



FOREST MANAGEMENT UNIT  
COMPARTMENT REVIEW PRESENTATION

COMPARTMENT 90      ENTRY YEAR: 2014

Compartment Acreage: 1311      County: Midland

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**Revision Dates:** Draft 6-20-12. Former Drafts: 5-30-12

**Stand Examiner:** Mark Reichel

**Legal Description:** T16N R2E Sec. 4 - 6

**Timber Management and Cover Type Change:** There is no aspen in this compartment over 39 years old. 98 acres would need to be restarted in this compartment in order to regulate aspen on a compartment level. With regulating on a management unit level, enough aspen is being harvested in other compartments this year of entry to restart the correct amount. As a result 62 acres of aspen will be harvested; one 28 acre stand that will be accessed from compartment 91 to the west will be harvested out of year of entry with that compartment in 2016. The only other treatment in this compartment is a small direct seeding of white pine that will be implemented by unit staff along with a much larger stand in compartment 92 to the south that is already prescribed. Aspen cover in this compartment decreased from 754 to 586 acres. This is due to reclassification as mixed upland deciduous under IFMAP rules (50 ac.), reclassification of lowland aspen as swamp hardwoods (50 ac.) and reversion of aspen to lowland non forested cover types (60 ac).

**Soil and Topography and Habitat Types:** This compartment is part of a headwaters area and divide between the Kawkawlin and Tittabawassee watersheds. The North end of the Kawkawlin Flooding is in this compartment; Kawkawlin Creek is dammed 1 ½ miles to the south to form the flooding. Kawkawlin Creek flows down to the Kawkawlin River and into Lake Huron about 15 miles to the East. Just west of the compartment a system of drains drain directly into the Tittabawassee River (Sanford and Wixom Lakes). South of the compartment another series of drains empty into Sturgeon Creek which flows South into the Tittabawassee River. 54% of the compartment is lowland. Two thirds of the compartment (most of section 5 and over half of section 6 in the southeast, central and northwest part of the section) is a course matrix of poorly drained Kingsville loamy fine sand and Pipestone somewhat poorly drained sand (roughly a 50-50 mix). Much of the non forested wetlands and lowland hardwoods are on the Kingsville soils but some is on the Pipestone. Much of the aspen is on the Pipestone soils, although there is aspen on the Kingsville soils also. The site index for stands on these soils is low, ranging from 40 to 50. Almost another third, in the north, southwest and central part of section 6 and in section 4, is a mixture of six different somewhat poorly to poorly drained silt loams, loamy sands and mucks that support lowland aspen and hardwoods, non forested wetlands and a few mixed upland deciduous stands. Much of these areas are too wet to harvest. Less than 5 % of the compartment is low, narrow ridges of moderately well drained Oakville fine sands. Midland county has not been given Kotar classifications.

**Ownership Patterns, Development, and Land Use in and Around the Compartment:** This compartment is part of a 5,200 acre area of state land in Northeast Midland County; it is surrounded by state forest land on all sides except the entire eastern edge. The city of Midland is eight miles to the south; large areas of farmland begin five miles to the east; the private land between is mostly forested residential land, mixed with agricultural land. Several miles to the west is heavily populated Sanford and Wixom lakes. Just to the North is the large block of state forest land that covers the Eastern quarter of Gladwin County.

**Unique, Natural Features:** According to the Michigan Natural Features Inventory database and GDSE element occurrences layer, a bald eagle nest has been active on the Kawkawlin Flooding in the compartment, producing two chicks per year from 1994 through 2005, the last survey year. There are two bald eagle

occurrences north of the compartment, as well as occurrences of a great blue heron rookery and black tern (state species of concern) nesting area to the south. Due to the Kawkawlin Flooding and related lowland forest, marsh and shrubs, the above species, as well as Blanding's turtle, wood turtle and red shoulder hawk should be watched for and considered during field work on both prescribed stands. MNFI also comments on the value of permitting some aspen to become decadent and succeed to later seral forest types; the stands in this compartment that were factor limited because they were too wet will serve this purpose well.

