



Compartment Review Presentation

Gladwin Forest Management Unit

Compartment 73010

Entry Year 2018

Acreage: 7,303

County Clare

Management Area: Kirtland's Warbler

Revision Date: 2016-05-31

Stand Examiner: Steve Nyhoff

Legal Description:

T19N R05W Sections 6

T19N R06W Sections 1-3 & 10

T20N R05W Sections 2, 11, 13-17, 19-22, 29-31

T20N R06W Sections 24, 25, 26, 34-36

Identified Planning Goals:

The Kirtland's Warbler management area (MA) consists of fifteen units of land that are managed for the federally endangered Kirtland's warbler. Kirtland's warbler management is guided by two documents: Kirtland's Warbler Breeding Range Conservation Plan and Operational Plan for Kirtland's Warbler Habitat Management on Michigan State Forests. Of the 148,017 acres of state forest land that make up the Kirtland's Warbler management area, approximately 90,000 acres, most of the jack pine in the management area, have been identified as essential habitat where management is done in accordance with the Kirtland's Warbler Conservation Plan and Operational Plan. Management on the portion that is not classified as essential habitat will emphasize balancing the age classes of aspen and red pine and regenerating the aging oak resource. Management activities may be constrained or modified based on management recommendations described in the Conservation Strategy. Expected trends within this 10-year planning period are introduced pests and diseases and assuring jack pine regeneration on Kirtland's warbler sites.

Soil and topography:

The main soil types are well to excessively drained Grayling and Graycalm soils. There are some other wetter soils along the north and south edges of the compartment. These are associated with the Muskegon River, Green Creek and Floodwood Creek.

The terrain is flat to undulating. However, there are steep slopes that border the flood plains of the Muskegon River

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

The compartment is a matrix of State Land, US Fish and Wildlife Land, and private land. The private land ranges in size from small tracks to parcels greater than 100 acres. The parcels are used for permanent and seasonal residences and recreational properties.

Unique Natural Features:

There are several MNFI hits in this compartment. Most of the records are from the 1990's. The species that have records in or near the compartment are Eastern Massasauga, Secretive Locust, Ginseng, Hill's Thistle, Red Legged Spittle Bug, Kirtland's Warbler, Blanding's Turtle, Wood Turtle, and two mussels Elktoe and Pigtoe.

Archeological, Historical, and Cultural Features:

There are several hits on the HAL data base in the compartment

Special Management Designations or Considerations:

This compartment is in the Kirtland's Warbler Management Unit. It contains the essential habitat for the warbler south of the Muskegon River in the Gladwin Management Unit. In addition, the Floodwood Creek Waterfowl Flooding borders this compartment.

Watershed and Fisheries Considerations:

The Muskegon River makes up the northern boundary of the compartment. The southern edges of it are bounded by the Floodwood Creek, Prestle Creek, and Green Creek.

Wildlife Habitat Considerations:

Wildlife Habitat Considerations: Compartment #10 timber harvest and planting prescriptions are heavily influenced by the needs of the endangered species the Kirkland's Warbler. Jack Pine stands in this compartment will be managed to provide suitable habitat for the warblers. A Kirkland's Warbler management plan exists outlining a cutting rotation for this

compartment. Some game species that use this compartment include white-tailed deer, black bear, ruffed grouse and wild turkey. Many other wildlife species likely to use this compartment include upland sandpiper, common nighthawk, brown thrasher and eastern hognose snake. Access to this compartment can be gained through N. Lake Station Ave. and Blueberry Trail.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. Glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift are 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 west of the compartment, and potential is thought to be good. The compartment lies between Cranberry Lake and Winterfield Fields. Both fields are gas storage fields and Cranberry Lake is also in secondary recovery operations. Part of the compartment is under lease for oil production or gas storage operations.

Much of this compartment is a part of the Cranberry Gas Storage Fields. Therefore there are numerous injection wells and associated pipelines within the compartment boundaries. There is also the Trans-Canada Natural Gas Pipeline that cuts across the compartment.

Vehicle Access:

The access is good off county roads and poor dirt roads. Many of the poor dirt roads are maintained and used by Consumers Energy to maintain injection well sites and pipelines.

Survey Needs:

The area has been extensively surveyed. Most of the main corners are in and the office has the survey maps on file.

