



**Gladwin Forest Management Unit
Compartment Review Presentation
Compartment #25 Entry Year: 2014
Compartment Acreage: 1118 County: Gladwin**

Revision Date: April 20, 2012

Stand Examiner: Steven Nyhoff

Legal Description: T20N R2W Sections 17-20, 29, 30

Identified Planning Goals ('Management Area' or 'RMU', if applicable):

Management Goals:

The compartment overall is heavy to aspen, maple and oak. These have been heavily managed over the last 30 years.

The oak has seen heavy gypsy moth outbreaks in the past. This mixed with other stressors have caused a decline in the oak on the poorer soils. Many of these stands have had multiple salvage cuts followed by seed trees or shelter wood harvests. Most of the aspen have been cut and are less than 40 years old. Currently there is only one stand that is over 50. This is now scheduled to be harvested along with one stand that will turn 50 this Year of Entry (YOE). These will be cut with several oak stands that have not been treated in the past.

Overall continue to manage for the current species diversity.

Soil and Topography:

The compartment is toward the southern edge of a glacial moraine system. Therefore, the terrain goes from nearly level to rolling hills. The soils are mainly Chelsea-AuGres Association and Chelsea-Rubicon Association. These are somewhat well drained to well drained. There are some areas in the compartment that are poorly drained or have mucky soils. These types make up a small component of the compartment.

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

This compartment is in two bigger blocks of state ownership with a few smaller state parcels interspersed among private ownership. One of the isolated state parcels has limited access which makes management options limited.

Private land in and around this compartment is split fairly evenly between full time and seasonal residences. The surrounding private land includes the village of Meredith and several subdivisions. The larger private parcels are mostly used for farming and recreational uses such as hunting.

Unique, Natural Features:

Overall there is a low potential for rare animals or plants according to Michigan Natural Feature Inventory (MNFI). There are records of a spotted turtle to the northeast. However, there are no other records in the MNFI database for the area. In addition, none were located during the inventory process.

Archeological, Historical, and Cultural Features:

There are no records of sites in the database and none were located during the inventory process.

Special Management Designations or Considerations: none

Watershed and Fisheries Considerations: none

Wildlife Habitat Considerations: This compartment contains a variety of vegetative types. Upland and lowland systems are present, making it suitable for a number of wildlife species. Game species likely to be present in this compartment include black bear, bobcat, raccoon, coyote, wild turkey, ruffed grouse, snowshoe hare, and white-tailed deer. Many bird species stand to benefit from the juxtaposition of lowland and upland habitats present in the compartment. These include common yellowthroat, yellow-rumped warbler, gray catbird, redbreasted vireo, white-throated sparrow, hermit thrush, red-breasted nuthatch, ruffed grouse, and American woodcock. The compartment is easily accessible to hunters via Meredith Grade Road and Adams Road.

Mineral Resource and Development Concerns and/or Restrictions:

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium, coarse-textured glacial till and an end moraine of coarse-textured till. Glacial drift thickness varies between 200 and 600 feet. Beneath the glacial drift are the Jurassic Red Beds and the Pennsylvanian Saginaw and Grand River Formations. The Saginaw Formation is used for clay/shale in other areas of the State. The nearest gravel pit is located just east of the compartment, and potential is thought to be good on the upland areas. Skeels Field lies in the southwest corner of the Compartment. The Field has produced from several Devonian formations and all the old wells in the compartment have been abandoned.

There is a new lease oil lease in the compartment. It is located in the NWNW of section 17. The pad has been staked out.

Vehicle Access:

The vehicular access in the compartment is good for the most part, is except the land locked parcel in section 29.

Survey Needs:

The compartment has numerous private surveys and county remonumentation corners that should be adequate for the timber sale this YOE.

Recreational Facilities and Opportunities:

This compartment contains a portion of the Meredith-Houghton Lake snowmobile trail which is associated with the trailhead on Meredith Grade Road. There are two state forest campgrounds to the northeast of this compartment in the Gladwin Field Trial Area (GFTA). There is heavy hunting pressure in the compartment for both small game and white tail deer due to the restrictions in the GFTA to the north

Fire Protection:

There is significant evidence of past fire activity (old plow lines) in the compartment. This is especially visible on the State Land along Meredith Grade Road. The area is heavy to hardwoods so it does not contain explosive pine cover. However, the compartment has a lot of public/private interface. Therefore, the chances for fire starts are high. This leads to the compartment having a moderated fire danger.

Additional Compartment Information:

This compartment is located immediately south of the GFTA and east of the village of Meredith. The west boundary of the compartment is State Highway M-18. Therefore, visual management will be a concern for several treatments this YOE. There are also numerous ROW for power lines and gas pipelines. These will need to be addressed in some of the treatments as well.

Table 1 – Total Acres by Cover Type and Age Class



	Age Class														Total
	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 +	Uneven Age	
Aspen	113	111	124	131	16	0	0	0	18	0	0	0	0	0	512
Bog	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	21	0	21
Herbaceous Openland	37	0	0	0	0	0	0	0	0	0	0	0	0	0	37
Low-Density Trees	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	0	0	5	6	11
Lowland Deciduous	0	0	8	0	0	0	0	0	4	0	0	0	0	35	46
Lowland Shrub	33	0	0	0	0	0	0	0	0	0	0	0	0	0	33
Marsh	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Mixed Upland Deciduous	0	26	5	0	0	0	0	0	0	0	0	0	0	66	97
Oak	70	10	27	0	0	0	0	0	113	0	0	0	0	53	273
Red Pine	0	0	0	12	0	15	0	0	0	0	0	0	0	0	27
Treed Bog	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Upland Mixed Forest	0	0	0	0	0	0	0	0	15	0	0	0	0	0	15
Upland Shrub	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Urban	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Water	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Total	299	147	163	143	16	15	0	0	149	0	0	0	26	160	1118



Table 2 – Proposed Treatment Summaries

Gladwin Mgt. Unit
Year of Entry 2014

Compartment 025
Total Compartment Acres: 1118

Acres by Treatment Type

Commercial Harvest - 200	Site Prep - 0	Tree Planting - 8	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
Aspen	33	0	0	0	0	0	0	33
Mixed Upland Deciduous	0	0	64	0	0	0	0	64
Oak	0	0	28	63	0	0	0	91
Red Pine	0	0	0	0	12	0	0	12
Total	33	0	92	63	12	0	0	200



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2 73025002-Cut	16.1	4126 - White, Black, N. Pin Oak	High Density Log	83	51-80	Harvest	Seed Tree	4122 - Oak, Pine	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest the stand reducing the BA to 10. The retention should be individually marked oak with healthy crowns to provide mast and structural diversity.</p> <p><u>Specs:</u></p> <p><u>Other</u> The stand borders the snowmobile trial. The trial will need to be used for access to the stand. Therefore do not harvest the stand during the winter to avoid conflict with snowmobile activity. After harvest make sure the trail is restored to a condition as good as or better then before the harvest.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> After harvest the stand may need to have a site prep treatment before interplant it with red pine.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>									