**Archeological, Historical, and Cultural Features:** No concerns indicated in the The HAL database.

**Special Management Designations or Considerations:** There are currently no SCA's, ERA's, HCVA's or any other biodiversity stewardship areas or other special designations in this compartment. The Kawkawlin Flooding in the compartments to the south, however, is a designated SCA. It is worth considering adding the small portion of the flooding in this compartment to the SCA. In addition, it may be worth considering adding some of the lowland forested and non forested stands in the three compartments adjacent to the actual flooding to the SCA, due to their habitat value for species that use the flooding, such as bald eagle, great blue heron, black tern and wood duck. Many of these stands are too wet to harvest, but where harvesting is possible it would not need to be prohibited. Special management for timber harvests might include buffers and/or retention of large trees adjacent to the flooding, as nesting trees, as well as for discouraging beaver damage.

**Wildlife Habitat Considerations:** There is heavy beaver activity and damage in the compartment; beavers are cutting areas of aspen and expanding current wetlands. This is probably why the open water acreage in the compartment has increased by 20 acres since the last year of entry.

**Fisheries Considerations:** This compartment has drainages flowing to the Kawkawlin Flooding or the Tittabawassee River via Sturgeon Creek. These are warm water systems. Care should be taken to prevent sedimentation to these drainages.

**Mineral Considerations:** Surface sediments consist of lacustrine (lake) sand and gravel, lacustrine clay and silt and an end moraine of fine-textured glacial till. The glacial drift thickness varies between 100 and 400 feet. Beneath the glacial drift are the Pennsylvanian Grand River and Saginaw Formations. The Saginaw Formation is used for brick making in other areas of the State. There are gravel pits in Section 17, and potential appears to be good in Section 4. Bentley Field is located two miles to the north. Discovered in 1937, it has produced more than 3.4 Million BO primarily from the Richfield and is in secondary recovery operations in the Dundee. The Compartment is leased for oil and gas exploration.

**Vehicle Access:** The compartment has a fair network of roads. The road running from the Kawkawlin dam north to the southern terminus of Deer Road runs through the center of the compartment and is generally good, but a culvert at the west end of stand 62 is currently washed out. This road is gated at the North and South ends by Wildlife Division, and has a Director's Order opening it only from August 15 through February 1 unless temporarily closed. There is also an area at the North gate that gets very muddy. There is no access from the East end of the compartment: the southeast end is too wet, and the right of way for Gladwin County Line Road ends before it reaches the compartment. There is a good road running through the western edge of the compartment, although there are some bad "holes" at its terminus just east of Saiko Road. There are fairly good two tracks that run from the east and west ends of the compartment to the main road in the center, but they have some seasonally wet areas as well.

**Survey Needs:** There are no immediate survey needs to implement the timber sales proposed for this year of entry. But at least 4 monuments are needed; 3 at the northeast end of section 4 and one on the northwest end of section 6, to establish the compartment's boundaries. Section four will have harvests next YOE.

**Recreational Facilities and Opportunities:** The Kawkawlin Flooding is heavily hunted for ducks and other waterfowl. The compartment is also used for deer, grouse and woodcock hunting and has some good habitat for those species. The Midland to Mackinac Hiking Trail runs all the way through the compartment and receives relatively heavy hiking and horseback riding traffic.

**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	38	113	207	158	0	0	0	0	0	0	0	0	0	0	516
Bog	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Herbaceous Openland	21	0	0	0	0	0	0	0	0	0	0	0	0	0	21
Low-Density Trees	23	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Lowland Aspen/Balsam Poplar	0	0	32	0	33	0	5	0	0	0	0	0	0	0	69
Lowland Deciduous	0	0	17	5	52	0	56	76	74	0	0	0	0	0	280
Lowland Shrub	150	0	0	0	0	0	0	0	0	0	0	0	0	0	150
Marsh	133	0	0	0	0	0	0	0	0	0	0	0	0	0	133
Mixed Upland Deciduous	0	0	0	0	0	0	7	15	0	0	0	0	0	0	22
Northern Hardwood	0	0	16	0	0	0	0	11	0	0	0	0	0	0	26
Water	66	0	0	0	0	0	0	0	0	0	0	0	0	0	66
<b>Total</b>	<b>437</b>	<b>113</b>	<b>271</b>	<b>163</b>	<b>85</b>	<b>0</b>	<b>67</b>	<b>102</b>	<b>74</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1311</b>



## Table 2 – Proposed Treatment Summaries

**Gladwin Mgt. Unit**  
**Year of Entry 2014**

**Compartment 090**  
**Total Compartment Acres: 1311**

### Acres by Treatment Type

Commercial Harvest - 82	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
<b>Aspen</b>	63	0	0	0	0	0	63
<b>Lowland Aspen/Balsam Poplar</b>	19	0	0	0	0	0	19
<b>Total</b>	82	0	0	0	0	0	82



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
<b>6 73090006-FH</b>	19.3	6112 - Lowland Aspen	High Density Pole	41		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal

Prescription Final Harvest Dry/Frozen and dormant, NON-NEGOTIABLE. Leave all red maple and trace of birch and swamp white oak as retention; they will serve as pumps and a seed source if aspen regen fails. Also exclude inoperably wet areas in Southwest and Southeast edges as retention.