Recreational Facilities and Opportunities:

There is a snowmobile trail that runs through much of the compartment. In addition, many people canoe and tube on the Muskegon River. The area is also heavily used by hunters and disperse campers.

Fire Protection:

This compartment is in Zone IV and contains concentrations of high hazard fuels (large jack pine stands) and a well-developed wildland urban interface. This interface includes permanent and seasonal residences. There is also oil and gas activity in the compartment, including a high pressure gas pipeline. Access for fire suppression is along the county roads and forest two-tracks. This leads to good access in general. Overall the fire danger is high in this compartment.

Additional Compartment Information:

The following reports from the Inventory are attached:

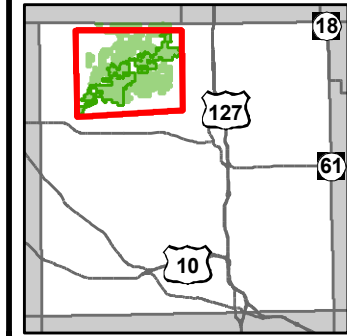
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

The following information is displayed, where pertinent, on the attached compartment maps:

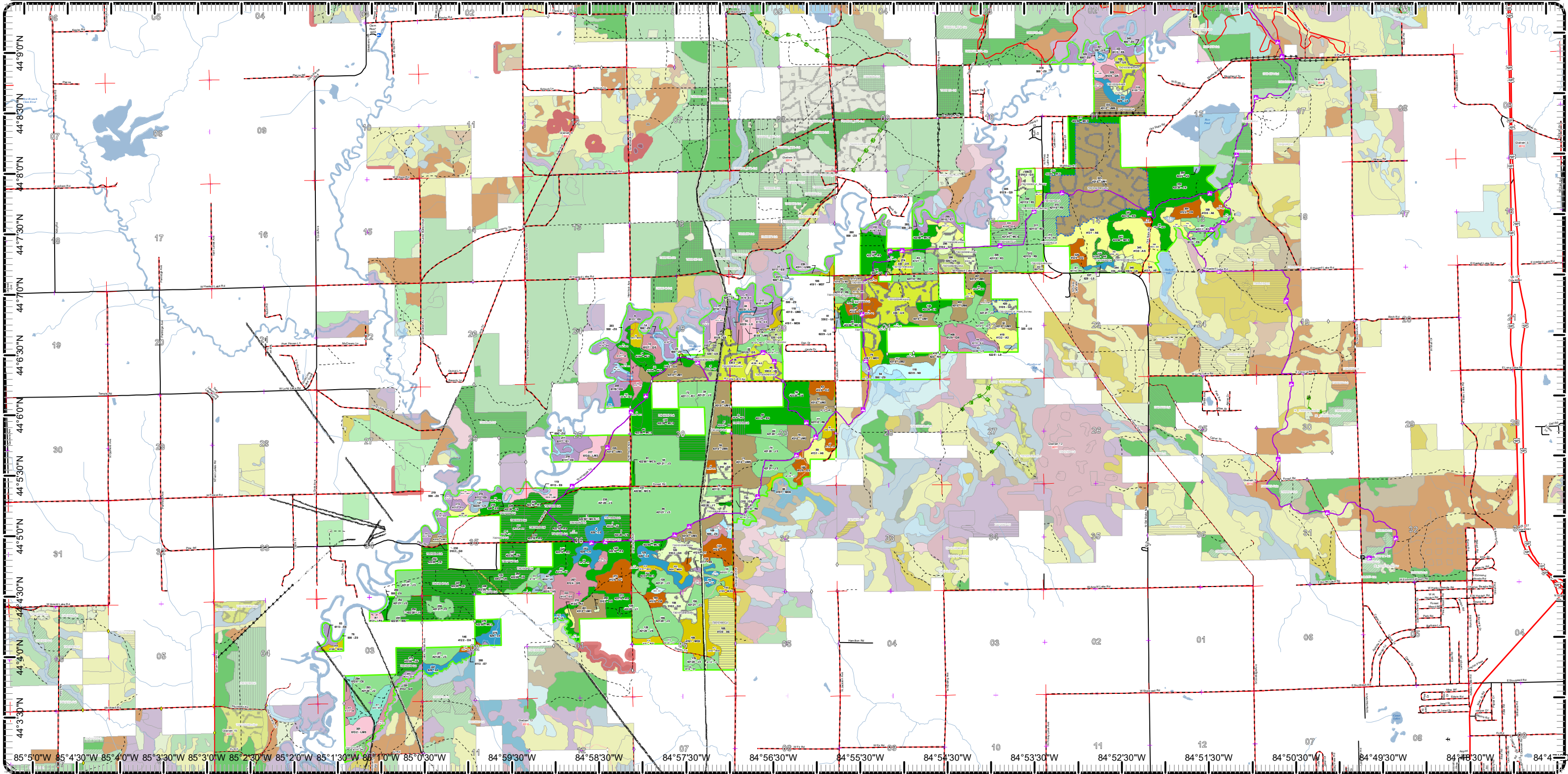
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 10
 T19N R06W Sec. 1-3,10
 County: Clare
 Unit: Gladwin
 Mgmt Area: Kirtland's Warbler
 YOE: 2018
 Acres: 7303 GIS Calculated
 Examiner: Steve Nyhoff
 Map Revised: 6/14/2016
 Map Phase: Web-Post

