



**Gladwin Forest Management Unit
Compartment Review Presentation
Compartment #16 Entry Year: 2012
Compartment Acreage: 3860 County: Clare**

Revision Date: September 27, 2010. October 6, 2010.

Stand Examiner: Tim Gallagher, Forest Technician.

Legal Description: T19N R6W Sections 20, 21, 22, 23, 28, 29, 31, 32, 33.
T18N R6W Sections 5, 6, 7, 8.

Identified Planning Goals: None.

Management Goals: Manage the aspen, oak and red pine stands to maintain a variety of age classes to support forest sustainability and to enhance wildlife habitat.

Soil and Topography: The area varies from poorly drained to medium drained soils and is level with the exception of some steep banks along the Muskegon River. The major soil types are Rubicon-Croswell-Au Gres and Lupton - Markey associations.

Ownership Patterns, Development, and Land Use in and Around the Compartment: State ownership is spread over 12 sections and two townships. State ownership varies from large contiguous blocks to scattered 80-acre parcels.

The city of Temple coexists in the northern portion of the compartment. The northern 1/2 of the compartment is intermixed ownership with blocks of state ownership ranging from 100 to 400 acres. The southern 1/2 is one solid block of state ownership.

A potential ownership issue has occurred on a 40-acre parcel within the compartment. (NE1/4 SW1/4: Section 5, T18N-R6W) Our records show undivided 1/2 interest; the Clare County Courthouse shows total private ownership. Much work by the Gladwin Field Office has been done and continues to resolve and clear up this conflict of ownership.

Unique, Natural Features: Approximately 36% of the compartment is Swamp Hardwoods and very low and wet. Most of these stands are along the Muskegon River and Norway Creek and are in the floodplain. MNFI records indicate the following adjacent to and within the compartment; blanding's turtle to the north, northern goshawk to the northwest, wood turtle to the west, eagle to the east, and loon to the east. Two floodplain forest records to W/NW along Muskegon River. MNFI records indicate the potential for the following within the compartment; osprey, common loon, red-shouldered hawk, bald eagle, northern goshawk, great blue heron, massasauga, wood turtle, and blanding's turtle. Also potential for; ram's head orchid, calypso orchid, and limestone oak fern in cedar swamps.

Archeological, Historical, and Cultural Features: None known.

Special Management Designations or Considerations: None known.

Watershed and Fisheries Considerations: The Muskegon River, a warm water fishery and a major Michigan watershed and Norway Creek are both located within the compartment. Both of these waterways has a natural corridor (floodplain) of lowland swamp hardwood along most of the water course and should be considered a sensitive area for timber harvest purposes. Upland/High bank areas along the Muskegon River

should also be considered sensitive. The Muskegon River Floodplain and Norway Creek Floodplain and associated bottomlands are seasonally flooded. There are also many scattered low areas that are seasonally flooded and support populations of waterfowl and many non-game species.

Wildlife Habitat Considerations: This compartment, within the Gladwin Forest Management Unit, also functions as a very attractive wildlife area – certainly a popular area for bear hunters (particularly Freeman Township).

Land management divisions have invested heavily in dollars/time as a means of minimizing negative landscape trends. Landscape degradation must be addressed before habitat manipulations/projects can become a serious consideration by Wildlife Division. This is probably more so in Redding Township (T19N, R06W) where ORV users are creating new trails throughout the area. Administrative recovery of this area has been implemented since the last Year of Entry (2002).

Within this compartment, specific road systems, deemed desirable for public access, have been aggressively maintained. The replacement of culverts, refurbishment of road surfaces (sand and gravel) and the actual closing of illegal/expanded trails have occurred. Most closings are completed through the construction of seeded earthen berms. One 16' steel gate has been installed in Section 7, within Compartment 16, to minimize the negative impacts of recreational sport vehicles that would occur within the two openings that are annually maintained by Wildlife Division.

A significant % of the compartment is Swamp Hardwoods which are typically found immediately adjacent to the Muskegon River. Previous biologists have entered into the existing flood plain areas and have been relatively successful in re-establishing younger forested age classes. The presence of the Muskegon River intensifies the diversity of flora and fauna throughout this compartment.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand, gravel and postglacial alluvium and coarse-textured glacial till. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift are the Jurassic Red Beds. There is no economic use for the Red Beds. Gravel pits are located in the SE of Section 28 and the north half of Section 14 and potential in the east part of the compartment is considered fair. Sections 28 and 29 have been explored for oil and gas and are part of Freeman-Redding Field, a Devonian reservoir discovered in 1938. A few current oil and gas leases are associated with this field. Sections 20 through 23 are not currently leased, but are nominated for the October 2010 lease auction.

Vehicle Access: Access to most of the compartment is good via the county road system and state two tracks that are in place. There are access limitations located within the flood plain areas of the Muskegon River and Norway Creek.

Survey Needs: None

Recreational Facilities and Opportunities: No official facilities. The area receives moderate hunting pressure most of which is deer hunters. The Muskegon River receives moderate fishing pressure. Moderate dispersed camping occurs mainly during the firearm deer hunting season. Canoe traffic on the Muskegon River can be heavy on weekends during the summer.

Fire Protection: A potential fire control problem exists due to the rural/urban interface within this compartment.

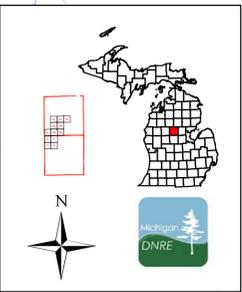
Additional Compartment Information:

