0	55	0	0	0	0	0	75
Total	151	16	23	0	39	116	499	519	47	167	82	120	14	0	113	1904



Table 2 – Proposed Treatment Summaries

Shingleton Mgt. Unit
Year of Entry 2013

Compartment 132
Total Compartment Acres: 1904

Acres by Treatment Type

Commercial Harvest - 115	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Mixed Upland Deciduous	3	0	4	0	0	0	7
Natural Mixed Pines	0	0	0	26	24	0	50
Northern Hardwood	0	35	0	0	0	0	35
Upland Conifers	0	0	0	14	0	0	14
Upland Mixed Forest	0	0	0	9	0	0	9
Total	3	35	4	48	24	0	115



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
14	41132014-Cut	25.8	42290 - Natural Mixed Pine	High Density Pole	60	Harvest	Shelter Wood with Reserves	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<p><u>Prescription:</u> Treatment => Harvest all marked to cut white and red pine, along with all other merchantable tree species. Do not cut any hemlock and unmarked red and white pine.</p> <p><u>Specs:</u> Long Term MO => Stand regeneration of mixed upland conifers and hardwood tree species. Retention => Marked to leave scattered representations of what is currently in the stand, and unmarked white and red pine trees.</p> <p><u>Other:</u> Mark to leave scattered representations of the tree species currently on site for retention. Try to capture large spruce trees, healthy jack pine and paper birch, and any other potential wildlife/seed trees.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> To help ensure successful regeneration it is recommended to scarify this site within one year after it has been harvested. If scarification is not feasible, or wasn't completed in a timely fashion, then hand plant jack pine in openings created by logging.</p>									
18	41132018-Cut	13.5	429 - Mixed Upland Conifers	High Density Pole	110	Harvest	Shelter Wood with Reserves	429 - Mixed Upland Conifers	Cmpt. Review Proposal
<p><u>Prescription:</u> Treatment => Harvest all marked to cut white and red pine, along with all other merchantable tree species. Do not cut any hemlock and unmarked red and white pine.</p> <p><u>Specs:</u> Long Term MO => Stand regeneration of mixed upland conifers and hardwood tree species. Retention => Marked to leave scattered representations of what is currently in the stand, and unmarked white and red pine trees.</p> <p><u>Other:</u> Mark to leave scattered representations of the tree species currently on site for retention. Try to capture large spruce trees, healthy jack pine and paper birch, and any other potential wildlife/seed trees.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> To help ensure successful regeneration it is recommended to scarify this site within one year after it has been harvested. If scarification is not feasible, or wasn't completed in a timely fashion, then hand plant jack pine in openings created by logging.</p>									
27	41132027-Cut	8.3	42290 - Natural Mixed Pine	High Density Log	84	Harvest	Crown Thinning	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<p><u>Prescription:</u> Treatment => Treat this stand with a light thinning down to about 80 BA of the log size red and white pine trees. Harvest any red maple, paper birch, fir, and spruce that are of merchantable size. Do not cut any hemlock or oak that may be present, and take care to protect existing red and white pine regeneration.</p> <p><u>Specs:</u> Long term MO => Stand regeneration of red and white pine, other mixed upland species. Retention => Retention will be in the form of residual red and white pine trees.</p> <p><u>Other:</u> This stand is within the Pictured Rocks Buffer Management Area and occurs directly off of the Hurricane Truck Trail which is a snowmobile trail in the winter.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Aesthetics/Visual Mgt. and ecological complexity should be considered for future management options. Contemplate leaving the large residual red and white pine to become legacy trees so that they reach biological maturity. The age classes that regenerate under these legacy trees will be the ones to manage with harvests.</p>									
40	41132040-Cut	15.6	42290 - Natural Mixed Pine	Medium Density Log	87	Harvest	Crown Thinning	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<p><u>Prescription:</u> Treatment => Treat this stand with a light thinning down to about 80 BA of the log size red and white pine trees. Harvest any red maple, paper birch, fir, and spruce that are of merchantable size. Do not cut any hemlock or oak that may be present, and take care to protect existing red and white pine regeneration.</p> <p><u>Specs:</u> Long term MO => Stand regeneration of red and white pine, other mixed upland species. Retention => Retention will be in the form of residual red and white pine trees.</p> <p><u>Other:</u> This stand is within the Pictured Rocks Buffer Management Area and occurs directly off of the Hurricane Truck Trail which is a snowmobile trail in the winter.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> Aesthetics/Visual Mgt. and ecological complexity should be considered for future management options. Contemplate leaving the large residual red and white pine to become legacy trees so that they reach biological maturity. The age classes that regenerate under these legacy trees will be the ones to manage with harvests.</p>									



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
43	41132043-Cut	32.4	4112 - Maple, Beech, Cherry Association	High Density Pole	47	Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal

Prescription Treatment => Single tree harvest this stand retaining 70 basal area. Maintain species diversity. Create regeneration openings throughout in areas that warrant lowering the basal area.