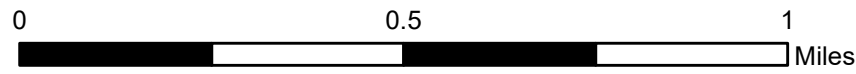
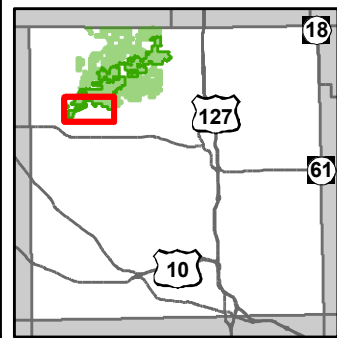


- Miris Corners
- Remonumented Section Corners
- Field Grade GPS Corners
- Gate
- Berms
- Culverts
- Boating Access Site
- Parking Lot
- Trailhead
- ORV Trails
- Snowmobile Trails
- Designated Hunter Walking Trails
- Designated ATV Trails
- Designated Snowmobile Trails
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Rivers
- Pipeline
- Powerline
- Compartment Boundary
- Treatments with Site Conditions
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- Seeding (tree species)
- Regeneration Survey
- Thinning (Crown, Low, Systematic)
- Shelter Wood (w/Reserves)
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
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- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland
- Lakes