3 73025003-Cut	5.0	42110 - Planted Red Pine	High Density Pole	35	111-140	Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> The stand should be harvested as a third row thinning. The rows are fairly straight and there appears to be adequate spacing between rows.</p> <p><u>Specs:</u></p> <p><u>Other</u></p> <p><u>Comments:</u></p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u> 10/01/2013</p>									

7 73025007-Cut	34.5	4129 - Mixed Oak	High Density Log	74	81-110	Harvest	Shelterwood	4129 - Mixed Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest the stand as a seed tree harvest . Mark the stand down to 10 BA favoring the retention of oak with healthy crowns for mast and structural diversity. Along Meredith Road increase the retention to 20 to 30 Sq Ft to help address visual concerns.</p> <p><u>Specs:</u></p> <p><u>Other</u> This stand is along Meredith Grade. The visual impact of the harvest must be addressed when setting up the sale. The stand borders the snowmobile trial so do not harvest during snow cover condition to avoid conflict. The trail will need to be used to access the stand. The trail will need to be brought up to a condition as good as or better after the harvest.</p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> After harvest The stand will need to have site preparation before it is interplant with red pine.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>									

9 73025009-Cut	9.6	4126 - White, Black, N. Pin Oak	High Density Pole	81	81-110	Harvest	Shelter Wood with Reserves	4126 - White, Black, N. Pin Oak	Cmpt. Review Proposal
<p><u>Prescription</u> Shelterwood harvest the stand taking the BA down to 60 Sq Ft . When marking the stand favor the retention of healthy oak and for crop trees.</p> <p><u>Specs:</u> The residual needs to be kept variable to facilitate logging. The stand is on a hill so areas need to be cleared to allow skidding on slopes.</p> <p><u>Other</u></p> <p><u>Comments:</u></p> <p><u>Next Steps:</u> The stand is expected to regenerate to a mixture of oak, aspen and maple, if not seed tree harvest down to 20 BA and interplant red pine.</p> <p><u>Proposed Start Date:</u> 10/01/2013</p>									

**Table 4 -- Treatments Prescribed with
a Limiting Factor**



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

Prescription
Specs:

Other
Comment:

Next
Steps:

Proposed
Start Date: #Error

Limiting Factor and No
Treatment Reason

**Total Treatment
Acreage Proposed: 0**

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

Year of Entry: 2014



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
73010274-Cut	26.5	42260 - Natural Pine, Mixed Deciduous	High Density Log	105		Harvest	Clearcut with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription: The stand is to be harvested as a 2" spec final harvest. The retention should be focused along the snowmobile trail.

Specs:

Other

Comments:

Next Steps: After the harvest replant the stand to red pine, expand the unplanted area around the Leota Weather Station.

Proposed

Start Date: 10/01/2009

73010290-Cut	17.1	42110 - Planted Red Pine	High Density Pole	56		Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
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Prescription: The stand needs to be thinned by a systematic thinning individual tree marking taking the residual BA down to 110.

Specs:

Other

Comments:

Next

Steps:

Proposed

Start Date: 10/01/2009

73010295-Cut	28.0	4122 - Oak, Pine	High Density Pole	83		Harvest	Clearcut with Reserves	4129 - Mixed Oak	Cmpt. Review Proposal
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Prescription: The stand should be harvested as a 2" spec final harvest. The harvest should retain all red and white pine as well as marked oak for retention.

Specs: This retention should be focused along the snowmobile trail.

Other

Comments:

Next

Steps: After the stand is harvested interplant with red pine.

Proposed

Start Date: 10/01/2009

73010296-Cut	39.4	42260 - Natural Pine, Mixed Deciduous	High Density Pole	68		Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription: The stand is to be harvested as a 2" spec final harvest. The retention should be a mixture of individually mark oak and pine. The retention

Specs: should be concentrated along the snowmobile trail.

Other

Comments:

Next

Steps: After the stand is harvested plant to red pine.

Proposed

Start Date: 10/01/2009

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

Year of Entry: 2014



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
73010299-Cut	15.5	4122 - Oak, Pine	High Density Log	105		Harvest	Clearcut with Reserves	42111 - Planted Red Pine, Mixed Deciduous	Cmpt. Review Proposal

Prescription: The stand is to be harvested to 2" DBH but do not cut any red or white pine. Focus any addition retention to the area along the snowmobile trail.
Specs:

Other Comments:

Next Steps: After harvest interplant red pine this will lead to a mixed oak/pine stand.

Proposed Start Date: 10/01/2009

73010308-Cut	21.7	42211 - Natural Red Pine, Mixed Deciduous	High Density Pole	73		Harvest	Clearcut with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal
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Prescription: The stand is to be final harvested to 2" DBH. The retention should be placed along the Township property for visual consideration. In addition the boundary should be marked along the top of the bluff that overlooks the Muskegon River Food plain
Specs:

Other Comments:

Next Steps: After harvest replant the stand to red pine.

Proposed Start Date: 10/01/2009

73010310-Cut	6.8	42211 - Natural Red Pine, Mixed Deciduous	High Density Pole	73		Harvest	Clearcut with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal
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Prescription: Harvest the stand as a 2" spec final harvest. The retention should be placed to address visual concerns.
Specs:

Other Comments:

Next Steps: After the harvest plant the stand to red pine.

Proposed Start Date: 10/01/2009

73010312-Cut	34.7	42110 - Planted Red Pine	High Density Log	73		Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
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Prescription: The stand is to be harvested as a thinning taking the BA down to around 120 sq ft. Concentrated the removal on damaged trees and leave the scattered live and dead oak. Focus the retention along the snowmobile trail.
Specs:

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2009

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

Year of Entry: 2014



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
73010314-Cut	9.2	42140 - Planted Mixed Pine	High Density Pole	73		Harvest	Clearcut with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal
<p><u>Prescription</u> The stand should be final harvest the stand to 2" DBH. The stand should have red pine and oak marked to met retention or leave the SE corner of the stand for retention.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> After the stand is harvested replant the stand to red pine.</p> <p><u>Proposed Start Date:</u> 10/01/2009</p>									
73010323-Cut	160.2	42220 - Natural Jack Pine	High Density Pole	63		Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> This stand is in an established KW Block. Harvest the stand as a 2" clearcut. The retention should be left in strip going from the southwest to northeast and should be approximately 33' wide. These strips are being left to simulate fire skips.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> After the harvest trench and replant to jack pine.</p> <p><u>Proposed Start Date:</u> 10/01/2009</p>									
73010324-Cut	34.3	42220 - Natural Jack Pine	High Density Pole	59		Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> This stand is in an established KW Block. Harvest the stand as a 2" DBH final harvest. The retention in the stand should be left in strip going from the southwest to northeast going through the entire block. These strips should be approximately 33' wide.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> After the harvest trench and plant jack pine.</p> <p><u>Proposed Start Date:</u> 10/01/2009</p>									
73010325-Cut	86.7	42221 - Natural Jack Pine, Mixed Deciduous	High Density Pole	59		Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> This stand is in an established KW Block. Harvest the stand as a 2" DBH final harvest. The retention in the stand should be left in strip going from the southwest to northeast going through the entire block. These strips should be approximately 33' wide.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> After the harvest trench and plant jack pine</p> <p><u>Proposed Start Date:</u> 10/01/2009</p>									