- **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**

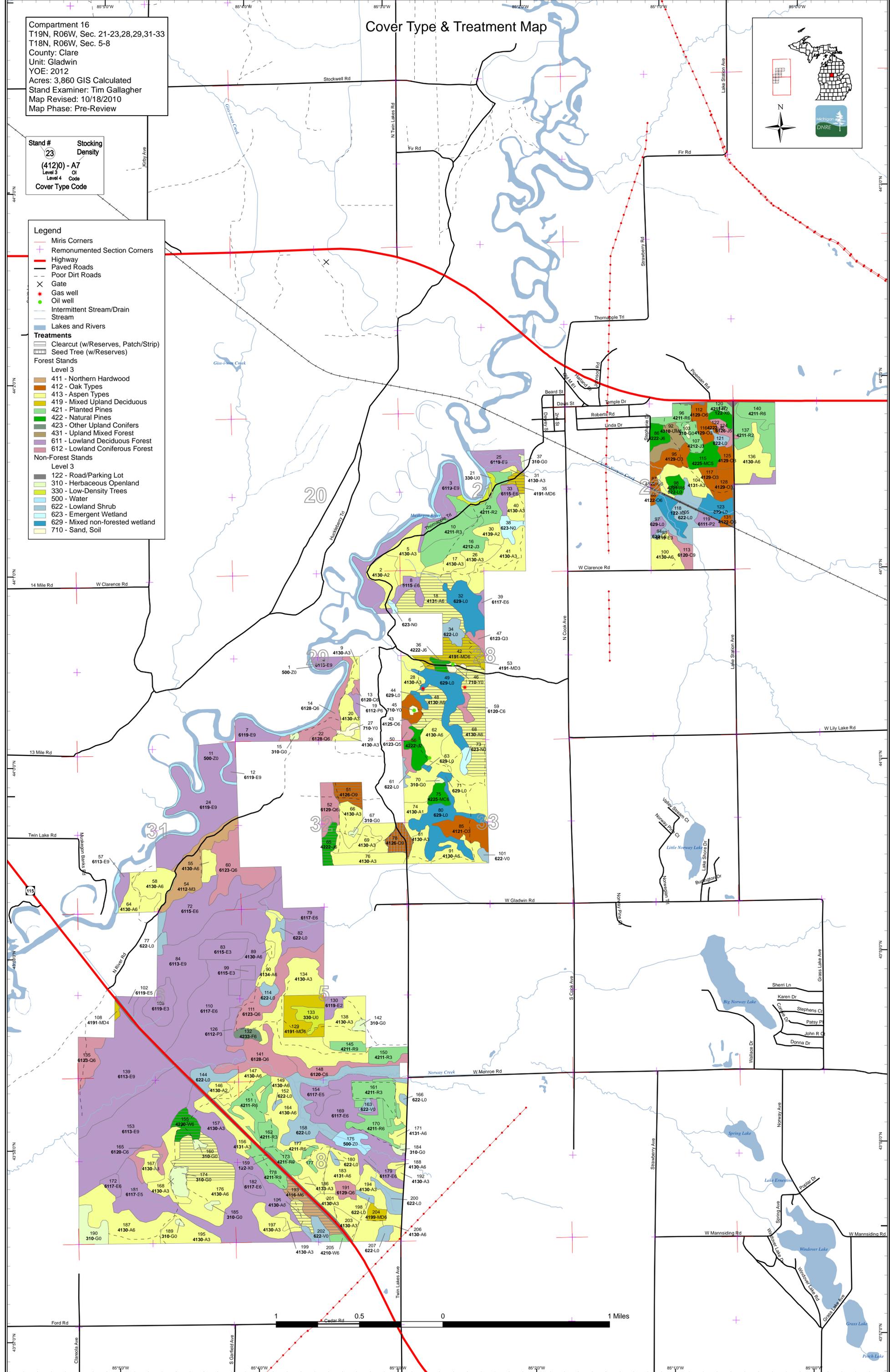
Cover Type & Treatment Map

Compartment 16
 T19N, R06W, Sec. 21-23,28,29,31-33
 T18N, R06W, Sec. 5-8
 County: Clare
 Unit: Gladwin
 YO: 2012
 Acres: 3,860 GIS Calculated
 Stand Examiner: Tim Gallagher
 Map Revised: 10/18/2010
 Map Phase: Pre-Review



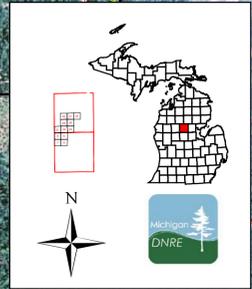
Stand # **23**
 Stocking Density
 (412)0 - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code

- Legend**
- Miris Corners
 - Remonumented Section Corners
 - Highway
 - Paved Roads
 - Poor Dirt Roads
 - Gate
 - Gas well
 - Oil well
 - Intermittent Stream/Drain
 - Stream
 - Lakes and Rivers
- Treatments**
- Clearcut (w/Reserves, Patch/Strip)
 - Seed Tree (w/Reserves)
- Forest Stands**
- Level 3
- 411 - Northern Hardwood
 - 412 - Oak Types
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 423 - Other Upland Conifers
 - 431 - Upland Mixed Forest
 - 611 - Lowland Deciduous Forest
 - 612 - Lowland Coniferous Forest
- Non-Forest Stands**
- Level 3
- 122 - Road/Parking Lot
 - 310 - Herbaceous Openland
 - 330 - Low-Density Trees
 - 500 - Water
 - 622 - Lowland Shrub
 - 623 - Emergent Wetland
 - 629 - Mixed non-forested wetland
 - 710 - Sand, Soil