Specs: Long term MO => Create opportunities for and enhance existing stand regeneration.
Retention => Retain the species diversity and leave any super canopy yellow birch, maple wildlife trees, and any BBD resistant beech trees. Do not cut any hemlock trees.

Other This stand contains varying levels of basal area. Try to promote an average BA of around 70 by thinning in high BA patches and not marking to cut in low BA areas unless needed for regeneration purposes. Also, there is a small beech component within this stand, so mark to cut any BBD (Beech Bark Disease) infested trees, and leave any healthy, smooth barked beech trees that may be resistant to BBD.

Next
Steps:

65	41132065-Cut	8.9	4319 - Mixed Upland Forest	High Density Log	66	Harvest	Shelter Wood with Reserves	4319 - Mixed Upland Forest	Cmpt. Review Proposal
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Prescription Treatment => Shelterwood harvest this stand retaining approximately 50 BA by marking to cut red maple, white pine, and yellow birch. Cut all other merchantable tree species such as balsam fir, spruce, and jack pine that may be present. Do not cut any hemlock.

Specs: Long term MO => Create opportunities for and enhance existing stand regeneration.
Retention => Retain the species diversity by leaving some supercanopy red maple, yellow birch, white pine, and any other wildlife trees.

Other Acceptable regeneration species will be red maple, white pine, yellow birch, spruce, jack pine, hemlock, and balsam fir.

Next
Steps:

73	41132073-Cut	3.5	4191 - Mixed Upland Deciduous with Conifer	Low Density Pole	38	Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
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Prescription Treatment => Harvest all tree species but do not cut any white and red pine, hemlock, yellow birch, or any oak if present.

Specs: Long term MO => Stand regeneration of aspen, other mixed upland species and conifer.
Retention => Retention is in the form of the tree species not to be cut.

Other This stand is at the bottom of a steep hill, which will act as the base area for logging operations pertaining to the prescribed harvests of Stands 75 and 78 which occur on the hill side and/or on top of it. Since this stand is directly adjacent to the Hurricane Truck Trail, aesthetics/visual mgmt objectives are of concern too, so white pine, red pine, yellow birch, hemlock, and oak will not be cut for visual management. Also, take precautions against rutting, unnecessary damage, vehicle traffic, etc. due to the proximity to the Hurricane truck trail.

Next
Steps:

75	41132075-Cut	3.8	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	62	Harvest	Seed Tree with Reserves	4193 - Birch, Aspen	Cmpt. Review Proposal
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Prescription Treatments => Harvest all tree species with the exception of red and white pine marked leave trees and do not cut yellow birch, hemlock, and oak that may be present. Leave about 10 - 20 ft² of red/white pine trees.

Specs: Long Term MO => Stand regeneration to birch/aspen, other mixed upland species.
Retention => Retention will be in the form of leave tree marked red and white pine, and any tree species not to be cut.

Other
Comments:

Next
Steps: The desired covertime is birch/aspen for this stand, so use any means necessary to ensure successful regeneration, such as prescribed fire, herbicide, scarification, etc. However, if all else fails a mixed upland deciduous and conifer covertime is acceptable, but only as a last resort.



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
78 41132078-Cut	2.9	4112 - Maple, Beech, Cherry Association	High Density Pole	60	Harvest	Single Tree Selection	4112 - Maple, Beech, Cherry Association	Cmpt. Review Proposal

Prescription Treatment => Single tree harvest this stand retaining approximately 70 BA. Maintain species diversity and create regeneration openings throughout.

Specs:

Long term MO => Create opportunities for and enhance stand regeneration.
Retention => Retain the species diversity and leave any yellow birch, hemlock, and oak if present.

Other This stand occurs on top of a steep hill. Logging operations will be difficult in this stand for they will have to access it via the steep hill that occurs in stand 75. Make sure they have enough room to enter the stand from the steep hill and to exit.

Comments:

Next Steps:

**Total Treatment
Acreage Proposed: 114.7**

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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#Error

Prescription
Specs:

Other
Comment:

Next
Steps:

Limiting Factor and No
Treatment Reason

Total Treatment
Acreage Proposed: 0

**Out of YOE -- Treatments
Prescribed with No Limiting Factor**

Year of Entry: 2013



Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
41022_OutOfY OE-Cut	35.6				Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<u>Prescription</u> 3rd row thinning. Cut all trees in designated rows. Rows can be spaced wider apart in areas with lower basal area. Do not cut hemlock and oak.								
<u>Specs:</u>								
<u>Other</u> Do not cut any trees within 50 feet of the West Branch Manistique River.								
<u>Comments:</u>								
<u>Next</u> Thin next year of entry.								
<u>Steps:</u>								
41049_OutOfY OE_1-Cut	4.7				Harvest	Single Tree Selection	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<u>Prescription</u> Mark red pine and white pine to 30 sq. ft. Create gaps in canopy for regeneration where pine exists. Areas that have thicker young poles can be								
<u>Specs:</u> marked to 80. Cut all other species except hemlock and oak if present.								
<u>Other</u> Access to stand is too difficult for continuous thinning.								
<u>Comments:</u>								
<u>Next</u> Regeneration walkthrough during next inventory cycle. Acceptable regeneration includes any species mixture currently found onsite.								
<u>Steps:</u>								
41053_OutOfY OE-Cut	10.2				Harvest	Single Tree Selection	42290 - Natural Mixed Pine	Cmpt. Review Proposal
<u>Prescription</u> Mark red pine and white pine to 30 sq. ft. Create gaps in canopy for regeneration where pine exists. Areas that have thicker young poles can be								
<u>Specs:</u> marked to 80. Cut all other species except hemlock and oak if present.								
<u>Other</u> Access to stand is too difficult for continuous thinning.								
<u>Comments:</u>								
<u>Next</u> Regen walkthrough during next inventory cycle. Acceptable regeneration includes any species mixture currently found onsite.								
<u>Steps:</u>								
Total Treatment Acreage Proposed:		50.5						