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

Year of Entry: 2014



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
73010334-Cut	7.3	42121 - Planted Jack Pine, Mixed Deciduous	High Density Pole	72		Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> The stand is to be harvested as a 2" Spec final harvest. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> After the harvest replant the stand to jack pine. <u>Proposed Start Date:</u> 10/01/2006</p>									
73010336-Cut	32.5	4122 - Oak, Pine	High Density Log	94		Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest the stand as a 2" spec, except for oak which is to be cut to 4" DBH and white pine to be cut to 6" DBH. In addition mark some trees for retention <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> The stand is expected to regenerate to a mixture of aspen, oak, maple, and jack pine. <u>Proposed Start Date:</u> 10/01/2006</p>									
73010338-Cut	86.7	42290 - Natural Mixed Pine	High Density Pole	74		Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
<p><u>Prescription</u> This stand is in an established KW Block. Harvest the stand as a 2" DBH final harvest. The retention in the stand should be left in strip going from the southwest to northeast going through the entire block. These strips should be approximately 33' wide. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> After the harvest trench and plant jack pine for KW. <u>Proposed Start Date:</u> 10/01/2009</p>									
73010344-Cut	22.8	4125 - Black, N. Pin Oak	High Density Pole	96		Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Harvest the stand as a 2" spec final harvest, except the oak which is to be cut to 4" DBH. In addition, do not harvest any white and red pine. <u>Specs:</u> <u>Other Comments:</u> <u>Next Steps:</u> The stand is expected to regenerate to a mixture of oak and aspen. <u>Proposed Start Date:</u> 10/01/2006</p>									

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

Year of Entry: 2014



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
73010420-Cut	1.5	42220 - Natural Jack Pine	High Density Pole	66		Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal - Incomplete

Prescription The stand should be harvested as a 2" spec final harvest. The retention should be kept in a small patch.

Specs:

Other

Comments:

Next The stand is to be replanted to jack pine after it is harvested.

Steps:

Proposed

Start Date: 10/01/2012

**Total Treatment
Acreage Proposed: 630.9**



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4131 - Aspen, Oak	High Density Pole	19.7	27	1-50	The terrain is rolling. There is a hill going through the central portion of the stand. The species mix on the upper slopes is aspen and oak. The species mix on the lower slopes is aspen and red maple. The site indexes are good on the lower slopes. However, this grades to average to below average on the upper slopes.
2	4126 - White, Black, N. Pin Oak	High Density Log	16.1	83	51-80	The stand was harvested by selection in the Meredith Oak Sale, sale #73-006-04-01 in 2009. The harvest was to remove all aspen and marked oak and maple. The sale's retention was around 60 BA. The regeneration is starting to come in and it is mainly aspen, red maple with some oak.
3	42110 - Planted Red Pine	High Density Pole	5.0	35	111-140	This is a red pine plantation along Meredith Grade. There are some crown openings in the stand. There is a trace of black cherry, choke cherry, and maple present.
6	4139 - Aspen, Mixed Deciduous	High Density Sapling	18.0	8	1-50	The stand had the dead oak removed in 1994, in Meredith Grade Oak sale #73-038-94-01. The stand was also harvested in 2008, in the Meredith Oak sale #73-006-04-01. In that sale, the aspens, red maples, and marked oaks were harvested retaining 30-40 BA. The current crown closure is between 50-75%. The oak that was retained is now declining.
7	4129 - Mixed Oak	High Density Log	34.5	Uneven Age	81-110	The terrain is undulating. The aspen is heaviest along Meredith Grade. The rest of the stand is a mixture of oak and maple.
8	4130 - Aspen	High Density Sapling	15.9	4		The stand was final harvested to 2" DBH. In addition all white pines less than or equal to 4" were retained. The harvest was completed in July of 2004. The sale was Barrel Aspen, sale #73-004-04-01. The current crown closure is 90%. The stand is along M-18. It has regenerated well. There are some low pockets but it is upland overall. There are some sparse areas along M-18 and in the north end.
9	4126 - White, Black, N. Pin Oak	High Density Pole	9.6	81	81-110	The terrain is rolling. The white oak is showing some decline and it looks to be caused by root rot.
12	4191 - Mixed Upland Deciduous with Conifer	High Density Log	63.8	Uneven Age	81-110	The terrain is rolling. The white oak is showing some decline and it looks to be caused by root rot.
13	4131 - Aspen, Oak	High Density Sapling	8.9	28	1-50	The stand is just starting to become a pole stand. The terrain is undulating and it is situated in a draw between two hills.
15	4129 - Mixed Oak	High Density Sapling	10.1	17		The stand is variable. The west side has more red maple, red oak, and choke cherry. The east side has more white oak, red oak, hybrid oak; this is mixed with red maple stump sprouts. Multi stem stump sprouts are more common in the western end; there are more single stems in the eastern end.
16	4125 - Black, N. Pin Oak	High Density Sapling	28.1	6	51-80	The stand was harvested in Meredith Oak, sale #73-006-04-01 in 2006. It was set up as a seed tree harvest, retaining around 30 BA. The stand has small pockets of planted red pine.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	42110 - Planted Red Pine	High Density Pole	6.8	30	171-200	The plantation has some scattered oak in it. The diameter of the oak goes from 4 to 11" DBH.
18	4131 - Aspen, Oak	High Density Pole	9.2	37	51-80	The stand is well on its way to being a well stocked pole stand. The terrain is undulating. The stand has a lot of evidence of past fire activity
19	4130 - Aspen	High Density Pole	34.9	27	1-50	The stand is just coming into poles. The terrain is hummocky to undulating. It is a matrix of uplands and lowlands with the uplands being around 80%. There is a drainage going through the central portion of the stand.
20	4126 - White, Black, N. Pin Oak	Medium Density Log	11.9	86	1-50	The stand was harvested in the Meredith Oak, sale #73-006-04-01. It was completed in 2008. The sale was a shelterwood harvest retaining 30-40 BA. In the harvest all the aspens, red maples, and marked oaks were removed. The crown closure is currently around 60%. The red maple regeneration is being heavily browsed by deer. There is a fair amount of advanced white oak regeneration.
21	4121 - Oak, Aspen	High Density Pole	18.8	28	51-80	The stand had the dead oak removed in 1993 in sale #73-080-92-02. It was also harvested in the Meredith Oak, sale #73-006-04-01 in 2006. This sale was a 4" final harvest retaining all the white oaks, red pines, and white pines. The current crown closure is greater than 25%. The stand is just coming into poles. The oaks that are present are very branchy.
23	4124 - Red with White Oak	High Density Log	18.4	Uneven Age	1-50	The stand was harvested in the Meredith Oak, sale #73-006-04-01. It was a species removal of aspen and red maple. The harvest was completed in 2009. The crown closure is around 90%.
24	4126 - White, Black, N. Pin Oak	High Density Log	29.6	81	51-80	The stand appears to have had the red maple removed about 17 years ago. The terrain is rolling. The aspen is declining. The red maple in the stand is mainly of stump sprout origin
25	4131 - Aspen, Oak	High Density Pole	9.3	37	1-50	The density in the stand is variable. It goes from poorly stocked to well stocked. There are inclusions of grassy openings.
26	4131 - Aspen, Oak	High Density Sapling	37.6	8		The stand was final harvested to 2" DBH. It was harvested during the dormancy period in 2004. The sale was Barrel Aspen, sale #73-004-04-01. The current crown closure is between 50 to 75%. The stand is a matrix of uplands and lowlands with the lowlands being about 25%. Most of the wet ground is found in the central portion of the stand. The terrain is hummocky.
27	4126 - White, Black, N. Pin Oak	High Density Sapling	8.5	20	1-50	This stand was harvested as a 4" DBH final harvest. In the sale, some of the oak, maple, aspen, and pine were retained. The harvest was done in 1997 in the Meredith Salvage, sale #73-005-97-01. The current crown closure is around 80%.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
29	4126 - White, Black, N. Pin Oak	High Density Sapling	41.5	8	1-50	The stand had the dead oak removed in 1993 in sale #73-080-92-02. It was also harvested in the Meredith Oak, sale #73-006-04-01 in 2006. This sale was a 4" final harvest retaining all the white oak, red pine, and white pine. The current crown closure is greater than 25%.
30	42111 - Planted Red Pine, Mixed Deciduous	High Density Pole	5.2	53	81-110	The stand was harvested by a third row thinning as well as a hardwood removal. The open areas have regenerated to a mixture of red maple, aspen, and oak. Red maple has regenerated throughout the stand.
31	4131 - Aspen, Oak	High Density Sapling	7.8	6		The stand was final harvested to 2" DBH. The harvest took place during the dormancy period in 2004. The sale was Barrel Aspen, sale #73-004-04-01. The current crown closure is 50 to 75%. The aspen regeneration is heaviest in the central portion of the stand. The edges are less dense but have a greater percentage of oak.
32	4199 - Other Mixed Upland Deciduous	High Density Sapling	4.9	20	1-50	When the stand was harvested some oaks were left. The features species in the stand is now the regeneration. There are markers in the stand for a well pad. This pad looks like it will take up a significant portion of the stand.
33	42110 - Planted Red Pine	High Density Pole	9.9	50	141-170	The stand was harvested in 1996 by removing all trees but pines. It was cut in Adams Road Medley, sale #73-050-94-01. The rows in the stand are not straight. The current crown closure is around 90%.
34	4130 - Aspen	High Density Sapling	8.5	17		The stand was harvested in 1996 by removing all trees but pines. It has a larger component of hardwoods. Currently the crown closure is around 85%. It was cut in Adams Rd. Medley, sale #73-050-94-01
35	4130 - Aspen	High Density Sapling	5.5	8		The stand was final harvested to 2" DBH. The harvest was completed in July 2004. The sale was Barrel Aspen, sale #73-004-04-01. The crown closure goes from 25% to 80%. There are traces of balsam fir and white pine. The terrain is undulating.
36	4131 - Aspen, Oak	High Density Pole	24.1	38	81-110	The terrain is undulating. The white pine in the stand is scattered. The red pine is in a pocket at the north end. The oak is patchy. The stand has some low wet pockets.
37	4124 - Red with White Oak	High Density Log	22.7	86	51-80	The stand had the aspen removed as well as marked oak and maple. The sale retained around 70 sq ft. The harvest was completed in 2008 in Meredith Oak, sale #73-006-04-01. The crown closure is greater than 75%. There is some mortality in the tops of the oaks. The terrain is undulating to rolling. The poles and sawlogs are the same age.
38	6119 - Mixed Lowland Deciduous Forest	High Density Pole	15.3	Uneven Age	81-110	The stand is a matrix of uplands and lowlands with the lowlands being about 70%. There is evidence of a high water table throughout the stand. The terrain is hummocky.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
39	4199 - Other Mixed Upland Deciduous	High Density Pole	25.6	19	1-50	This stand was harvested as a 4" final harvest. It was completed in 1994. The sale was S. Meredith Salvage, sale #73-079-92-01. The stand has regenerated and currently has a crown closure around 80%. White pine grades from poles/logs in the east to saps west. Aspen is heavier in the east and oaks in the west. There are pockets of heavy slash.
40	4130 - Aspen	High Density Pole	4.9	38	51-80	The terrain is hummocky. There is some natural thinning going on in the stand.
41	4310 - Pine, Oak Mix	High Density Pole	14.9	87	51-80	The stand was harvested in 1996 by removing all trees but pines. It has a larger white pine component. The current crown closure is between 85-90%. It was cut in Adams Rd. Medley, sale #73-050-94-01
42	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	17.5	Uneven Age	51-80	The stand is a matrix of uplands and lowlands with the lowlands being about 80%. The terrain is hummocky. The stand appears to be seasonally flooded.
43	4124 - Red with White Oak	High Density Log	18.8	86	111-140	The terrain is rolling. There is EAB present in the ash. The oak in the stand has some mortality in the tops.