Other Comments: Probably will fail to regenerate if not harvested during dormant season. Aspen decadent: harvest early because REGEN CONCERN. To be treated out of YOE with compartment 91 to West, YOE 2016. Note start date of 10-1-15.

Next Steps:

Proposed Start Date: 10/01/2015

<b>38 73090038-FH</b>	32.0	4130 - Aspen	High Density Pole	39		Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
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Prescription Final Harvest during dry or frozen conditions, non-negotiable. Leave all white oak, swamp white oak, red oak and black cherry as retention by BA. In addition, use a spec to retain all red maple greater than 8 inches diameter as seed trees with objective of regenerating single stem maple. Concentrate retention by BA, possibly including additional supercanopy trees, in southwestern and southern edge due to nearby MNFI bald eagle nesting area. Also may want to put retention island(s) at southern or far western edge.

Other Comments: Harvest to regulate aspen as discussed at pre-review mtg. Midland to Mackinac hiking trail follows main road through compartment; include contract specification to ensure that road is left in good condition after hauling. Would hold, or already has percentage of log sized trees (just <30%) so good volume. Barely upland: 25-30% lowland. Very shallow microrelief.

Next Steps:

Proposed Start Date: 10/01/2013

<b>66 73090066-FH</b>	31.1	4139 - Aspen, Mixed Deciduous	High Density Pole	39		Harvest	Clearcut with Reserves	4139 - Aspen, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Final harvest all species except oak, black cherry and birch, which will serve as retention. Also mark one good red maple seed tree per acre for retention as a seed source.

Other Comments: Aspen already losing vigor: good candidate for early harvest. Early harvest to help regulate aspen age classes in management unit as discussed at pre-review meeting. Midland to Mackinac trail follows main road through compartment and will be hauled over; use contract spec to ensure road is left in good condition.

Next Steps:

Proposed Start Date: 10/01/2013

**Total Treatment  
Acreage Proposed: 82.3**

**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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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
<b>73010274-Cut</b>	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

<b>73010290-Cut</b>	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

<b>73010295-Cut</b>	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

<b>73010296-Cut</b>	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
<b>73010314-Cut</b>	9.2	42140 - Planted Mixed Pine	High Density Pole	73		Harvest	Clearcut with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: 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.

Other Comments:

Next Steps: After the stand is harvested replant the stand to red pine.

Proposed Start Date: 10/01/2009

<b>73010323-Cut</b>	160.2	42220 - Natural Jack Pine	High Density Pole	63		Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription Specs: 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.

Other Comments:

Next Steps: After the harvest trench and replant to jack pine.

Proposed Start Date: 10/01/2009

<b>73010324-Cut</b>	34.3	42220 - Natural Jack Pine	High Density Pole	59		Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription Specs: 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.

Other Comments:

Next Steps: After the harvest trench and plant jack pine.

Proposed Start Date: 10/01/2009

<b>73010325-Cut</b>	86.7	42221 - Natural Jack Pine, Mixed Deciduous	High Density Pole	59		Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription Specs: 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.

Other Comments:

Next Steps: After the harvest trench and plant jack 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
<b>73010334-Cut</b>	7.3	42121 - Planted Jack Pine, Mixed Deciduous	High Density Pole	72		Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
<u>Prescription</u> The stand is to be harvested as a 2" Spec final harvest.									
<u>Specs:</u>									
<u>Other</u>									
<u>Comments:</u>									
<u>Next</u> After the harvest replant the stand to jack pine.									
<u>Steps:</u>									
<u>Proposed</u>									
<u>Start Date:</u> 10/01/2006									
<b>73010336-Cut</b>	32.5	4122 - Oak, Pine	High Density Log	94		Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal
<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</u>									
<u>Comments:</u>									
<u>Next</u> The stand is expected to regenerate to a mixture of aspen, oak, maple, and jack pine.									
<u>Steps:</u>									
<u>Proposed</u>									
<u>Start Date:</u> 10/01/2006									
<b>73010338-Cut</b>	86.7	42290 - Natural Mixed Pine	High Density Pole	74		Harvest	Clearcut with Reserves	42120 - Planted Jack Pine	Cmpt. Review Proposal
<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</u>									
<u>Comments:</u>									
<u>Next</u> After the harvest trench and plant jack pine for KW.									
<u>Steps:</u>									
<u>Proposed</u>									
<u>Start Date:</u> 10/01/2009									
<b>73010344-Cut</b>	22.8	4125 - Black, N. Pin Oak	High Density Pole	96		Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal
<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</u>									
<u>Comments:</u>									
<u>Next</u> The stand is expected to regenerate to a mixture of oak and aspen.									
<u>Steps:</u>									
<u>Proposed</u>									
<u>Start Date:</u> 10/01/2006									