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6120 - Lowland Cedar	High Density Log	12.3	80	111-140	This stand is mostly cedar with some large hemlock, yellow birch, and red maple too.
2	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	6.4	76	111-140	This stand contains dead and decaying paper birch. There is a mix of lowland deciduous and conifer species present too. This old OI stand 48 contained a treatment limiting factor for no market for species/product, inadequate volume due to small acreage, and too wet.
3	42350 - Upland Hemlock	High Density Log	2.6	80	141-170	This is a hemlock dominated ridge in the middle of a cedar swamp.
4	6117 - Lowland Deciduous, Mixed Coniferous	High Density Log	7.1	62	111-140	This stand is a transitional area between high and low ground. The southern border of this stand is a steep hillside rising to stand 4.
5	4115 - Y.Birch, Hemlock NH	High Density Log	15.7	62	51-80	Stand was thinned down to around 70-90 BA with 3-5 regeneration holes per acre. Large trees over 22 inches in dbh were left along with yellow birch and conifers. This was done under TS# 026-03 Hurricane Drumming Pine. This stand also contains a lot of beech flush from BBD.
6	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	2.1	65	51-80	The stand occurs on a steep hill and was part of a timber sale; TS # 048-95, but was not cut because of the steepness. It has a treatment limiting factor due to it. The birch in this stand is dying out and converting to a red maple and balsam fir understory.
7	6113 - Lowland Maple	High Density Log	14.1	65	111-140	This stand was just added to compartment 132, but has been owned by the state in the past. This stand has never been managed before. There are a lot of large, log trees with a lot of regeneration.
8	4115 - Y.Birch, Hemlock NH	High Density Pole	15.2	35	1-50	This is a poor hardwood site that was thinned heavily in the past. There are mostly sapling sized hardwood species present with a few large red maple, beech, and hemlock trees scattered around.
9	42340 - Upland Spruce/Fir	Medium Density	96.2	Uneven Age		This stand was cut in 1997-98, with scattered white pine and red pine left as residuals. Under FTP # W41-1076 inmates handplanted red pine along logging roads. This stand is now dominated by 10-20 ft. balsam fir with other conifer and hardwood species mixed in.
10	6124 - Lowland Spruce-Fir	High Density Pole	19.9	51	81-110	This is a new stand added to Compartment 132. It has been in state ownership, but was never managed in the past. This stand encompasses the Hurricane River and contains a variety of lowland conifer tree species and other riparian oriented plant species.
11	4112 - Maple, Beech, Cherry Association	High Density Pole	32.9	58	81-110	This is a maple stand with a lot of diseased beech. The beech has already begun to snap and mortality is high.
12	4134 - Aspen, Spruce/Fir	High Density Sapling	9.1	14		