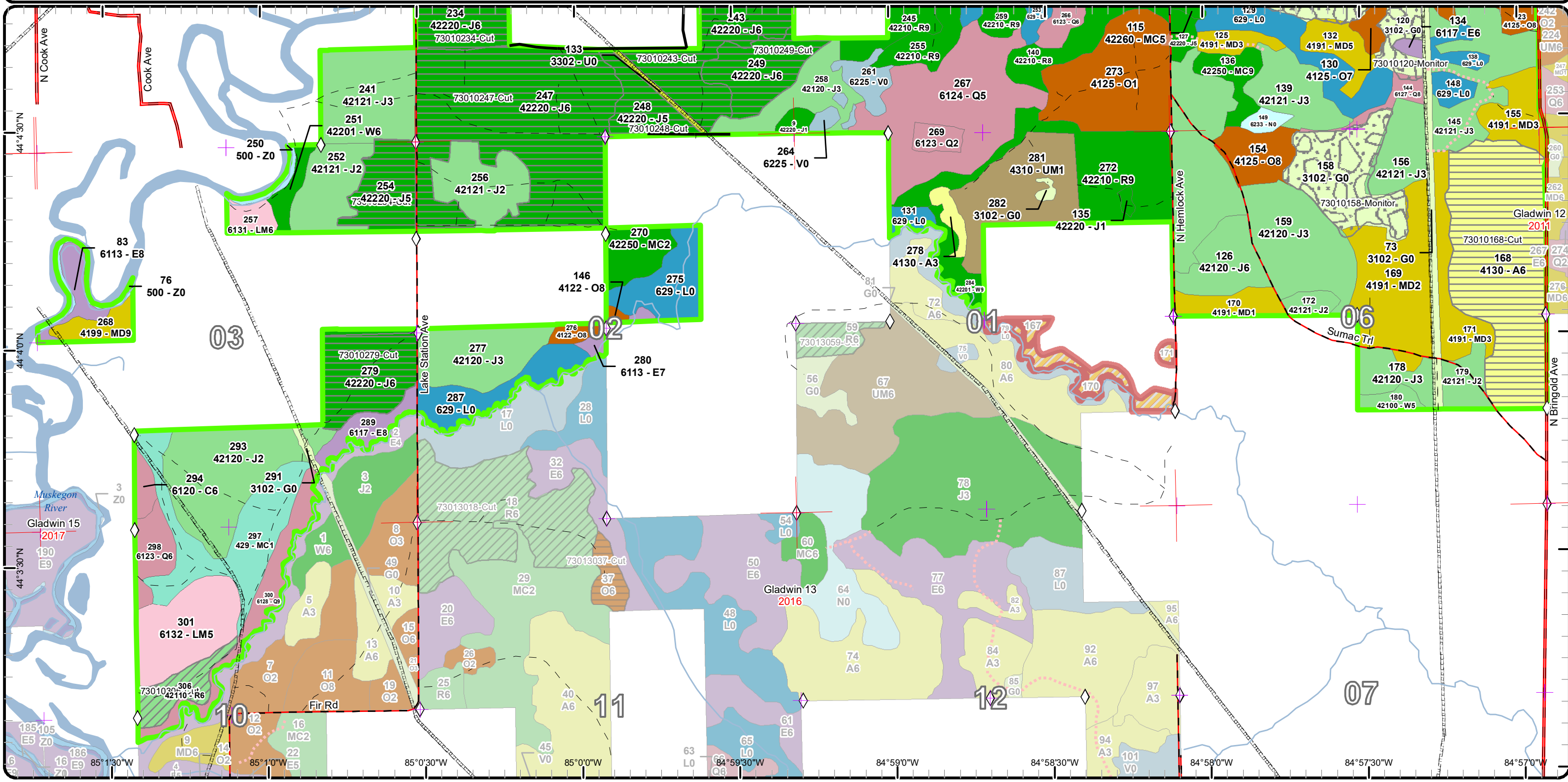


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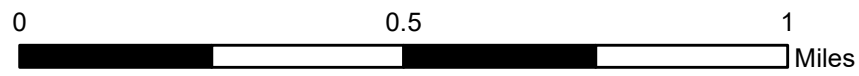
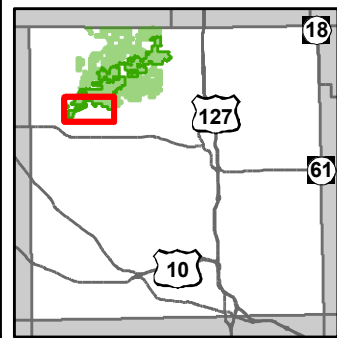