**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

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**Total Treatment  
Acreage Proposed: 630.9**

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## Gladwin Mgt. Unit

## 5 – Forested Stands

Compartment: 090  
Year of Entry: 2014

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6113 - Lowland Maple	High Density Pole	1.3	77	1-50	
3	4130 - Aspen	Low Density Sapling	21.5	5		
5	6112 - Lowland Aspen	High Density Pole	25.4	25		
6	6112 - Lowland Aspen	High Density Pole	27.8	41		
8	6119 - Mixed Lowland Deciduous Forest	Medium Density Pole	5.8	25	1-50	
11	6112 - Lowland Aspen	Medium Density Pole	5.0	41		
16	6119 - Mixed Lowland Deciduous Forest	High Density Log	14.1	79	1-50	
18	4130 - Aspen	High Density Sapling	40.1	25		
19	4130 - Aspen	Low Density Sapling	18.4	16		
20	6119 - Mixed Lowland Deciduous Forest	Medium Density Pole	4.6	79	1-50	
22	6113 - Lowland Maple	High Density Pole	19.4	79	1-50	
24	4130 - Aspen	High Density Sapling	9.1	25		
26	6119 - Mixed Lowland Deciduous Forest	High Density Log	5.0	79	1-50	
28	4130 - Aspen	High Density Sapling	12.0	16		
29	4130 - Aspen	High Density Pole	14.3	25		
32	6119 - Mixed Lowland Deciduous Forest	Medium Density Log	29.3	89	1-50	
33	6115 - Lowland Ash	High Density Log	5.6	79	1-50	
34	6113 - Lowland Maple	Medium Density Pole	6.5	79	1-50	

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## Gladwin Mgt. Unit

## 5 – Forested Stands

Compartment: 090  
Year of Entry: 2014

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	4130 - Aspen	Low Density Sapling	16.8	5		
38	4130 - Aspen	High Density Pole	33.2	39		Harvest to regulate aspen age classes in compartment and Gladwin FMU as decided at pre-review meeting. Could be early harvested if necessary. Must harvest dry/frozen. Would hold, or already has % of log sized trees (just <30%) so good vol.
40	6119 - Mixed Lowland Deciduous Forest	High Density Pole	6.5	25	1-50	
44	4119 - Mixed Northern Hardwoods	High Density Log	10.8	72	111-140	
45	4130 - Aspen	High Density Pole	1.1	31		
46	4130 - Aspen	High Density Pole	4.6	31		
48	6119 - Mixed Lowland Deciduous Forest	High Density Log	44.6	82	81-110	
49	4130 - Aspen	High Density Pole	34.2	25		
51	4139 - Aspen, Mixed Deciduous	Medium Density Pole	11.2	25		
54	6115 - Lowland Ash	Low Density Pole	21.0	41	1-50	
55	4130 - Aspen	High Density Pole	6.3	25		
58	4130 - Aspen	Medium Density	9.5	16		
61	4139 - Aspen, Mixed Deciduous	Low Density Sapling	4.6	16		
63	6119 - Mixed Lowland Deciduous Forest	Medium Density	4.7	35	1-50	
65	4130 - Aspen	Low Density Sapling	26.3	16		
66	4139 - Aspen, Mixed Deciduous	High Density Pole	38.1	39		Aspen already losing vigor: good candidate for early harvest. Early harvest to help regulate aspen age classes in compartment, as well as in management unit as discussed at pre-review meeting.
67	6119 - Mixed Lowland Deciduous Forest	High Density Log	30.7	41	111-140	