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
13	4112 - Maple, Beech, Cherry Association	High Density Log	17.1	58	81-110	This stand was just added to compartment 132. It has been within state ownership, but never managed in the past. This is a hardwood stand similar to stand 96 on the north side of H-58. The southern boundary of this stand begins the riparian area of the Hurricane River and starts to transition into a lowland mix of red maple, fir, spruce, and cedar.
14	42290 - Natural Mixed Pine	High Density Pole	25.8	60	51-80	
15	429 - Mixed Upland Conifers	High Density Pole	44.8	48	1-50	Stand contains a mixture of conifers and some red maple and aspen. White spruce and balsam fir dominate the canopy with a few pockets of jack pine and white pine.
16	4319 - Mixed Upland Forest	Low Density Sapling	2.7	40	1-50	This stand is an old grass opening filling in with mainly aspen and other conifer species such as spruce/fir, some jack pine, and white pine.
17	4112 - Maple, Beech, Cherry Association	High Density Log	28.0	58	51-80	This stand was just added to compartment 132. It has been in state ownership in the past, but never managed before. It is located directly east of H-58. It contains log sized sugar maple and beech, but the beech component is already dead and dying from BBD. The death of the beech is creating a flush of beech regeneration and decreased the total stand Basal Area since beech was a large component of this stand. There also seems to be a large size gap between the large log sized trees and the small pole sized trees, which are abundant. Also, the eastern part of this stand is somewhat hilly.
18	429 - Mixed Upland Conifers	High Density Pole	13.5	110	51-80	This is a white and jack pine stand dominated by conifers of upland and lowland species. There is a flush of balsam fir regeneration and a few lowland areas consisting of spruce, hemlock, cedar, black spruce, and red maple. This stand appears to have been cut around the same time period as stand 21.
19	42290 - Natural Mixed Pine	Medium Density Pole	61.6	50	51-80	This stand is a combination of white pine, spruce/fir, paper birch, and red maple. The white pine is pole sized timber although tree sizes and densities do fluctuate within this stand.
20	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	9.8	35	1-50	This stand is almost an even mix between paper birch, red maple, fir, and hemlock trees which are mostly sapling sized with a few larger diameter trees scattered around.
21	6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	8.4	63	51-80	This stand was cut heavily in 1984. There are scattered white pine and red maple present with a thick regeneration of balsam fir. There is also lowland species such as tamarack, cedar, bog laurel, and labrador tea present.
22	429 - Mixed Upland Conifers	Low Density Sapling	16.0	5	1-50	This stand consists of sapling size aspen with mixed sapling-pole sized conifers. The area is somewhat open with pockets of higher tree densities and sizes .
23	42200 - Natural White Pine	Medium Density Log	19.8	60	51-80	This stand was cut approximately around 1998. There are scattered white pine and red pine in the supercanopy with white and red pine in the understory.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
24	42290 - Natural Mixed Pine	High Density Pole	66.3	97	51-80	This stand was harvested in 2006 under T.S. # 026-03. Red pine and white pine were thinned from the stand. This stand is mainly red pine and white pine ranging from pole sized red pine to super canopy white pine with scattered paper birch among them.
26	42290 - Natural Mixed Pine	Medium Density Log	107.4	61	51-80	This stand was cut approximately in 1996 with scattered white and red pine left in the supercanopy. In the understory is 10 - 20 ft. regeneration of mixed conifer and deciduous tree species. There are also small pockets of hemlock and red maple saplings throughout the stand.
27	42290 - Natural Mixed Pine	High Density Log	8.3	84	111-140	This is a log sized red pine stand that may have been artificially planted at one time, but now has a natural look to it. There are also a lot of log sized white pine trees and paper birch mixed in the stand too.
28	42260 - Natural Pine, Mixed Deciduous	Medium Density Pole	13.1	75	51-80	This stand occurs along the Hurricane Truck Trail and contains a lot of white pine with paper birch, aspen, red maple, and spruce/fir mixed in.
29	4133 - Aspen, Mixed Pine	Medium Density	14.3	14		This stand was clearcut approximately in 1996. Paper birch and white pine seed trees were left. Among them is red pine in the super canopy.
31	42260 - Natural Pine, Mixed Deciduous	Medium Density Pole	5.2	83	1-50	This stand occurs along the Hurricane Truck Trail. It is mostly white pine, paper birch, and some hemlock. The white pine varies from pole sized trees to supercanopy sized trees.
32	42290 - Natural Mixed Pine	High Density Log	244.4	62	51-80	This stand consists of large white and red pine trees ranging from pole sized to super canopy trees. There is a mixture of jack pine, oak, and paper birch mixed in too.
34	42200 - Natural White Pine	Low Density Pole	55.0	85	1-50	This stand was cut approximately in 1998. White pine seed trees were left throughout and paper birch was left along the Hurricane Truck Trail.
35	42290 - Natural Mixed Pine	High Density Pole	23.5	62	111-140	This stand was thinned in the early 1980's. In the southern portion of this stand there is more white pine mixed in with the red pine compared to the north. Also, the red pine regeneration is more prevalent in the north than the south. Overall, this is a pole sized stand of white pine and red pine with scattered log sized white and red pine trees in the supercanopy.
36	42260 - Natural Pine, Mixed Deciduous	Low Density Log	18.9	62	1-50	This stand was cut approximately around 1996. There is scattered white and red pine that was left and now a 20 - 30 ft. understory consists of red maple and mixed conifer species.
40	42290 - Natural Mixed Pine	Medium Density Log	15.6	87	81-110	This is a log sized red pine stand with white pine mixed in as well.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
41	42350 - Upland Hemlock	High Density Pole	2.4	70	111-140	This is a hemlock covered ridge. The stand was cut in 1996 with the adjacent stand that was clearcut. The hemlock were not cut in this stand and other trees were selectively harvested from this stand. The adjacent clearcut exposed the hemlock stand to windthrow and as a result high mortality is occurring along the stand edge. Also, the available light in the stand was increased, causing a flush of hardwood tree species regeneration.
42	429 - Mixed Upland Conifers	Low Density Sapling	16.7	Uneven Age		This stand was clearcut in 1996 except for a few scattered white and red pine in the supercanopy. With the overstory removed, balsam fir now makes up the majority in the canopy with spruce, red maple, and paper birch mixed in.
43	4112 - Maple, Beech, Cherry Association	High Density Pole	42.0	47	81-110	This hardwood stand contains a mixture of red maple and sugar maple, but red maple dominates. There are varieties of basal area and tree sizes throughout the stand.
44	6120 - Lowland Cedar	Low Density Sapling	22.4	50		
46	4134 - Aspen, Spruce/Fir	Medium Density Pole	8.6	69	1-50	Aspen stand containing red maple.
48	6131 - Hemlock, White Pine, Maple, Birch	High Density Pole	2.1	59	81-110	Small stand along Hurricane River and Hurricane Truck Trail. There is a creek in the stand.
49	6132 - Mixed Lowland Forest with Cedar	Medium Density	2.6	64		This stand is the Hurricane River corridor which contains Treatment Limiting Factors such as water quality/bmps.
50	6131 - Hemlock, White Pine, Maple, Birch	High Density Log	0.5	59	81-110	
51	4136 - Aspen, Mixed Conifer	High Density Pole	4.8	67	1-50	This is an aspen stand with low basal area, but does contain a few large aspen trees. The stand occurs on a steep hill that will make logging difficult.
52	4112 - Maple, Beech, Cherry Association	High Density Pole	157.4	55	51-80	This stand was selectively harvested in 2006 under TS # 002-03 Preacher Lake Hardwoods. It was thinned down to 70-80 BA with 3-5 regeneration holes per acre. Heavier patches of hemlock were avoided.
53	4112 - Maple, Beech, Cherry Association	High Density Pole	3.4	50	81-110	This is an upland hardwood stand with mostly pole-sized trees with a few trees in the log size class. The beech in this stand is affected by (BBD) Beech Bark Disease causing a flush of beech regeneration in the affected areas. This stand is located on top of a steep hill.
54	42350 - Upland Hemlock	High Density Log	7.2	80	111-140	This is a narrow ridge covered with hemlock and white pine surrounded by low, wet land.
58	4134 - Aspen, Spruce/Fir	Medium Density Pole	3.0	39	1-50	This is a small patch of aspen growing into a grassy opening.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
59	6120 - Lowland Cedar	High Density Log	6.9	84	111-140	This is a lowland area with mostly cedar. The area is wet with intermittent streams in it.
60	6120 - Lowland Cedar	Low Density Sapling	4.8	88		
61	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	10.8	84	51-80	This is a lowland mix of conifer and deciduous trees with cedar being the majority. Tree size and densities vary throughout.
64	42350 - Upland Hemlock	High Density Log	14.5	83	111-140	This is a hemlock ridge in the swamp.
65	4319 - Mixed Upland Forest	High Density Log	8.9	66	111-140	This stand consists of overmature red maple with a lot of spruce/fir mixed throughout. This stand resides on slightly higher topography than the surrounding stands.
69	42350 - Upland Hemlock	High Density Log	1.2	93	111-140	This is a hemlock covered ridge inbetween bogs.
70	6124 - Lowland Spruce-Fir	Medium Density	26.0	45	1-50	This stand is a mosaic of conifers and mixed deciduous trees. The dominate specie is spruce with fir making up the second dominant species. Basal area and size densities vary a lot throughout this stand.
71	4115 - Y.Birch, Hemlock NH	High Density Pole	85.4	55	81-110	This is a hardwood stand with varying basal area densities and tree sizes throughout the stand.
72	6129 - Mixed Coniferous Lowland Forest	High Density Log	4.5	80	81-110	This is a hemlock dominated stand that contains a mix of spruce, cedar, red maple, and paper birch on low ground. This stand is designated or has potential old growth
73	4191 - Mixed Upland Deciduous with Conifer	Low Density Pole	3.4	38	51-80	This stand is located on the north side of Hurricane Truck. This stand may have been an opening along the shoulder of the road that has begun to grow in with trees. The composition and size classes vary throughout this stand.
75	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	3.8	62	51-80	This stand is located on a steep slope north of the Hurricane Truck Trail. Mature aspen is beginning to die. The stand also contains a mixture of mature paper birch, white pine, and red maple.
76	6117 - Lowland Deciduous, Mixed Coniferous	Low Density Sapling	7.2	38	1-50	This stand is an aspen stand with low basal area and sapling to pole sized trees. Timber quality is low in the pole sized tree category. The stand is located along along the Hurricane Truck Trail Road between higher topography and the adjacent wetland next to it.
77	6124 - Lowland Spruce-Fir	High Density Log	20.7	77	51-80	This is a lowland area with spruce, fir, cedar, and some hemlock. This stand is designated or has potential old growth