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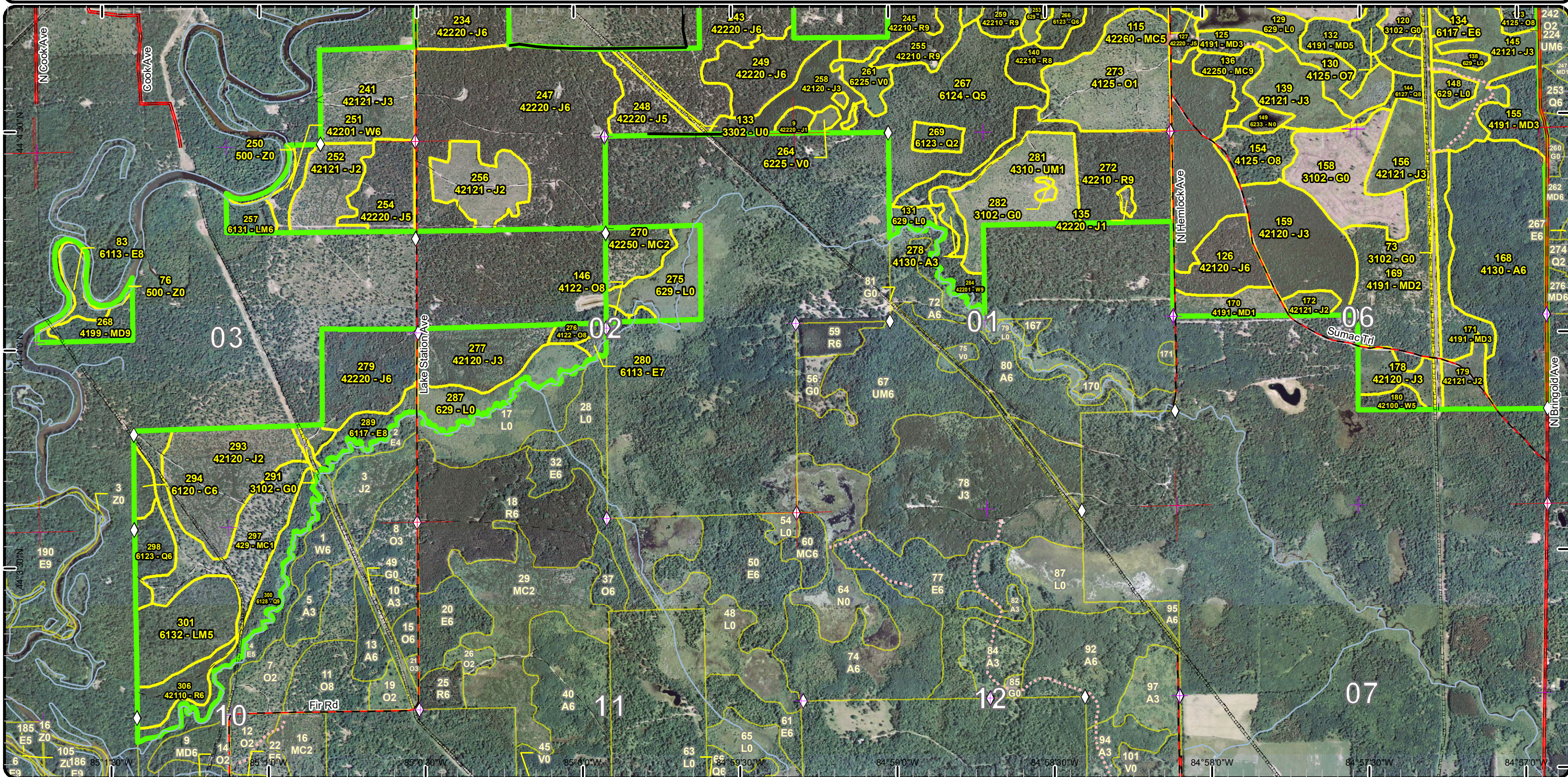


Stand Boundary Map

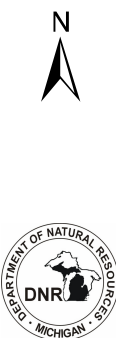
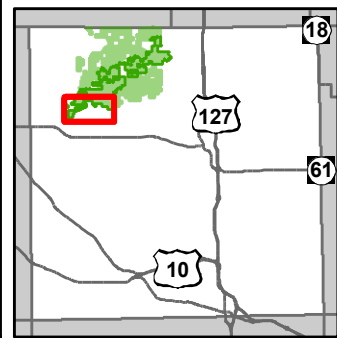
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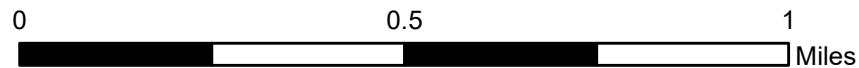
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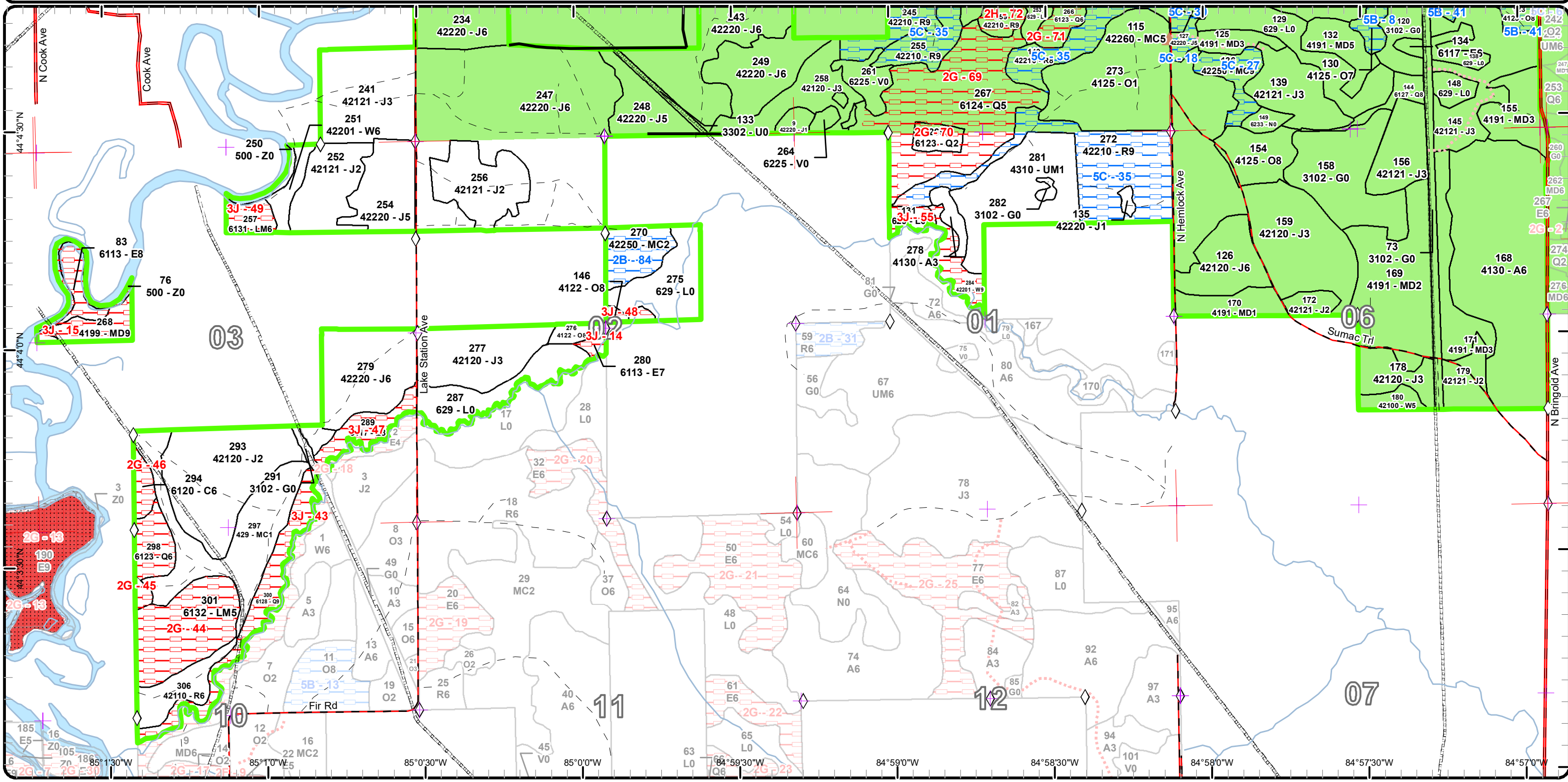
Special Conservation Areas



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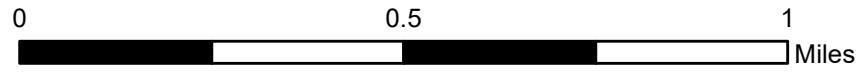
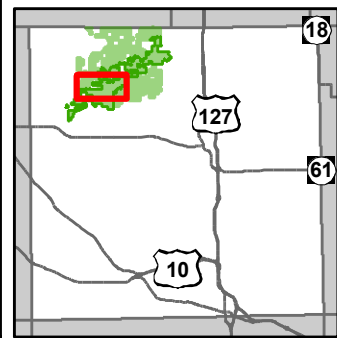


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- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 2B: Unknown if access through adjacent landowner(s) is possible
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 3J: Water quality / BMPs (stream, river, or lake)
- Stand Boundaries
- Ecological Reference Areas
- Kirtland Warbler Habitat
- Cold Water Lakes
- Other SCA (No Category Assigned)