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## Gladwin Mgt. Unit

## 5 – Forested Stands

Compartment: 090  
Year of Entry: 2014

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
72	6113 - Lowland Maple	Low Density Sapling	5.2	26	1-50	
75	4130 - Aspen	Low Density Sapling	7.2	16		
82	6112 - Lowland Aspen	Low Density Pole	6.2	26		
83	4130 - Aspen	High Density Sapling	60.9	26		
86	6119 - Mixed Lowland Deciduous Forest	High Density Log	21.1	68	1-50	
90	4139 - Aspen, Mixed Deciduous	Medium Density	18.2	16		
92	4116 - Mixed N. Hardwood - Aspen	Medium Density	15.6	20	1-50	
98	4130 - Aspen	High Density Pole	81.5	39		
100	4130 - Aspen	High Density Sapling	6.4	26		
103	4139 - Aspen, Mixed Deciduous	High Density Pole	24.2	24		
105	6112 - Lowland Aspen	Medium Density Log	4.6	68		
107	6115 - Lowland Ash	Medium Density Pole	18.9	68	1-50	
109	4131 - Aspen, Oak	Medium Density	1.5	17		
111	6113 - Lowland Maple	High Density Pole	15.4	73	1-50	
112	4199 - Other Mixed Upland Deciduous	High Density Log	7.0	68	1-50	
114	4131 - Aspen, Oak	Medium Density	15.0	17		
116	6119 - Mixed Lowland Deciduous Forest	Medium Density Pole	15.6	68	1-50	
117	4199 - Other Mixed Upland Deciduous	High Density Log	15.0	73	81-110	

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Gladwin Mgt. Unit

5 – Forested Stands

Compartment: 090  
Year of Entry: 2014



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	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
118	6113 - Lowland Maple	Medium Density Pole	4.7	73	1-50	

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Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	629 - Mixed non-forested wetland	5.4	N/A	Unspecified	
4	6239 - Mixed Emergent Wetland	2.6	N/A	Unspecified	5-6 ft tall "reed grass", moss, scattered QA, M saps, BLACK TUPELO POLES.
7	629 - Mixed non-forested wetland	4.8	N/A	Unspecified	
9	6220 - Alder/willow	1.5	N/A	Unspecified	TA and ash on edges (pole sized black ash)
10	6220 - Alder/willow	1.5	N/A	Unspecified	5-6 ft tall willow
12	629 - Mixed non-forested wetland	5.6	N/A	Unspecified	Harvested about '06: Didn't regen. Formerly part of stand 3 harvested at same time. Narrow ridge at N end heavily browsed. Too small to plant 25-50% tall TA/Willow.
13	50 - Water	11.4	No	Unspecified	10% floating aquatic, which probably increases as season progresses.
14	629 - Mixed non-forested wetland	1.6	N/A	Unspecified	Reed grass 5-6 ft tall over leatherleaf, about 50-50%
15	6233 - Wet Meadow	1.3	N/A	Unspecified	Part of channel through stands 16 and 221
17	6239 - Mixed Emergent Wetland	1.1	N/A	Unspecified	5-10% willow
21	3105 - Mixed Upland Herbaceous	2.5	N/A	Unspecified	grass and bracken
23	6233 - Wet Meadow	10.2	N/A	Unspecified	Shallow flooding. Dense swamp grass. Trace of W, SWO and TA. Failed clearcut 1997.
25	6225 - Bog	1.0	N/A	Unspecified	Leatherleaf. Almost pure.
27	6233 - Wet Meadow	11.6	Yes	High (NonForested)	Pure marsh with small % open water. Few patches of tall willow. Northernmost extent of Kawkawlin Flooding.
30	6220 - Alder/willow	5.6	N/A	Unspecified	Mature TA about 20 ft tall over marsh G.
31	50 - Water	4.7	No	Unspecified	20-30% marsh with some cattails. Beaver have almost flooded adjacent road to S.
35	6239 - Mixed Emergent Wetland	2.4	N/A	Unspecified	Marsh with <5% willow and TA