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
78	4112 - Maple, Beech, Cherry Association	High Density Pole	2.9	60	111-140	This stand is located on top of a steep slope north of the Hurricane Truck Trail. The basal area varies slightly throughout the stand along with size classes. It is a maple dominated stand that, but has a mixture of other deciduous species also.
79	6120 - Lowland Cedar	Medium Density Pole	4.5	75		This stand is designated or has potential old growth
82	4115 - Y.Birch, Hemlock NH	High Density Log	31.8	55	111-140	This is a lowland hardwood stand that was thinned about 50 years ago and now contains large trees of every species, except for beech. The beech has been hit hard by BBD and a lot of the larger diameter trees are dead. As a result there are areas of beech flush. This stand is designated or has potential old growth
85	6129 - Mixed Coniferous Lowland Forest	High Density Log	5.4	80		This stand is designated or has potential old growth
86	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	36.2	50	81-110	This stand contains a mix of very large hemlock and cedar trees, with red maple, and the occasional white pine. This stand is designated or has potential old growth
87	6129 - Mixed Coniferous Lowland Forest	High Density Pole	14.5	96	81-110	This stand is designated or has potential old growth
88	6128 - Lowland Coniferous, Mixed Deciduous	Low Density Pole	60.7	100	1-50	This stand is extremely wet with trees growing on any ground higher than water level. This stand is designated or has potential old growth
89	6120 - Lowland Cedar	High Density Pole	59.2	100	1-50	This is another very wet stand with trees growing on any higher ground above water. This stand is designated or has potential old growth
90	6128 - Lowland Coniferous, Mixed Deciduous	High Density Log	13.4	80	111-140	This is a hemlock dominated stand with white pine, red maple, yellow birch, and some beech scattered in too. This stand is designated or has potential old growth