44	4131 - Aspen, Oak	High Density Sapling	33.3	12		The stand had the dead oak harvested. It was set up in patches that were sold separately over several years. It was harvested again to 4" DBH retaining all red and white pine. The pine species makes up less than 10 sq ft. The crown closure is around 75%. This harvest was completed in 2006. The sale was Meredith Oak, sale #73-006-04-01. The density is variable. The aspen is in pockets. There are areas of dense oak and red maple as well as areas that have only a medium stocking.
45	4124 - Red with White Oak	High Density Log	4.3	87	1-50	The terrain is undulating. The white pine in the stand is scattered. The red pine is in a pocket at the north end. The oak is patchy. The stand has some low wet pockets.
46	4130 - Aspen	High Density Sapling	2.5	8		The stand was final harvested to 2" DBH. The harvest was completed in November 2004. The sale was Barrel Aspen, sale #73-004-04-01. The current crown closure is between 75-80%. The terrain slopes down going north. There is a drainage in the northern portion of the stand. There are some areas where the regeneration is sparse but overall it is fully stocked.
47	6119 - Mixed Lowland Deciduous Forest	High Density Pole	1.8	Uneven Age	81-110	The stand has a lot of blow down in the cedar. This is very evident in the eastern portion of the stand. There is a lot of standing water present and some areas of uplands.
48	4130 - Aspen	High Density Pole	9.3	28	81-110	The terrain slopes down going north. Currently the stand is self thinning, so there is a lot of down woody material present.
49	4130 - Aspen	High Density Sapling	16.2	17		This stand was harvested to 2" DBH in 1996. The crown closure is around 100%. The sale was Power Line Aspen, sale #73-051-95-01. The terrain is undulating to rolling. The regeneration is coming in well. There are some openings present.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
50	4130 - Aspen	High Density Sapling	8.6	8		The stand was final harvested to 2" DBH. The harvest was completed in November 2004. The sale was Barrel Aspen, sale #73-004-04-01. The current crown closure is around 90%. The terrain is undulating. There are areas that are sparse, but it is fully stocked overall.
51	4130 - Aspen	High Density Pole	13.0	34	81-110	The terrain is undulating to rolling. The aspen is now self thinning, so there is a lot of down woody material present.
52	4130 - Aspen	High Density Pole	10.0	24	1-50	The terrain is undulating to rolling. The trees are just coming into poles. When the stand was harvested some of the white oak was retained.
54	4130 - Aspen	High Density Sapling	8.1	12		This stand was harvested to 2" DBH in 1996. The sale was Power Line Aspen, sale #73-051-95-01. IT is now approaching poles. The crown closure is around 100%. It is a matrix of uplands and lowlands with the uplands being about 80%. There is a broad drainage present that was heavily rutted during the harvest. This area of moist soils is heavy to paper birch and quaking aspen.
56	4130 - Aspen	High Density Pole	6.4	28	51-80	The terrain is undulating. It is a matrix of uplands and lowlands with the uplands being around 80%. The lowlands in the stand have sheet flow that drains from pre-inventory stand 55L to 61.
57	4131 - Aspen, Oak	High Density Log	17.6	80	141-170	The terrain is undulating to rolling. The aspen and birch are declining. The stand has traces of paper birch and white ash.
58	4130 - Aspen	High Density Sapling	6.2	16		This stand was harvested to 2" DBH in 1996. The crown closure is around 100%. The sale was Power Line Aspen, sale #73-051-95-01. The stand has areas of moist soils. The terrain is undulating to hummocky.
61	6119 - Mixed Lowland Deciduous Forest	Medium Density Pole	3.6	80	51-80	The stand is a matrix of uplands and lowlands with the lowlands being about 75%. The terrain is undulating. The stand has upland pockets as well as pockets of lowland shrubs and cattails. It is along M-18.
62	4130 - Aspen	High Density Sapling	17.2	7		The stand was final harvested to 2" DBH. It was cut during the dormancy period in 2004. The sale was Barrel Aspen, sale #73-004-04-01. The regeneration is variable. The crown closure is around 80%. There are some open areas, and the west side has some low wet pockets.
63	6117 - Lowland Deciduous, Mixed Coniferous	High Density Sapling	3.1	27		The stand is along the edge of a beaver flooding. The soils is very wet.
64	4131 - Aspen, Oak	High Density Pole	8.0	28	1-50	The terrain is undulating. It is just coming in to poles. The aspen next to the pre-inventory stand 62 has some old beaver activity.
67	4130 - Aspen	High Density Pole	21.8	37	111-140	The terrain is rolling. There are some vernal ponds present in the stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
68	4199 - Other Mixed Upland Deciduous	High Density Log	2.6	Uneven Age	81-110	The stand is a strip of mature timber that was left between the power line and private. The terrain is undulating to rolling.
70	4130 - Aspen	High Density Sapling	31.2	17		This stand was harvested to 2" DBH in 1996. The sale was Power Line Aspen, sale #73-051-95-01. The crown closure is around 100%. The terrain is undulating to rolling. There are scattered pockets of lowland. The paper birch in the stand is in pockets. There are traces of choke cherry and beech.
74	4130 - Aspen	High Density Pole	26.5	27	111-140	The terrain is rolling. The stand is going through a natural thinning process. There are traces of white ash.
75	4130 - Aspen	High Density Sapling	8.0	17	1-50	The terrain is rolling with some steep slopes. The stand has traces of black locust and beech in the southern portion of the stand.
78	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	4.6	123	51-80	The terrain is hummocky.
79	4130 - Aspen	High Density Pole	22.8	39	81-110	The terrain is rolling. Currently the aspen is going through a natural thinning. There is a lot of down woody material present. Some of the swales contain vernal ponds.
81	6123 - Lowland Fir	High Density Sapling	6.3	Uneven Age	1-50	The stand has extensive blow down. This makes the stand difficult to navigate. The size and density is quite variable. There is cedar regeneration in the stand that appears to be doing well. There is very little browse damage because of the jack strawed nature of the stand.
84	4130 - Aspen	High Density Pole	19.1	38	81-110	The terrain is rolling. Currently the stand is self thinning. There is a significant amount of down woody material on the ground. There are some vernal ponds located in the swales between the hills.
85	6120 - Lowland Cedar	High Density Pole	21.1	123	111-140	This stand is in a swale with a creek running through it. There are numerous seeps making the soils very wet. Blow down is heaviest along the creek. In those areas the stand is converting to ash and balsam fir.
86	4130 - Aspen	High Density Pole	6.6	38	81-110	The terrain is rolling. There are some low areas that have seeps and very wet soils. This is most evident along the north side. The aspen on the west side has been heavily hit by beaver.
88	4131 - Aspen, Oak	High Density Pole	15.7	48	81-110	The terrain is rolling. The stand is self thinning so there is a lot of woody material on the ground. There are a few vernal ponds located in the swales between the hills. Numerous oak trees were left when the stand was harvested. They are now sawlogs.
89	6117 - Lowland Deciduous, Mixed Coniferous	High Density Sapling	4.6	28		The stand is low and wet. The balsam fir is very dense in areas. There is a trace of cedar in the stand but it is heavily browsed.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
4	3102 - Grass	2.9	Yes	Low (NonForested)	This stand is Leota Trail Head Parking Lot for the snowmobile trail
5	6239 - Mixed Emergent Wetland	4.4	No	Low (NonForested)	The stand is heavy to cattails and water. The edges are tag alder and willow
10	122 - Road/Parking Lot	4.9	No	Unspecified	Meredith Grade road and Road ROW
11	6229 - Mixed lowland shrub	5.1	No	Unspecified	The terrain is rolling with some steep slopes. The stand has traces of black locust and beech in the southern portion of the stand.
14	3105 - Mixed Upland Herbaceous	7.5	No	Low (NonForested)	
22	3105 - Mixed Upland Herbaceous	8.5	No	Unspecified	This is a power line and gas pipeline. The terrain is undulating to rolling.
28	3303 - Mixed Low Density Trees	10.3	No	Low (NonForested)	
53	3105 - Mixed Upland Herbaceous	5.3	No	Unspecified	This is a power line and ROW for M-18.
55	6225 - Bog	2.1	No	Unspecified	This is a leather leaf bog along M-18.
59	3105 - Mixed Upland Herbaceous	11.4	No	Low (NonForested)	This is a power line and gas pipeline. The terrain is undulating to rolling.
60	6229 - Mixed lowland shrub	4.2	No	Unspecified	This is a non-active beaver flooding that is still holding water. The aspen next to the stand has old beaver chews but nothing new. The edges of the stand have tag alder and willow.
65	629 - Mixed non-forested wetland	8.0	No	Low (NonForested)	This is an older beaver flooding that is still holding some water.
66	6225 - Bog	1.5	No	Low (NonForested)	This stand has leather leaf in the center. There is a lot of standing water around the perimeter.
69	6225 - Bog	2.7	No	Low (NonForested)	This is a leather leaf bog with a lot of standing water present.
71	3105 - Mixed Upland Herbaceous	1.1	No	Low (NonForested)	The stand is an upland grass area.
72	629 - Mixed non-forested wetland	10.1	No	Low (NonForested)	This is an old beaver flooding. It is still holding some water.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
73	3202 - Autumn Olive/Honeysuckle	2.0	No	Low (NonForested)	This is an autumn olive planting. The crown closure is about 50%. The others species, in the stand, are blackberry and raspberry
76	6233 - Wet Meadow	3.9	No	Unspecified	The stand looks like an old beaver flooding that the dam has gone out on. The area now looks to be a wet meadow. Some paper birch and ash are starting to fill in.
77	6220 - Alder/willow	1.9	No	Low (NonForested)	The stand is mainly tag alder with cedar, black locust, balsam fir, and ash along the perimeter.
80	50 - Water	3.4	No	Unspecified	The stand appears to be a beaver flooding that has recently been abandoned. The lodge does not look maintained and the food caches are exposed.
82	50 - Water	4.1	No	Unspecified	This stand is a sequence of beaver floodings. The northern one appears to be inactive. The southern one has new activity on the dam.
83	6220 - Alder/willow	3.9	No	Unspecified	This is a lowland shrub type surrounding a water feature.
87	6224 - Treed Bog	7.0	No	Unspecified	This stand is a leather leaf bog with scattered patches of black spruce and tamarack. There is also an inclusion of a small pond.