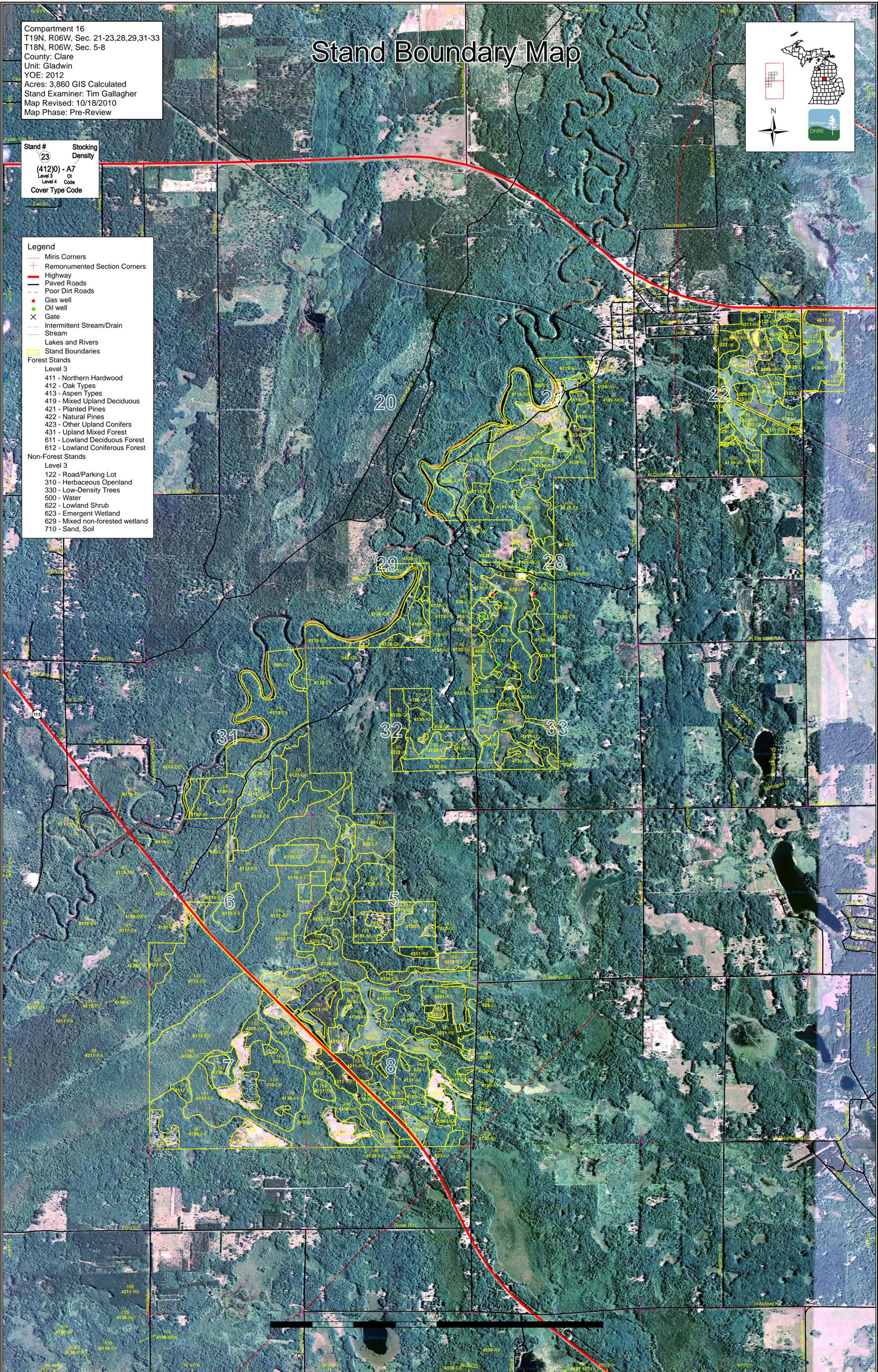
Stand Boundary Map

Compartment 16
T19N, R06W, Sec. 21-23,28,29,31-33
T18N, R06W, Sec. 5-8
County: Clare
Unit: Gladwin
YOE: 2012
Acres: 3,860 GIS Calculated
Stand Examiner: Tim Gallagher
Map Revised: 10/18/2010
Map Phase: Pre-Review



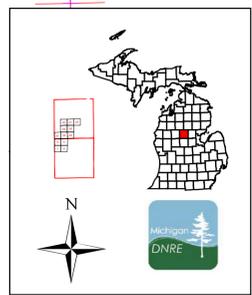
Stand # 23
Stocking Density
(412)0 - A7
Level 3
Level 4
Code
Cover Type Code

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 YOE: 2012
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 Map Revised: 10/18/2010
 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 Areas
 - Ecological Reference Areas
 - Cold Water Streams
 - Stand Boundaries
 - Forest Stands
 - Level 3
 - 411 - Northern Hardwood
 - 412 - Oak Types
 - 413 - Aspen Types
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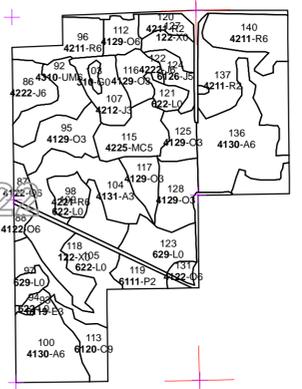
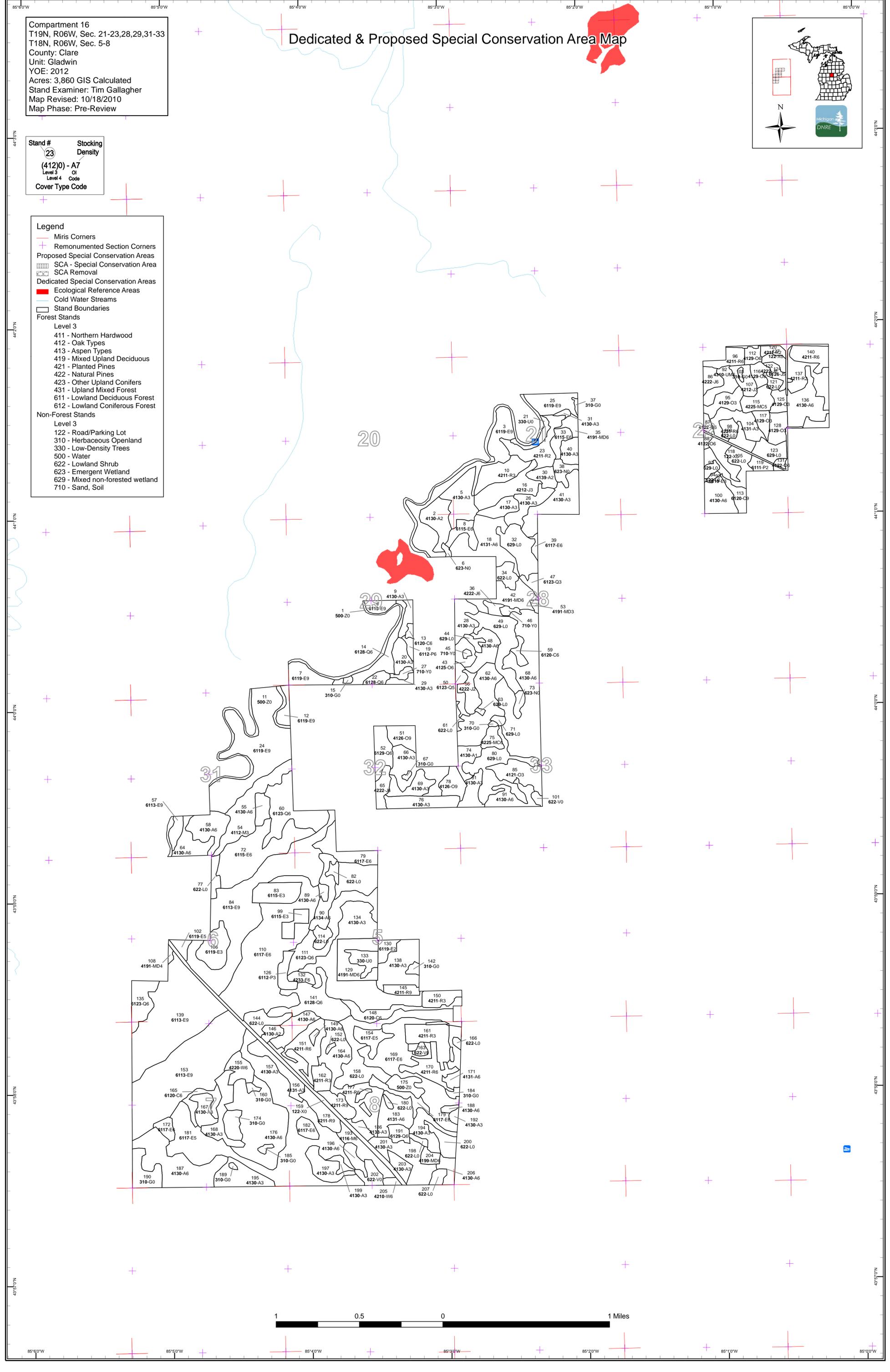