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
25	330 - Low-Density Trees	24.3	N/A	Unspecified	
30	122 - Road/Parking Lot	2.3	N/A	Unspecified	
33	6225 - Bog	4.0	N/A	Unspecified	
37	122 - Road/Parking Lot	1.6	N/A	Unspecified	
38	6220 - Alder/willow	0.6	N/A	Unspecified	
39	330 - Low-Density Trees	2.5	N/A	Unspecified	
45	330 - Low-Density Trees	2.3	N/A	Unspecified	
47	6224 - Treed Bog	12.4	N/A	Unspecified	
55	623 - Emergent Wetland	6.0	N/A	Unspecified	
56	622 - Lowland Shrub	6.7	N/A	Unspecified	
57	50 - Water	9.2	N/A	Unspecified	
62	622 - Lowland Shrub	1.6	N/A	Unspecified	
63	6224 - Treed Bog	7.0	N/A	Unspecified	
66	6224 - Treed Bog	12.7	N/A	Unspecified	
67	122 - Road/Parking Lot	1.0	N/A	Unspecified	
68	622 - Lowland Shrub	5.3	N/A	Unspecified	
74	622 - Lowland Shrub	20.1	N/A	Unspecified	
80	50 - Water	5.1	N/A	Unspecified	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
81	6239 - Mixed Emergent Wetland	4.6	No	Low (NonForested)	
83	623 - Emergent Wetland	15.4	N/A	Unspecified	
84	330 - Low-Density Trees	5.9	N/A	Unspecified	



7 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

Stand	SCA Type	SCA Name	Acres	Comments
multiple - see	Unique Site - SCA	41132_SCA	255.4	Put your comments here.



8 – 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.

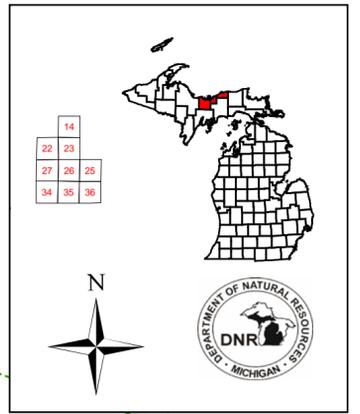
ERA = Ecological Reference Area
 HCVA = High Conservation Value Area
 SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
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.

Cover Type & Treatment Map

Compartment 132
 T49N, R15W, Sec. 14,22,23,25-27,34-36
 County: Alger
 Unit: Shingleton
 YOE: 2013
 Acres: 1,904 GIS Calculated
 Stand Examiner: Jesse Bramer
 Map Revised: 9/15/2011
 Map Phase: Pre-Review

Stand #
 23
 (412)0 - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code



Legend

- Miris Corners
- Remonumented Section Corners
- Poor Dirt Roads
- Hiking Trails
- Snowmobile Trails
- Snowmobile Trail
- Hiking Trail
- State Forest Land
- Lakes and Rivers
- Intermittent Stream/Drain
- Stream

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Selection (Group, Single Tree)