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



8 – DEDICATED CONSERVATION AREA DETAILS

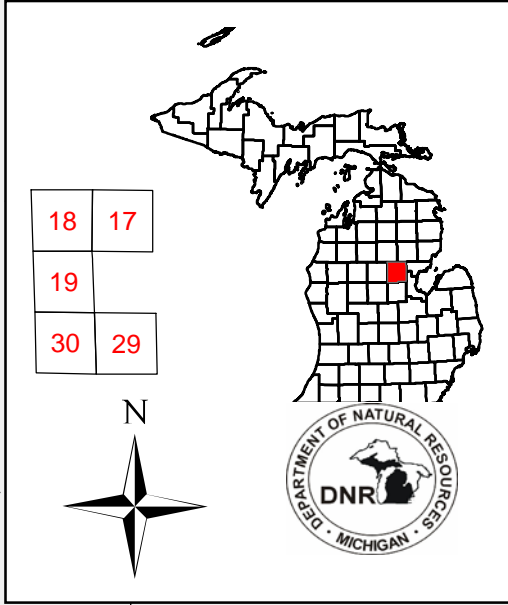
* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

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

Conservation Area	Type	Description
SCA	Cold Water 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.
HCVA	Dedicated Management Areas	Such areas are dedicated by the DNR Director for specific management uses through the promulgation of rules, as governed by Part 5, Department of Natural Resources, of the NREPA (MCL 324.502(2) and 324.504). Section 38 of the Administrative Procedures Act (MCL 24.238) provides for public requests for the promulgation of rules. This is an active program, with one proposed site currently under review by the DNR.

Cover Type & Treatment Map

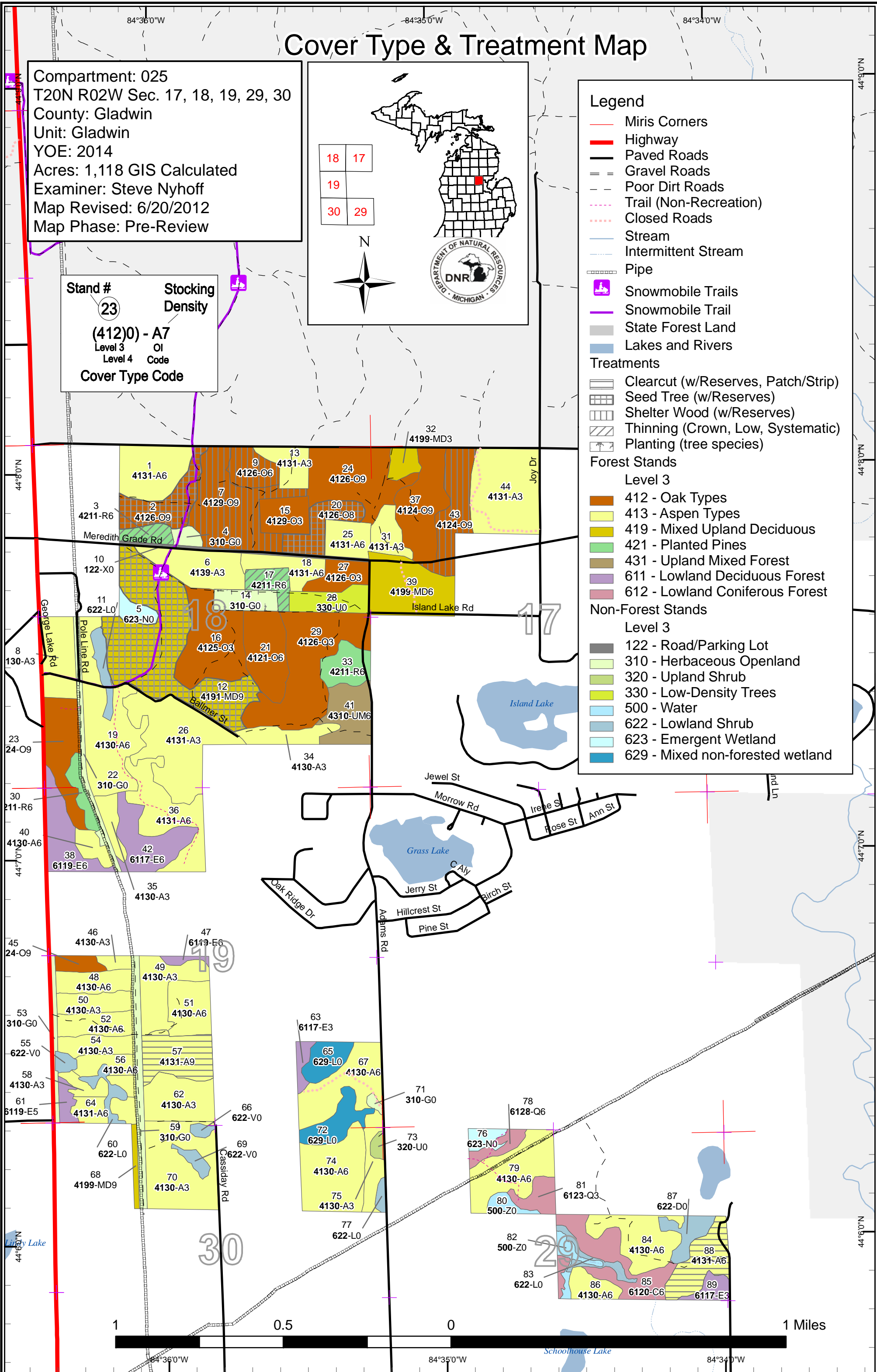
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 T20N R02W Sec. 17, 18, 19, 29, 30
 County: Gladwin
 Unit: Gladwin
 YOE: 2014
 Acres: 1,118 GIS Calculated
 Examiner: Steve Nyhoff
 Map Revised: 6/20/2012
 Map Phase: Pre-Review