Table 1 – Total Acres by Cover Type and Age Class

Data updated before 10:00 AM



	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 +		Uneven Age
Aspen	0	251	231	316	323	35	48	0	0	0	0	0	0	0	0	1204
Bog	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Cedar	0	0	0	0	0	0	0	0	12	5	0	21	0	9	0	47
Herbaceous Openland	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45
Jack Pine	0	0	53	12	9	0	4	10	0	0	0	0	0	0	0	88
Low-Density Trees	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Lowland Aspen/Balsam Poplar	0	0	0	16	0	0	0	0	0	3	0	0	0	0	0	20
Lowland Conifers	0	0	0	26	0	0	0	49	40	82	8	6	0	0	0	211
Lowland Deciduous	0	0	8	57	0	13	13	3	278	810	62	0	0	0	0	1245
Lowland Shrub	286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	286
Marsh	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Mixed Upland Deciduous	0	0	2	0	0	0	0	12	0	54	0	0	0	0	0	67
Natural Mixed Pines	0	0	14	0	0	0	0	8	0	0	0	0	0	0	0	22
Northern Hardwood	0	0	42	0	0	0	0	0	0	17	0	0	0	0	0	59
Oak	0	23	50	0	0	0	14	0	0	23	14	0	0	0	0	124
Red Pine	0	50	76	0	0	0	67	56	0	0	0	0	0	0	0	250
Sand, Soil	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Upland Mixed Forest	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	13
Upland Spruce/Fir	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6
Urban	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
Water	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61
White Pine	0	0	0	0	0	0	3	14	0	0	0	0	0	0	0	17
Total	488	325	476	427	332	61	149	158	330	994	84	27	0	9	0	3860



Table 2 – Proposed Treatment Summaries

Data updated before 10:00 AM

Gladwin Mgt. Unit
Year of Entry 2012

Compartment 016
Total Compartment Acres: 3860

Acres by Treatment Type

Commercial Harvest - 262	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
Aspen	159	0	0	0	0	0	159
Jack Pine	15	0	0	0	0	0	15
Mixed Upland Deciduous	30	0	0	0	0	0	30
Northern Hardwood	17	0	0	0	0	0	17
Oak	14	0	13	0	0	0	27
White Pine	14	0	0	0	0	0	14
Total	248	0	13	0	0	0	262



Data updated before 10:00 AM

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
18 73016018-Cut	39.8	4131 - Aspen, Oak	High Density Pole	50	Harvest	Clearcut with Reserves	Aspen, Oak	Cmpt. Review Proposal

Prescription Final harvest 2" spec. Manage for a mix of natural regeneration of aspen, maple and mixed oak. Apply retention around low wet areas within stand area. Also mark to leave scattered mast producing, wind firm mixed oak trees.

Other Mostly upland with scattered low wet pockets.
Comments:

Next
Steps:

35 73016035-Cut	5.9	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	68	Harvest	Clearcut with Reserves	Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
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Prescription Final harvest 4" spec. releasing understory that is in place. Apply retention by marking to leave scattered mast producing, wind firm mixed oak trees. Mark leave trees in small groups.

Other Shelterwood harvest in 1993.
Comments:

Next
Steps:

36 73016036-Cut	4.2	42220 - Natural Jack Pine	High Density Pole	54	Harvest	Clearcut with Reserves	Planted Red Pine	Cmpt. Review Proposal
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Prescription Final harvest 2" spec. Apply retention by marking to leave scattered mast producing, wind firm mixed oak trees. Mark leave trees in small groups.

Other Jack pine with scattered aspen and oak.
Comments:

Next Plant red pine following harvest
Steps:

42 73016042-Cut	24.4	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	87	Harvest	Clearcut with Reserves	Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
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Prescription Final harvest 2" spec. manage for a mix of natural regeneration oak, jack pine, aspen and red maple. Apply retention around wet areas at east end of stand. Small bog type in southeast corner of stand will need to be painted out of sale area.

Other East end of stand is lower and species change to more maple and aspen .
Comments:

Next
Steps:

48 73016048-Cut	17.6	4130 - Aspen	High Density Pole	49	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
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Prescription Final harvest 2" spec. manage for a mix of natural regeneration aspen, maple and oak. Apply retention along stands 44 and 49.

Other
Comments:

Next
Steps:



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
51 73016051-Cut	13.6	4126 - White, Black, N. Pin Oak	High Density Log	95	Harvest	Clearcut with Reserves	White, Black, N. Pin Oak	Cmpt. Review Proposal

Prescription Shelterwood harvest. Reduce residual BA/AC down to 30 to 40 sq. ft. not eliminating any one species. Residual focus on the oak species.

Specs:

Other

Comments:

Next

Steps:

65 73016065-Cut	10.4	42221 - Natural Jack Pine, Mixed Deciduous	High Density Pole	65	Harvest	Clearcut with Reserves	Natural Jack Pine, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Final harvest 2" spec. Manage for natural regeneration jack pine and mixed deciduous. Apply retention at north end of stand along stand 52.