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
37	6220 - Alder/willow	4.0	Yes	High (NonForested)	Tall TA (12-28 ft). 1-15% BA, M, B. Part of Kawkawlin Flooding.
39	31022 - Warm Season Grass	1.9	N/A	Unspecified	20% bracken with tr of cherry and SB, mullein.
41	50 - Water	6.2	N/A	Unspecified	20-25% very mature tall willow and alder. 1 ac @ NW end is N type like st 34
42	6220 - Alder/willow	6.6	Yes	High (NonForested)	Kawkawlin Flooding. Fairly dense, pure swamp grass with islands of tall (18 ft) willow.
43	6220 - Alder/willow	3.1	N/A	Unspecified	Short willow (3 ft tall) over N. Portion of st 36 that was clearcut but didn't regen.
47	6220 - Alder/willow	12.1	No	Unspecified	5-10% M and BA trees. Willow over N with 5% water in middle.
50	6220 - Alder/willow	2.2	N/A	Unspecified	Tall (about 15 ft6 tall) willow.
52	50 - Water	7.4	Yes	High (NonForested)	Kawkawlin Flooding.
53	50 - Water	8.8	No	Unspecified	Small % tall TA and flooded timber around W edge and through center.
56	6220 - Alder/willow	1.0	Yes	High (NonForested)	Tall TA (12-28 ft). 10-15% BA, M, B trees. Kawkawlin Flooding.
57	6239 - Mixed Emergent Wetland	7.9	N/A	Unspecified	TA, Willow, Rose over swamp grass, 5-10% M, B, O, QA. Clearcut '96 unsuccessfully. Formerly part of stand 57.
59	6239 - Mixed Emergent Wetland	8.2	N/A	Unspecified	TA, willow over swamp grass. 5-10% trees, mostly SWO. Slightly deeper drainage running E-W. Part of st 57 that didn't regenerate.
60	3103 - Rubus-Fern	3.3	No	Unspecified	Failed clearcut. Bracken and 5% trees. Originally part of stand 57.
62	6239 - Mixed Emergent Wetland	4.0	N/A	Unspecified	Small amount of open wter and cattails at W end.
64	6220 - Alder/willow	3.1	N/A	Unspecified	High % of swamp grass also, and 5-10% open water in middle.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
68	3105 - Mixed Upland Herbaceous	3.2	No	Unspecified	Very diverse stand: Mix of upland (65%) and low. Grass, fern, low shrubs in upland. Drainage at SE and network of narrow low areas with willow. < 5% trees. Portion of stand 106 that didn't regen.
69	31022 - Warm Season Grass	1.6	N/A	Unspecified	Portion of st 106 that didn't regen. Scattered T's (<5%) and small low area @ NW end.
70	3103 - Rubus-Fern	1.6	No	Unspecified	Part of harvest in stand 57 that didn't regenerate.
71	50 - Water	3.3	No	Unspecified	15-20% cattails and floating aquatic
73	6225 - Bog	2.2	No	Unspecified	Leatherleaf
74	3301 - Low Density Deciduous Tree	7.4	N/A	Unspecified	Portion of stand 106 that didn't regen. Trees mostly M, O, BTA.
76	6220 - Alder/willow	3.4	No	Unspecified	Small % of bog plants.
77	6239 - Mixed Emergent Wetland	3.2	No	Unspecified	Mix of leatherleaf, L, grass
78	50 - Water	3.2	No	Unspecified	20-30% marsh and Tr of TA/Willow
79	31022 - Warm Season Grass	4.4	No	Low (NonForested)	Grass and 15% lowland grass with very shallow marsh areas. Very sparse aspen with browse and hypoxylon. Clearcut '93 in summer and didn't regen.
80	3105 - Mixed Upland Herbaceous	1.7	N/A	Unspecified	Grass, fern, some upland shrub (<5%), scattered saps (25% o cover).
81	629 - Mixed non-forested wetland	5.9	N/A	Unspecified	Portion of st 106 that regen. Short TA and Willow.
84	6239 - Mixed Emergent Wetland	37.0	No	Unspecified	10-30% willow in some areas, overall 5%
85	6220 - Alder/willow	16.8	N/A	Unspecified	<5% Trees, about 35% marsh. TA/Willow.
87	3105 - Mixed Upland Herbaceous	1.3	N/A	Unspecified	Grass, fern, some upland shrub (<5%), scattered saps (25% o cover).
88	6220 - Alder/willow	26.1	No	Unspecified	TA, willow 7-8 ft tall over swamp grass.