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

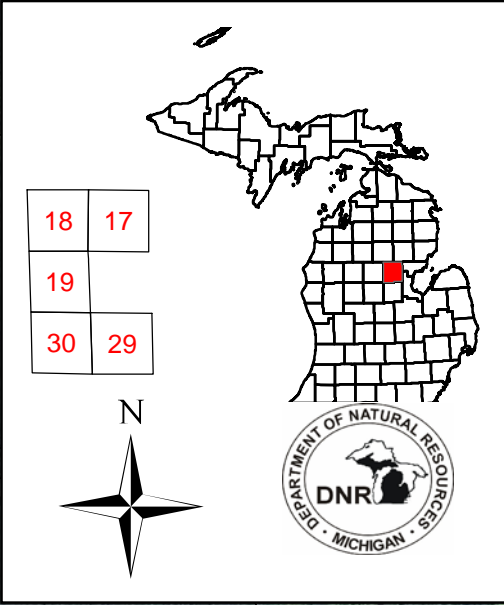
Legend

- Miris Corners
 - Highway
 - Paved Roads
 - Gravel Roads
 - Poor Dirt Roads
 - - - Trail (Non-Recreation)
 - ... Closed Roads
 - Stream
 - Intermittent Stream
 - Pipe
 - 🛷 Snowmobile Trails
 - Snowmobile Trail
 - State Forest Land
 - Lakes and Rivers
- Treatments**
- ▨ Clearcut (w/Reserves, Patch/Strip)
 - ▩ Seed Tree (w/Reserves)
 - ▧ Shelter Wood (w/Reserves)
 - ▦ Thinning (Crown, Low, Systematic)
 - 🌲 Planting (tree species)
- Forest Stands**
- Level 3
- 412 - Oak Types
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 431 - Upland Mixed Forest
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
- Non-Forest Stands**
- Level 3
- 122 - Road/Parking Lot
 - 310 - Herbaceous Openland
 - 320 - Upland Shrub
 - 330 - Low-Density Trees
 - 500 - Water
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland
 - 629 - Mixed non-forested wetland



Stand Boundary Map

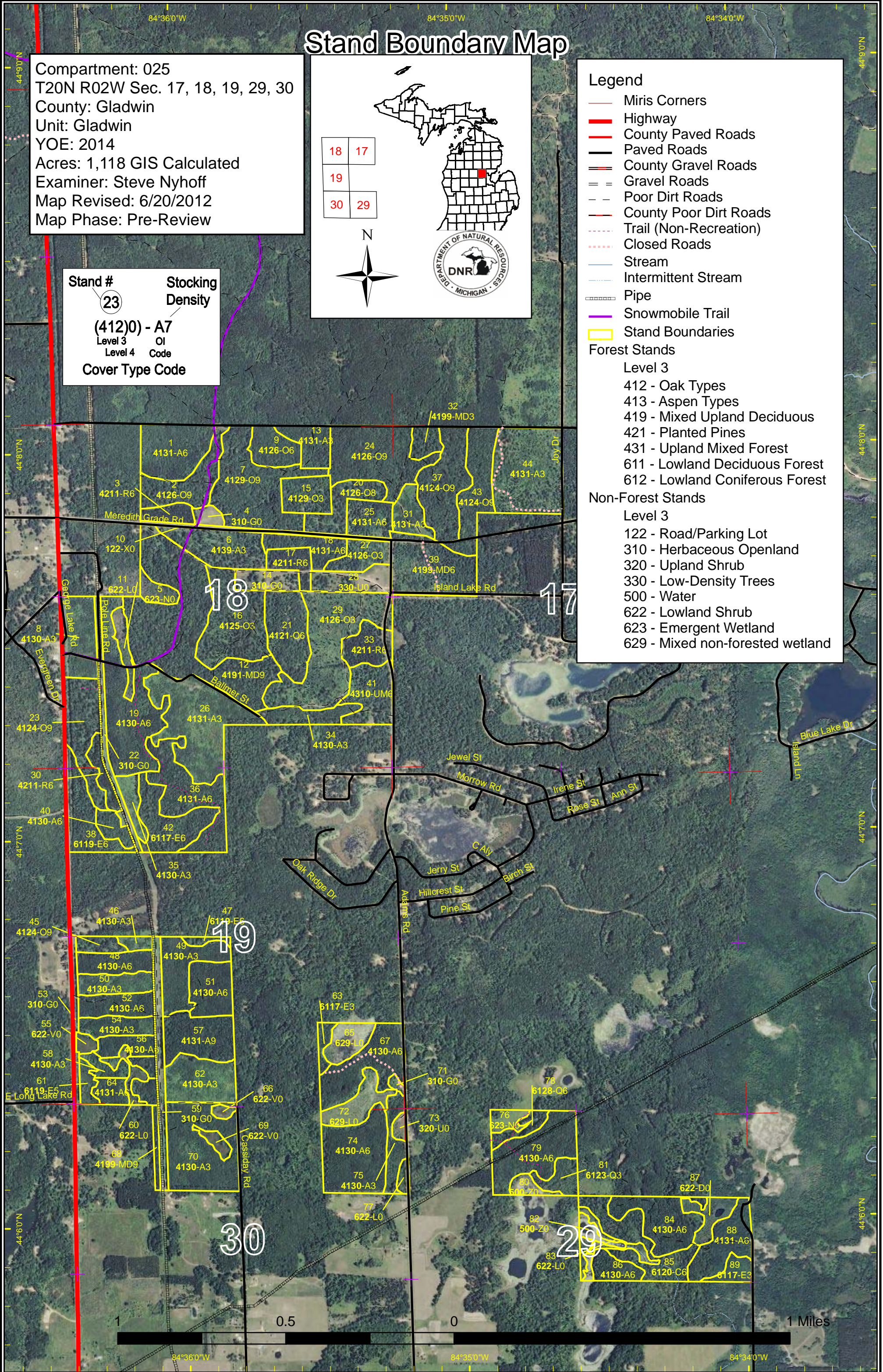
Compartment: 025
 T20N R02W Sec. 17, 18, 19, 29, 30
 County: Gladwin
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 YOE: 2014
 Acres: 1,118 GIS Calculated
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 Map Revised: 6/20/2012
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Legend