Specs:

Other

Natural regeneration is a concern with this stand.

Comments:

Next

May need to interplant red pine to maintain full stocking.

Steps:

68 73016068-Cut	53.0	4130 - Aspen	High Density Pole	37	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
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Prescription Final harvest 2" spec. Manage for a mix of natural regeneration of aspen, maple and mixed oak. Apply retention around low wet areas and drains within stand area. Also mark to leave scattered mast producing, wind firm mixed oak trees.

Other

Proposed at Pre-Review to harvest N1/2 of stand to regulate aspen age class. Stand contains several small inclusions of small grass stands and vernal ponds. Stand is mostly high and dry with scattered low wet, well defined drainages. North half has moved along into a pole stand faster than the south half.

Comments:

Next

Steps:

78 73016078-Cut	13.3	4126 - White, Black, N. Pin Oak	High Density Log	89	Harvest	Seed Tree with Reserves	White, Black, N. Pin Oak	Cmpt. Review Proposal
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Prescription Seed tree harvest. Leaving 20 to 30 sq. ft. of a mix of species focusing retention on oak species. Dense understory of oak 10' to 20' tall.

Specs:

Other

All dead oak removed on 1993. Dense understory of oak 10' to 20' tall.

Comments:

Next

Steps:

155 73016155-Cut	13.9	42200 - Natural White Pine	High Density Pole	60	Harvest	Clearcut with Reserves	Natural White Pine	Cmpt. Review Proposal
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Prescription Final harvest, manage for a mix of natural regeneration white pine, aspen, oak and maple. Leave all scattered cedar and large white pine. Leave trees along stand 160 to meet retention guidelines.

Other

White pine stand with scattered aspen, oak, maple, cedar and balsam fir. Scattered big white pine 30" to 40" DBH.

Comments:

Next

Steps:



Data updated before 10:00 AM

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
176 73016176-Cut	41.1	4130 - Aspen	High Density Pole	35	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal

Prescription Final harvest 2" spec manage for a mix of natural regeneration of aspen, maple and mixed oak. Apply retention around stands 174 and 160
Specs: (wildlife openings)

Other Proposed at Pre-Review to harvest N1/2 of stand to regulate aspen age class.
Comments:

Next
Steps:

193 73016193-Cut	16.8	4116 - Mixed N. Hardwood - Aspen	High Density Pole	88	Harvest	Clearcut with Reserves	Mixed N. Hardwood - Aspen	Cmpt. Review Proposal
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Prescription Final harvest 2" spec. Manage for a mix of natural regeneration maple, aspen, fir and pin oak. Apply retention around low wet areas and drains within stand area. Also mark to leave scattered mast producing, wind firm mixed oak trees.

Other Scattered wet areas within stand. Pockets of cedar/fir. Harvest on dry and/or frozen ground only due to wet ground.
Comments:

Next
Steps:

196 73016196-Cut	7.9	4130 - Aspen	High Density Pole	55	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
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Prescription Final harvest 2" spec. Manage for a mix of natural regeneration of aspen and red maple. Leave trees along stand 181 to meet retention guidelines.

Other
Comments:

Next
Steps:

**Total Treatment
 Acreage Proposed: 261.8**



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Data updated before 10:00 AM

Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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Prescription
Specs:

Other
Comment:

Next
Steps:

Limiting Factor and No
Treatment Reason

**Total Treatment
Acreage Proposed: 0**

Data updated before 10:00 AM

Out of YOE -- Treatments
Prescribed with No Limiting Factor

Year of Entry: 2012



Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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Prescription
Specs:

Other
Comments:

Next
Steps:

**Total Treatment
Acreage Proposed: 0**

S t a n d	Gladwin Mgt. Unit		5 – Forested Stands			Compartment: 016
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012
						General Comments:
2	4130 - Aspen	Medium Density	22.2	17		Clear cut 1993.
3	6119 - Mixed Lowland Deciduous Forest	High Density Log	54.1	75		Muskegon River Floodplain. Down over a steep bank, very wet stand.
4	6113 - Lowland Maple	High Density Log	7.4	90		Muskegon River Floodplain.
5	4130 - Aspen	High Density Sapling	28.6	17		Clear cut 1993.
7	6119 - Mixed Lowland Deciduous Forest	High Density Log	15.9	93		Muskegon River Floodplain.
8	6115 - Lowland Ash	High Density Pole	11.3	81		Very wet. No commercial harvest.
9	4130 - Aspen	High Density Sapling	6.9	16		Clear cut 1994.
10	42111 - Planted Red Pine, Mixed Deciduous	High Density Sapling	22.7	17		Clear cut 1993. Planted to red pine 1995.
12	6119 - Mixed Lowland Deciduous Forest	High Density Log	7.5	86		Muskegon River Floodplain. No commercial harvest possible.
13	6120 - Lowland Cedar	High Density Pole	2.1	109		Cedar swamp. Drains running through stand. No commercial treatment.
14	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	20.9	81		Muskegon River Floodplain.
16	42121 - Planted Jack Pine, Mixed Deciduous	High Density Sapling	29.1	17		Clear cut 1993. Planted to jack pine in 1995.
17	4130 - Aspen	High Density Sapling	11.9	27		Clear cut 1987.
18	4131 - Aspen, Oak	High Density Pole	39.8	50	81-110	Mostly upland with scattered low wet pockets.
19	6112 - Lowland Aspen	High Density Pole	3.5	82		Stand is a drainage and too wet for commercial harvest. At one time was part of larger stand to the west, when it was cut this area was left out. Converting to lowland hardwood.
20	4130 - Aspen	High Density Sapling	11.4	16		Clear cut 1994.
22	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	5.9	109		Cedar swamp, very wet stand.