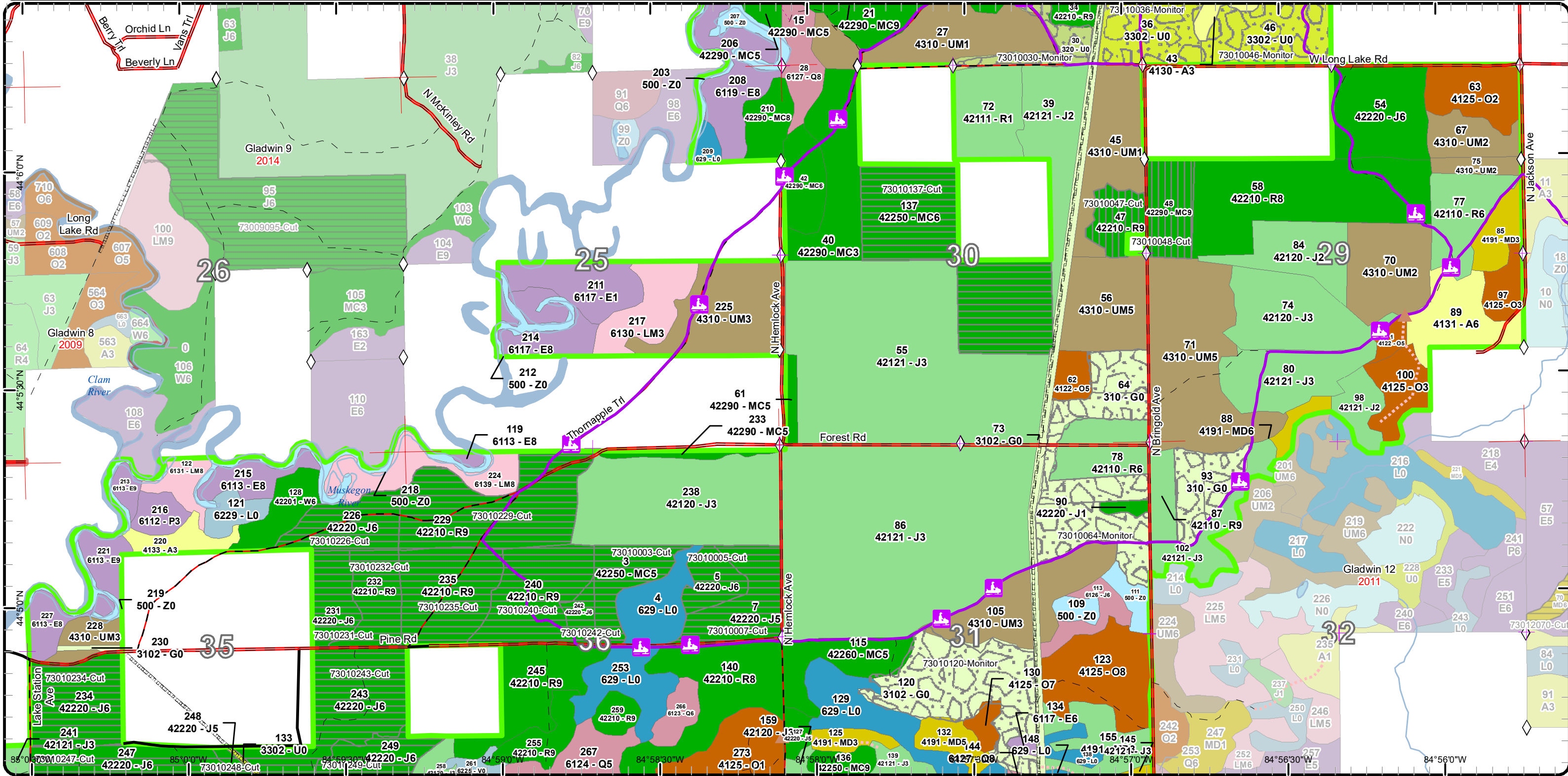


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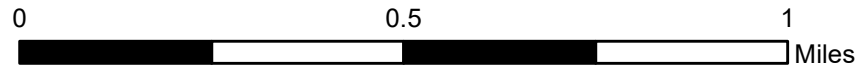
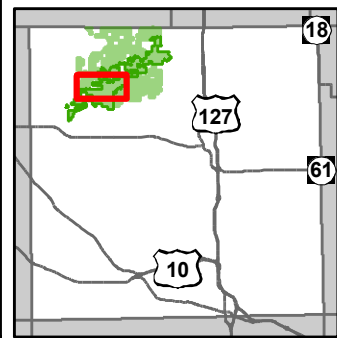