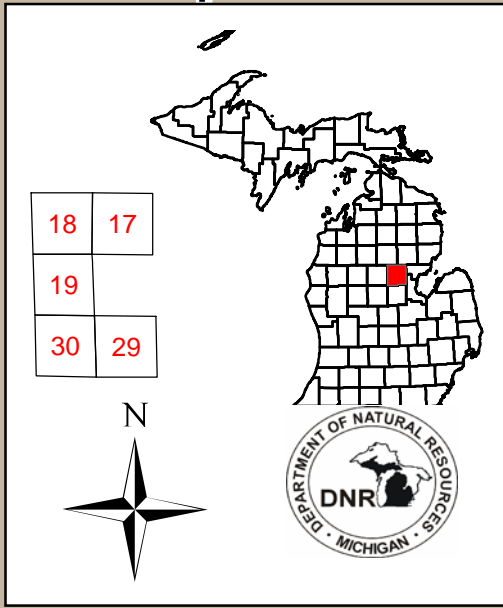
- Miris Corners
 - Highway
 - County Paved Roads
 - Paved Roads
 - County Gravel Roads
 - Gravel Roads
 - Poor Dirt Roads
 - County Poor Dirt Roads
 - Trail (Non-Recreation)
 - Closed Roads
 - Stream
 - Intermittent Stream
 - Pipe
 - Snowmobile Trail
 - Stand Boundaries
- Forest Stands**
- Level 3
- 412 - Oak Types
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Stand #
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Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
Cover Type Code

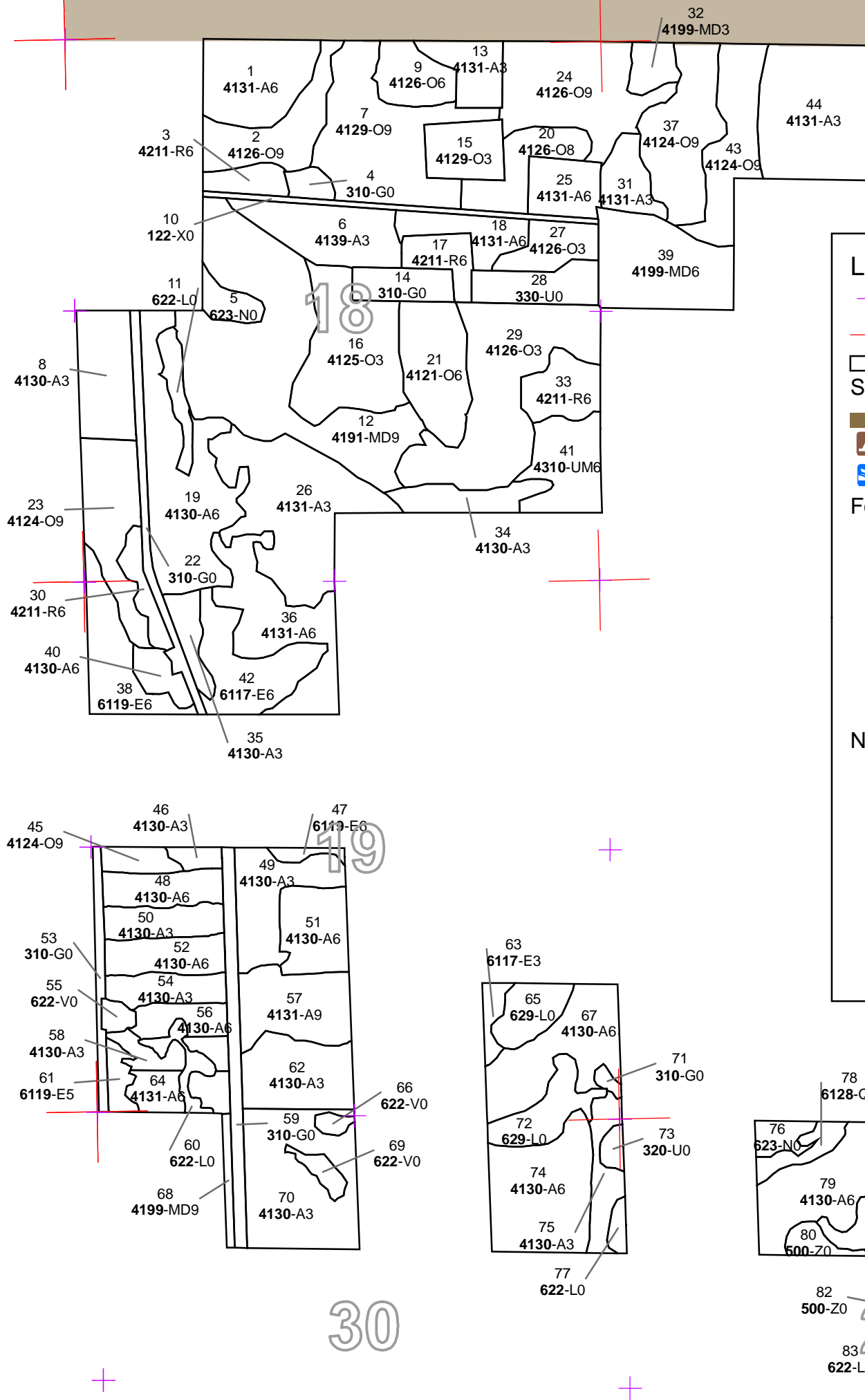


Dedicated & Proposed Special Conservation Area Map

Compartment: 025
 T20N R02W Sec. 17, 18, 19, 29, 30
 County: Gladwin
 Unit: Gladwin
 YOE: 2014
 Acres: 1,118 GIS Calculated
 Examiner: Steve Nyhoff
 Map Revised: 6/20/2012
 Map Phase: Pre-Review



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



Legend

- ✚ Remonumented Section Corners
- Miris Corners
- ▭ Stand Boundaries
- Special Conservation Areas**
- Dedicated Management Areas
- ▲ Campgrounds
- ⚓ Boat Access Sites
- Forest Stands**
- Level 3
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- Non-Forest Stands**
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- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland