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Gladwin Mgt. Unit

5 – Forested Stands

Compartment: 016

Data updated before 10:00 AM

Year of Entry: 2012



Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
42111 - Planted Red Pine, Mixed Deciduous	Medium Density	25.0	7		Clear cut 2003. Planted to red pine in 2003. Old "Temple State Forest Campground"
6119 - Mixed Lowland Deciduous Forest	High Density Log	104.1	89		Muskegon River Floodplain. Very wet ground. No commercial treatment.
6119 - Mixed Lowland Deciduous Forest	High Density Log	20.8	91		Muskegon River Floodplain stand. Halford Creek bi-sects stand. No commercial treatment. Very wet ground.
4130 - Aspen	High Density Sapling	17.4	17		Clear cut 1993.
4130 - Aspen	High Density Sapling	16.9	25		Clear cut 1985. Moving from saps to poles.
4130 - Aspen	High Density Sapling	4.3	16		Clear cut 1994.
4139 - Aspen, Mixed Deciduous	Medium Density	10.0	7		Clear cut 2003.
4130 - Aspen	High Density Sapling	1.8	17		Clear cut 1993.
6115 - Lowland Ash	High Density Pole	8.4	75		Very wet stand. No commercial treatment. Several drains running through stand.
4191 - Mixed Upland Deciduous with Conifer	High Density Pole	5.9	68	51-80	Shelterwood harvest in 1993.
42220 - Natural Jack Pine	High Density Pole	4.2	54	51-80	Jack pine with scattered aspen and oak.
6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	2.6	68		Low wet ground. No commercial harvest.
4130 - Aspen	High Density Sapling	10.0	23		Clear cut 1987.
4130 - Aspen	High Density Sapling	35.0	23		Clear cut 1987.
4191 - Mixed Upland Deciduous with Conifer	High Density Pole	24.4	87	81-110	East end of stand is lower and species change to more maple and aspen .
4125 - Black, N. Pin Oak	High Density Pole	9.2	89	51-80	Hold 10 years.
6123 - Lowland Fir	High Density Sapling	5.3	20		Marsh area filling in with trees.

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Gladwin Mgt. Unit

5 – Forested Stands
Data updated before 10:00 AM

Compartment: 016
Year of Entry: 2012



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
48	4130 - Aspen	High Density Pole	17.6	49		
50	6123 - Lowland Fir	Medium Density Pole	9.3	68		Fir/cedar swamp. Very wet ground.
51	4126 - White, Black, N. Pin Oak	High Density Log	13.6	95	81-110	Decent quality timber.
52	6129 - Mixed Coniferous Lowland Forest	High Density Pole	17.3	82		Very wet swamp conifer, to wet for commercial harvest.
53	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	1.8	16		Clear cut 1994.
54	4112 - Maple, Beech, Cherry Association	High Density Sapling	42.0	17		Clear cut 1993.
55	4130 - Aspen	High Density Pole	9.5	26		Clear cut 1984.
56	42220 - Natural Jack Pine	Medium Density	12.7	16		Clear cut 1994, fair regeneration
57	6113 - Lowland Maple	High Density Log	7.2	93		Muskegon River Floodplain.
58	4130 - Aspen	High Density Pole	24.3	25		Clear cut 1985.
59	6120 - Lowland Cedar	High Density Pole	5.0	86		Cedar stand.
60	6123 - Lowland Fir	High Density Pole	44.0	88		Very wet mucky soils. No commercial treatment.
62	4130 - Aspen	High Density Pole	43.5	26		Clear cut 1984.
64	4130 - Aspen	High Density Pole	17.6	43		Clear cut 1967.
65	42221 - Natural Jack Pine, Mixed Deciduous	High Density Pole	10.4	65	51-80	
66	4130 - Aspen	High Density Sapling	30.4	16		Clear cut 1994.
68	4130 - Aspen	High Density Pole	97.0	37		Clear cut 1973. Stand contains several small inclusions of small grass stands and vernal ponds. Stand is mostly high and dry with low wet, well defined drainages. North half has moved along into a pole stand faster than the the south half. Many two stick trees yet.