Forest Stands

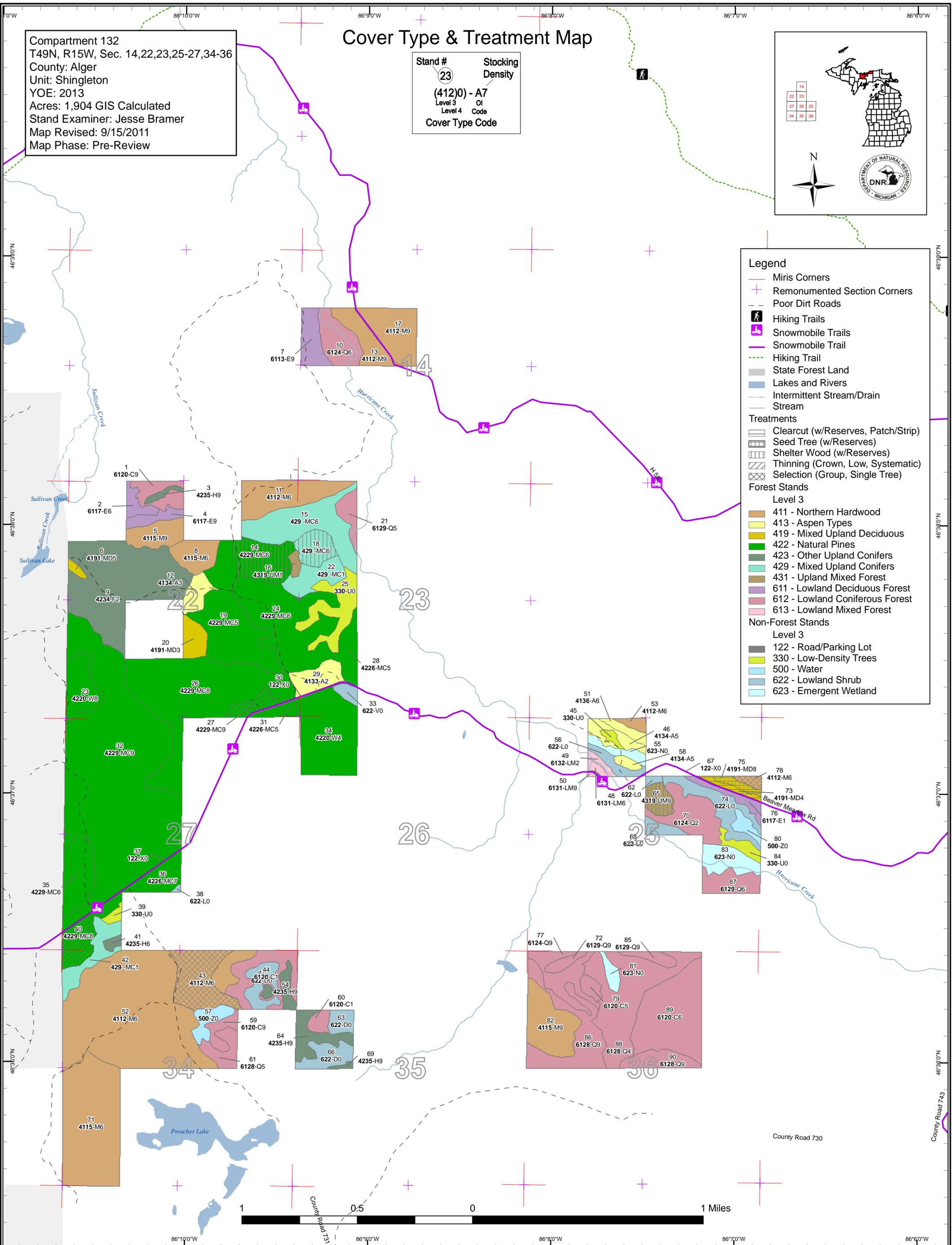
Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

- 122 - Road/Parking Lot
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland



County Road 743

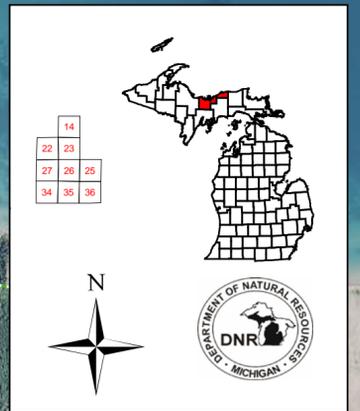
County Road 730

County Road 731

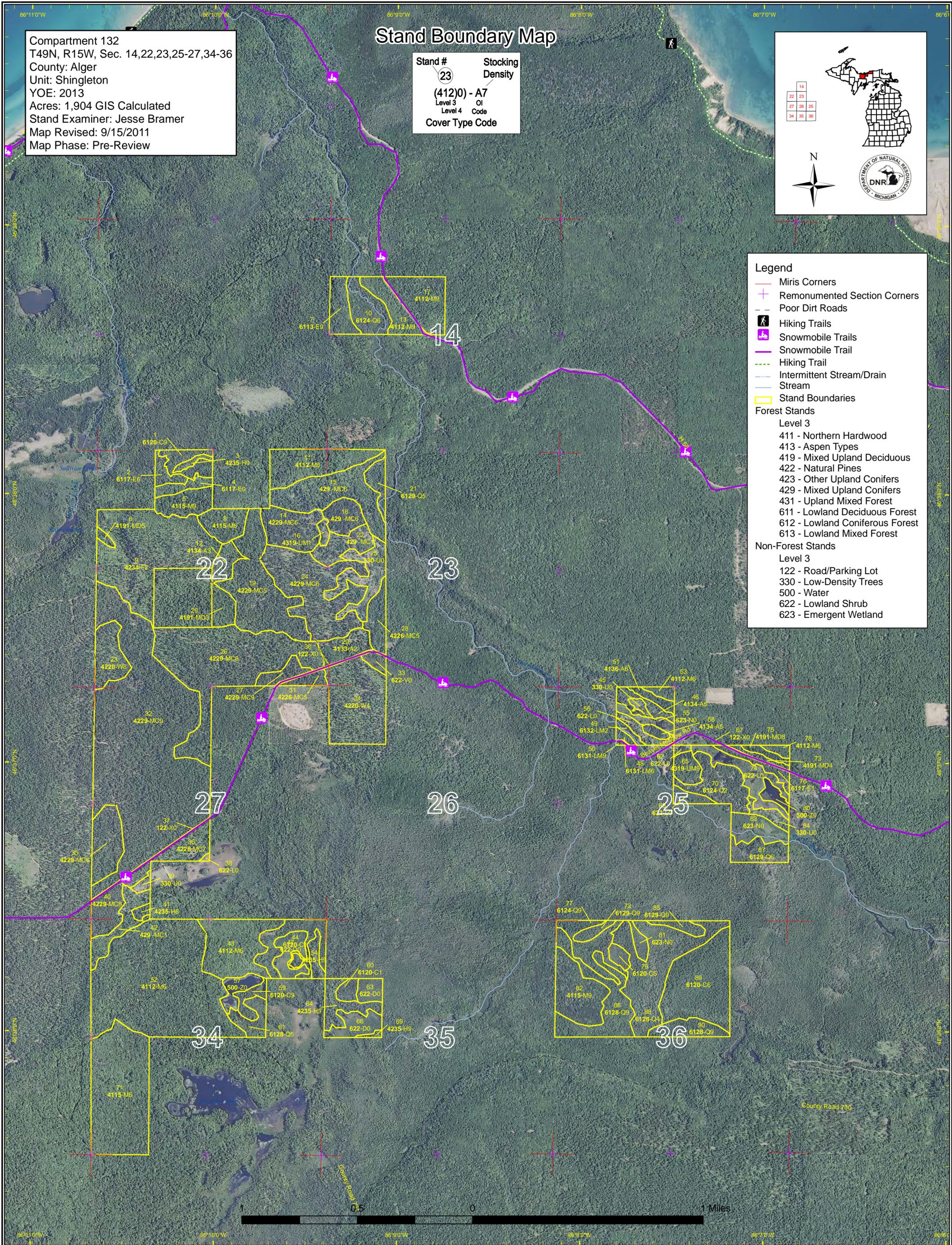
Stand Boundary Map

Compartment 132
 T49N, R15W, Sec. 14,22,23,25-27,34-36
 County: Alger
 Unit: Shingleton
 YOE: 2013
 Acres: 1,904 GIS Calculated
 Stand Examiner: Jesse Bramer
 Map Revised: 9/15/2011
 Map Phase: Pre-Review

Stand # 23
 Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code



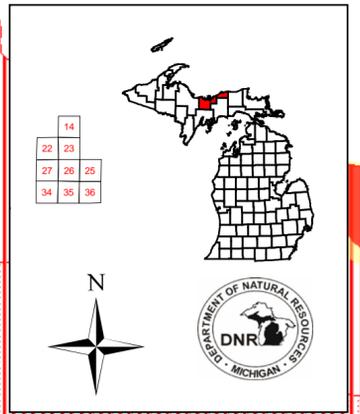
- Legend**
- Miris Corners
 - ⊕ Remonumented Section Corners
 - - - Poor Dirt Roads
 - 🚶 Hiking Trails
 - 🚙 Snowmobile Trails
 - Snowmobile Trail
 - ⋯ Hiking Trail
 - ⋯ Intermittent Stream/Drain
 - Stream
 - ▭ Stand Boundaries
- Forest Stands**
- Level 3**
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 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 422 - Natural Pines
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 - 429 - Mixed Upland Conifers
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 - 613 - Lowland Mixed Forest
- Non-Forest Stands**
- Level 3**
- 122 - Road/Parking Lot
 - 330 - Low-Density Trees
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 - 622 - Lowland Shrub
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Compartment 132
 T49N, R15W, Sec. 14,22,23,25-27,34-36
 County: Alger
 Unit: Shingleton
 YOE: 2013
 Acres: 1,904 GIS Calculated
 Stand Examiner: Jesse Bramer
 Map Revised: 9/15/2011
 Map Phase: Pre-Review

Dedicated & Proposed Special Conservation Area Map

Stand # 23
 Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code



Legend

- Miris Corners
- + Remonumented Section Corners
- Proposed Special Conservation Areas
 - ▨ SCA - Special Conservation Area
 - ▨ SCA Removal
- Dedicated Special Conservation Area
 - ▨ Visual Management Areas
 - ▨ Contiguous Resource Areas
- Stand Boundaries
- Forest Stands
 - Level 3
 - 411 - Northern Hardwood
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 422 - Natural Pines
 - 423 - Other Upland Conifers
 - 429 - Mixed Upland Conifers
 - 431 - Upland Mixed Forest
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
 - 613 - Lowland Mixed Forest
 - Non-Forest Stands
 - Level 3
 - 122 - Road/Parking Lot
 - 330 - Low-Density Trees
 - 500 - Water
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland