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
89	3301 - Low Density Deciduous Tree	8.9	No	Unspecified	Portion of stand 106 that didn't regenerate. Trees mostly M, O, QA. Heavy deer browse.
91	6220 - Alder/willow	5.6	No	Unspecified	9 ft tall alder/willow
93	6239 - Mixed Emergent Wetland	15.1	No	Unspecified	Areas with fair amount of trees (M, SWO, B) along N and SW side. Low shrub 3-5 ft tall, moss, swamp grass.
94	3301 - Low Density Deciduous Tree	5.6	NVA	Unspecified	Portion of stand 106 that didn't regen well. Trees mostly M, O, B, SWO, also TA/Willow. Heavy browse.
95	6225 - Bog	1.1	No	Unspecified	25% unidentified shrub. Few birch. Leatherleaf.
96	6220 - Alder/willow	3.5	NVA	Unspecified	TA/Willow w/ rose and 5-10% trees: QA, M, B, O
97	629 - Mixed non-forested wetland	2.9	NVA	Unspecified	Small portion of st 106 that didn't regen. TA/Willow and swamp grass with scattered trees.
99	3301 - Low Density Deciduous Tree	1.1	NVA	Unspecified	Portion of st 106 that didn't regen well. BTA, M, O, B, SWO as well as TA/Willow.
101	50 - Water	10.5	No	Unspecified	30% swamp grass on edges. Dead timber.
102	50 - Water	10.8	No	Unspecified	Open water with 5% floating aquatic, and TA around edges. N end of Kawkawlin Flooding.
104	629 - Mixed non-forested wetland	15.2	NVA	Unspecified	15-20% BA, M, B. 50% TA, willow. 40% N. Lot of dead ash (from flooding, not EAB). Trees in small patches.
106	6220 - Alder/willow	4.3	No	Unspecified	6 ft tall willow over swamp grass.
108	6220 - Alder/willow	8.2	No	Unspecified	45-55% open water, especially against old rail grade at E end.
110	6233 - Wet Meadow	1.8	No	Unspecified	10% cattails, 10% open water in middle.
113	6239 - Mixed Emergent Wetland	20.8	No	Unspecified	50-50 TA and cattails. 5-10% ash, B, M, SWO. Deep water. W 1/3 more mature TA and more trees (live and dead). Also rose, DW and prickly ash. Old rail grade along W end; barely walkable much less driveable.
115	6239 - Mixed Emergent Wetland	6.3	No	Unspecified	50% TA, 10% ash, M, B. Was barely forested but heavy ash mortality (doesn't seem to be from EAB).



**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

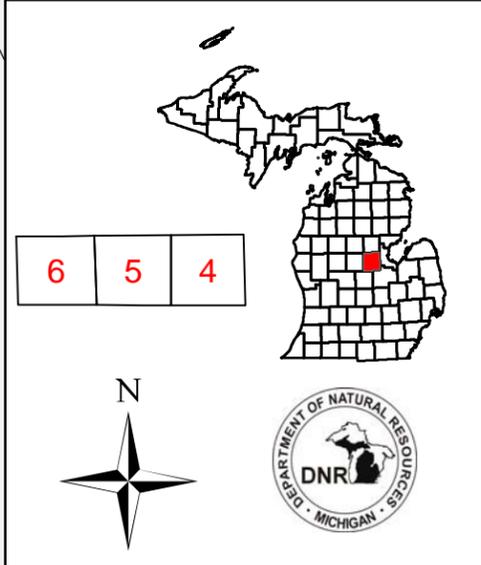
\* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

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

Conservation Area	Type	Description
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

Compartment: 90  
 T16N R02E Sec. 4, 5, 6  
 County: Midland  
 Unit: Gladwin  
 YOE: 2014  
 Acres: 1,311 GIS Calculated  
 Examiner: Mark Reichel  
 Map Revised: 6/25/2012  
 Map Phase: Pre-Review



### Legend

- Miris Corners
- Paved Roads
- Poor Dirt Roads
- Trail (Non-Recreation)
- Stream
- Intermittent Stream
- Lakes and Rivers
- Hiking Trails
- Hiking Trails

### Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seeding (tree species)

### Forest Stands

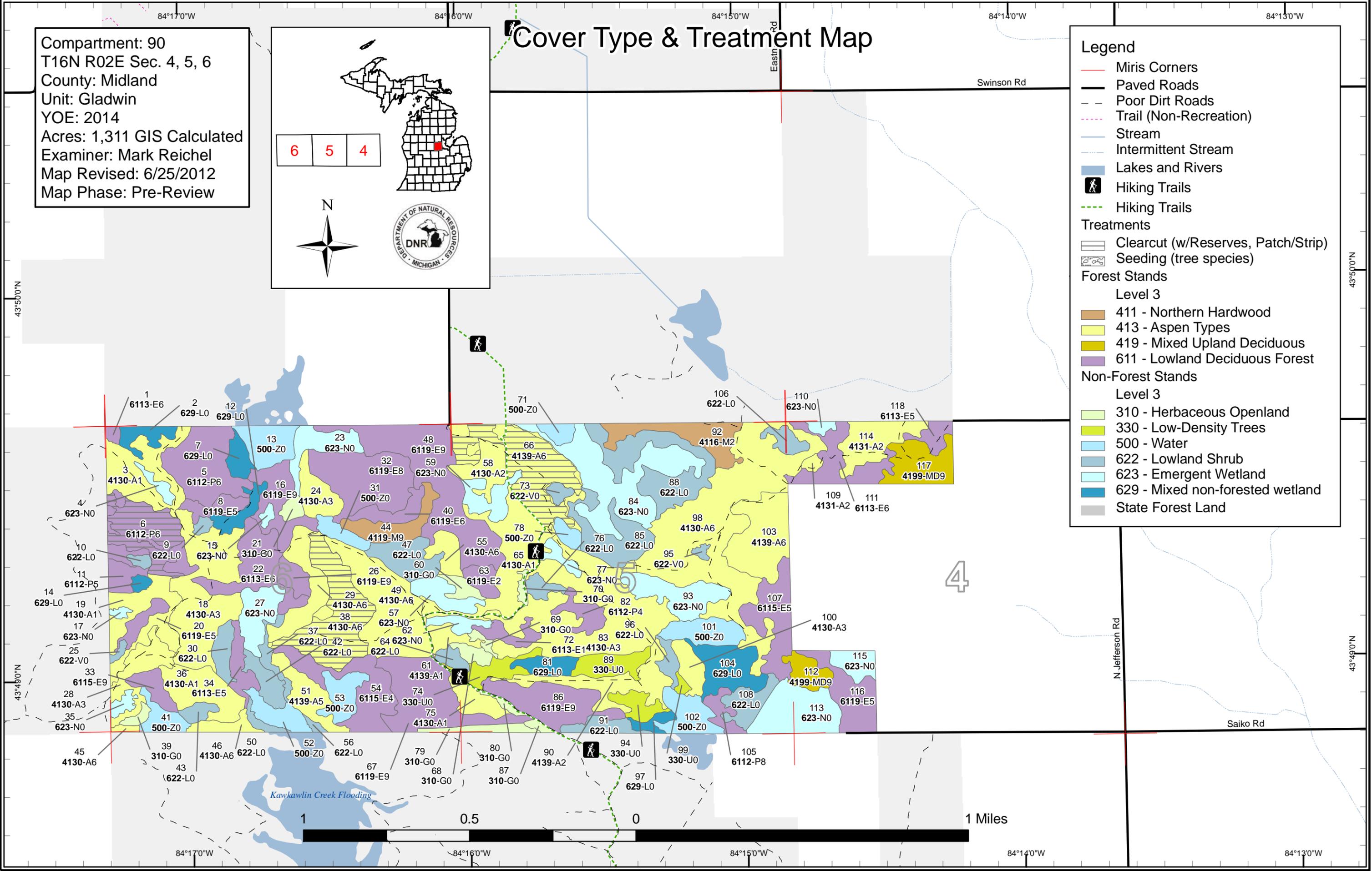
#### Level 3

- 411 - Northern Hardwood
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 611 - Lowland Deciduous Forest

### Non-Forest Stands

#### Level 3

- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland
- State Forest Land



43°50'0"N

43°49'0"N

43°50'0"N

43°49'0"N

84°17'0"W

84°16'0"W

84°15'0"W

84°14'0"W

84°13'0"W

84°17'0"W

84°16'0"W

84°15'0"W

84°14'0"W

84°13'0"W

# Stand Boundary Map

Compartment: 90  
 T16N R02E Sec. 4, 5, 6  
 County: Midland  
 Unit: Gladwin  
 YOE: 2014  
 Acres: 1,311 GIS Calculated  
 Examiner: Mark Reichel  
 Map Revised: 6/25/2012  
 Map Phase: Pre-Review

6 5 4

### Legend

- Miris Corners
- Paved Roads
- Poor Dirt Roads
- Trail (Non-Recreation)
- Stream
- Intermittent Stream
- Hiking Trails
- Hiking Trails
- Stand Boundaries

### Forest Stands

Level 3

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- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 611 - Lowland Deciduous Forest

### Non-Forest Stands

Level 3

- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland