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Gladwin Mgt. Unit

5 – Forested Stands
Data updated before 10:00 AM

Compartment: 016
Year of Entry: 2012



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
69	4130 - Aspen	High Density Sapling	15.4	16		Clear cut 1994.
72	6115 - Lowland Ash	High Density Pole	65.1	88		Very wet mucky soils. Die off and blow down are part of the cycle with this stand. No commercial treatment.
74	4130 - Aspen	Low Density Sapling	10.8	17		Clear cut 1993, fair aspen regeneration.
75	42250 - Pine, Oak	High Density Pole	8.1	63		
76	4130 - Aspen	High Density Sapling	20.4	21		Clear cut 1989.
78	4126 - White, Black, N. Pin Oak	High Density Log	13.3	89	51-80	All dead oak removed on 1993.
79	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	21.7	80		Very wet mucky soils. No commercial treatment.
81	4130 - Aspen	High Density Sapling	12.7	16		Clear cut 1994 Mix of regeneration aspen, red maple and oak.
83	6115 - Lowland Ash	High Density Sapling	21.5	24		Habitat cut 1986. W73-266. Ash regeneration.
84	6113 - Lowland Maple	High Density Log	134.0	81		Very wet mucky soils. No commercial treatment.
85	4121 - Oak, Aspen	High Density Sapling	23.3	3		Clear cut 2007 mix of oak, aspen and red maple.
86	42220 - Natural Jack Pine	High Density Pole	8.9	38		
87	4122 - Oak, Pine	High Density Pole	3.3	59		Stand has access issues. No access for commercial harvest.
88	4122 - Oak, Pine	High Density Pole	2.1	59		Management access is issue with this stand. PVT to west, RR tracks to north, swamp/creek to east. No treatment small acres.
89	4130 - Aspen	High Density Pole	3.2	26		Clear cut 1984.
90	4134 - Aspen, Spruce/Fir	High Density Pole	20.1	22		Clear cut 1988.
91	4130 - Aspen	High Density Pole	18.1	37		Scattered white pine. Hold 10 years, diameter and height are not ready for harvest.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
92	4310 - Pine, Oak Mix	High Density Pole	13.1	40		Mixed jack pine/mixed oak stand. Parts of stand have been treated in past. Jack pine is small poles. Pockets of oak and pockets of jack pine.
93	6119 - Mixed Lowland Deciduous Forest	High Density Sapling	3.8	21		Very low wet stand. Overstory has died out resulting in regeneration. Areas of tag alder.
95	4129 - Mixed Oak	High Density Sapling	14.4	17		Clear cut 1993.
96	42110 - Planted Red Pine	High Density Pole	11.3	51	141-170	Third row thinned 2003.
98	42210 - Natural Red Pine	High Density Pole	6.7	50	51-80	Natural mixed pine/oak stand
99	6115 - Lowland Ash	High Density Sapling	9.7	24		Habitat cut 1986. W73-237.
100	4130 - Aspen	High Density Pole	21.4	35		Stand is mostly upland with a few scattered wet pockets. Stand has a fair amount of oak in the understory. Scattered big diameter oak trees (wolf trees).
102	6119 - Mixed Lowland Deciduous Forest	Medium Density Pole	5.2	58		Semi open stand.
104	4131 - Aspen, Oak	High Density Sapling	20.6	7		Clear cut 2003.
106	6119 - Mixed Lowland Deciduous Forest	High Density Sapling	22.5	24		Habitat cut 1986. W73-261.
107	42120 - Planted Jack Pine	High Density Sapling	11.0	15		Jack pine planted 1995.
108	4191 - Mixed Upland Deciduous with Conifer	Low Density Pole	1.7	85		Semi open stand.
110	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	164.7	83		Low wet mucky soils. No commercial harvest. Timber gets to 5" to 6" DBH and dies off, always regenerating.
111	6123 - Lowland Fir	High Density Pole	39.8	61		Very wet mucky soils, no commercial treatment.
112	4129 - Mixed Oak	High Density Pole	6.2	55		All dead oak removed 1993.
113	6120 - Lowland Cedar	High Density Log	8.9	125		Very wet stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
115	42250 - Pine, Oak	Medium Density Pole	14.1	17	1-50	Seed tree harvest 1993. Understory is just reaching pole size. Overstory seed trees not worth removing (low quality scattered oak would damage understory)
116	4129 - Mixed Oak	High Density Sapling	8.2	17		Clear cut 1993.
117	4129 - Mixed Oak	High Density Sapling	7.2	17		Clear cut 1993.
119	6111 - Lowland Balsam Poplar	Medium Density	5.9	25		Very wet stand. Scattered swamp aspen with tag alder.
120	42111 - Planted Red Pine, Mixed Deciduous	Medium Density	5.2	17		Clear cut 1993, planted to red pine in 1994.
122	42220 - Natural Jack Pine	High Density Pole	5.5	27		
124	6126 - Lowland Jack Pine	Medium Density Pole	6.2	27		Poor quality jack pine growing in a bog. Areas of tag alder, blueberry/leather leaf.
125	4129 - Mixed Oak	High Density Sapling	7.6	17		Clear cut 1993.
126	6112 - Lowland Aspen	High Density Sapling	10.3	23		Clear cut 1987.
128	4129 - Mixed Oak	High Density Sapling	12.5	17		Seed tree harvest in 1993/1994. Good oak regeneration as a result of seed tree harvest. Not enough seed trees left to re-enter stand. Harvesting seed trees would do a great deal of damage to regeneration that is in place.
129	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	27.5	85		Ownership issue with this stand. Stand would regenerate well to a mix of aspen, red maple and jack pine if clear cut.
130	6119 - Mixed Lowland Deciduous Forest	Medium Density	7.7	17		Clear cut 1993. Pocket of wetter ground with sparse regeneration more maple than aspen.
131	4122 - Oak, Pine	High Density Pole	2.7	57		Low quality scrubby oak. Access is issue with this stand, small acres, no treatment.
132	42330 - Upland Fir	High Density Pole	6.0	61		Pure balsam fir stand.
134	4130 - Aspen	High Density Sapling	86.6	3		Clear cut 2007.
135	6123 - Lowland Fir	High Density Pole	20.6	27		Habitat cut 1983.
136	4130 - Aspen	High Density Pole	30.9	36		Clear cut 1974.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
137	42111 - Planted Red Pine, Mixed Deciduous	Medium Density	25.1	7		Clear cut 2003, planted to red pine 2004.
138	4130 - Aspen	High Density Sapling	33.3	17		
139	6113 - Lowland Maple	High Density Log	126.5	85		Low wet mucky soils. No commercial harvest. Norway Creek bi-sects stand.
140	42110 - Planted Red Pine	High Density Pole	16.4	51	141-170	Thinned 2003. Cut two rows left three. Crowns in double cut rows not closed up yet. Double cut rows are very wide, very loggable stand, manage as plantation.
141	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	39.9	76		Low wet mucky soils. No commercial harvest. Norway Creek bi-sects stand.
143	6119 - Mixed Lowland Deciduous Forest	High Density Pole	4.9	84		Very wet stand, numerous drains and wernal ponds. No commercial harvest.
145	42110 - Planted Red Pine	High Density Log	8.1	58	111-140	Thinned 2007. Cruised residual from 2007 sale was 134 sq. ft.
146	4130 - Aspen	Medium Density	6.2	6		Clear cut 2004.
147	4130 - Aspen	High Density Pole	17.9	35		Clear cut 1975.
148	6120 - Lowland Cedar	High Density Pole	19.4	100		Cedar/fir swamp. Low wet mucky soils. No commercial harvest.
149	4130 - Aspen	High Density Pole	1.9	35		Habitat cut 1975.
150	42111 - Planted Red Pine, Mixed Deciduous	High Density Sapling	12.7	15		Clear cut and replanted to red pine 1995. Small inclusion of A3 type at NE corner of stand.
151	42110 - Planted Red Pine	High Density Pole	25.1	64	81-110	Thinned 2005. Cruised residual from 2005 sale was 91 sq. ft.
153	6113 - Lowland Maple	High Density Log	144.7	79		Low wet mucky soils. No commercial harvest. Norway Creek floodplain.
154	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	13.1	43		Habitat cut 1987. Slow to regenerate areas of tag alder. Low wet mucky soils. No commercial harvest.
155	42200 - Natural White Pine	High Density Pole	13.9	60	81-110	White pine stand with scattered aspen, oak, maple, cedar and balsam fir. Scattered big white pine 30" to 40" DBH.
156	4131 - Aspen, Oak	High Density Sapling	11.0	6		Clear cut 2004.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
157	4130 - Aspen	High Density Sapling	17.1	5		Clear cut 2005.
161	42110 - Planted Red Pine	High Density Sapling	25.0	15		Clear cut and replanted to red pine 1995.
162	42111 - Planted Red Pine, Mixed Deciduous	High Density Sapling	10.6	15		Clear cut and replanted to red pine 1995.
164	4130 - Aspen	High Density Pole	56.2	35		Habitat cut 1975.
165	6120 - Lowland Cedar	High Density Pole	11.8	73		Cedar swamp.
167	4130 - Aspen	High Density Sapling	12.9	21		Clear cut 1989.
168	4130 - Aspen	High Density Sapling	22.9	5		Clear cut 2005.
169	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	70.7	70		Low wet mucky soils. No commercial harvest. Creek bi-sects stand, floodplain stand.
170	42110 - Planted Red Pine	High Density Pole	24.5	58	81-110	Thinned 2006. Cruised residual from 2006 sale was 115 sq. ft.
171	4131 - Aspen, Oak	High Density Pole	13.8	27		Clear cut 1983.
172	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	6.9	82		Low wet mucky soils. No commercial harvest.
173	42110 - Planted Red Pine	High Density Log	11.4	64		Cruised residual from 2005 sale was 100 sq. ft.
176	4130 - Aspen	High Density Pole	79.8	35	1-50	Clear cut 1975.
177	42110 - Planted Red Pine	High Density Pole	3.8	64		Thinned 2005. Cruised residual from 2005 sale was 100 sq. ft.
178	42110 - Planted Red Pine	High Density Log	16.1	62	111-140	Thinned 2005. Cruised residual from 2005 was 115 sq. ft.
179	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	11.2	93		Low wet mucky soils. No commercial harvest. Strip of un cut timber between Z type and managed aspen stand.
181	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	163.4	82		Low wet mucky soils. No commercial harvest. Two creeks bi- secting stand. Areas of tag alder and cattails.



Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	8.0	50		This stand is a little higher than the surrounding area. Stand is island surrounded by low wet ground.
4131 - Aspen, Oak	High Density Pole	24.5	27		Clear cut 1983.
4133 - Aspen, Mixed Pine	High Density Sapling	5.6	6		Clear cut 2004. All white pine was left.
4130 - Aspen	High Density Pole	59.0	26		Clear cut 1984.
4130 - Aspen	High Density Pole	2.3	26		Clear cut 1984.
6129 - Mixed Coniferous Lowland Forest	High Density Pole	7.7	93		Hemlock. Very low and wet.
4130 - Aspen	High Density Sapling	2.6	5		Clear cut 2005.
4116 - Mixed N. Hardwood - Aspen	High Density Pole	16.8	88	51-80	Scattered wet areas within stand. Pockets of cedar/fir.
4130 - Aspen	High Density Sapling	17.7	5		Clear cut 2005.
4130 - Aspen	High Density Sapling	24.4	5		Clear cut 2005. Small pocket of red pine left at west end of stand.
4130 - Aspen	High Density Pole	7.9	55		
4130 - Aspen	High Density Sapling	18.1	5		Clear cut 2005.
4130 - Aspen	High Density Sapling	4.2	16		Clear cut 1994.
4130 - Aspen	High Density Sapling	31.6	17		Clear cut 1993. Some white pine was left.
4130 - Aspen	High Density Sapling	8.7	6		Clear cut 2004.
4199 - Other Mixed Upland Deciduous	High Density Pole	5.8	65	81-110	Selection harvest 1994. Lots of nice sugar maple poles in the understory 4" to 5" DBH.
42100 - Planted White Pine	High Density Pole	2.8	58		Looks like white pine hand planted plantation. Small acreage.
4130 - Aspen	High Density Pole	8.1	26		Clear cut 1984.



Stand	Cover Type	Acres	Gen Cmts:
1	50 - Water	45.6	
6	623 - Emergent Wetland	1.7	
11	50 - Water	3.9	
15	310 - Herbaceous Openland	1.3	
21	330 - Low-Density Trees	6.3	
27	710 - Sand, Soil	3.6	
32	629 - Mixed non-forested wetland	27.8	
34	622 - Lowland Shrub	9.7	
37	310 - Herbaceous Openland	1.2	
38	623 - Emergent Wetland	8.5	
44	629 - Mixed non-forested wetland	3.8	
45	710 - Sand, Soil	1.4	
46	710 - Sand, Soil	3.0	
49	629 - Mixed non-forested wetland	34.3	
61	622 - Lowland Shrub	2.0	
63	629 - Mixed non-forested wetland	1.1	
67	310 - Herbaceous Openland	1.2	
70	310 - Herbaceous Openland	1.0	



Stand	Cover Type	Acres	Gen Cmts:
71	629 - Mixed non-forested wetland	2.4	
73	623 - Emergent Wetland	5.0	
77	622 - Lowland Shrub	7.2	
80	629 - Mixed non-forested wetland	38.4	
82	622 - Lowland Shrub	3.8	
94	622 - Lowland Shrub	2.0	
97	629 - Mixed non-forested wetland	12.3	
101	6225 - Bog	2.6	
103	310 - Herbaceous Openland	1.3	
105	622 - Lowland Shrub	19.9	
109	622 - Lowland Shrub	7.6	
114	622 - Lowland Shrub	7.2	
118	122 - Road/Parking Lot	5.5	
121	622 - Lowland Shrub	4.0	
123	629 - Mixed non-forested wetland	12.9	
127	122 - Road/Parking Lot	6.1	
133	330 - Low-Density Trees	11.7	
142	310 - Herbaceous Openland	2.9	



Stand	Cover Type	Acres	Gen Cmts:
144	622 - Lowland Shrub	13.9	
152	622 - Lowland Shrub	1.2	
158	622 - Lowland Shrub	52.8	
159	122 - Road/Parking Lot	27.1	
160	310 - Herbaceous Openland	2.2	
163	6225 - Bog	3.2	
166	622 - Lowland Shrub	1.7	
174	310 - Herbaceous Openland	10.8	
175	50 - Water	11.6	
180	622 - Lowland Shrub	1.6	
184	310 - Herbaceous Openland	2.4	
185	310 - Herbaceous Openland	1.9	
189	310 - Herbaceous Openland	1.0	
190	310 - Herbaceous Openland	18.2	
198	622 - Lowland Shrub	2.5	
200	622 - Lowland Shrub	11.1	
202	6225 - Bog	9.8	
207	622 - Lowland Shrub	4.8	



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.

Data updated before 10:00 AM

Stand	SCA Type	SCA Name	Acres	Comments
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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.

Data updated before 10:00 AM

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.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.