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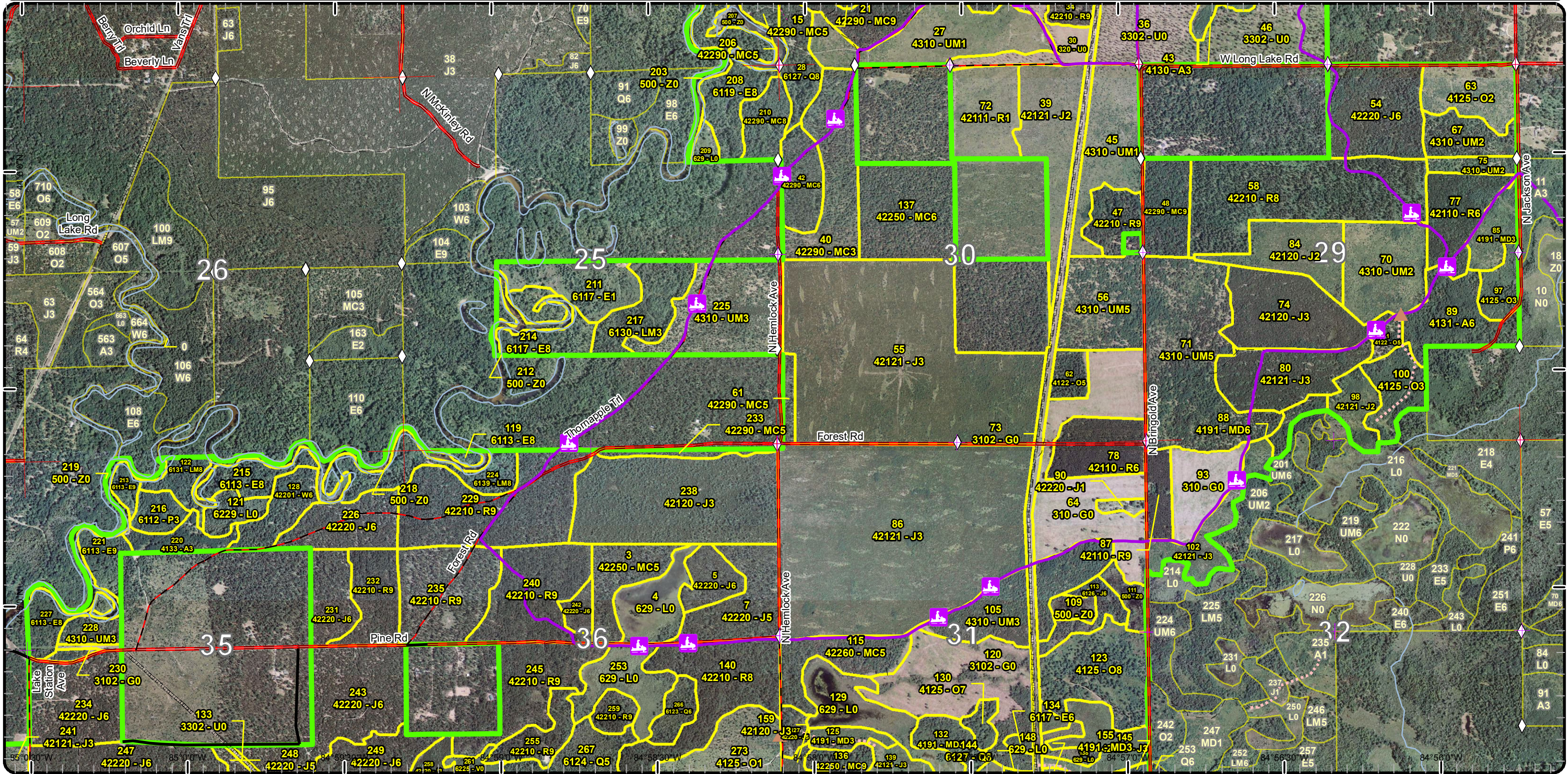


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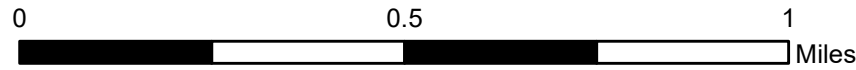
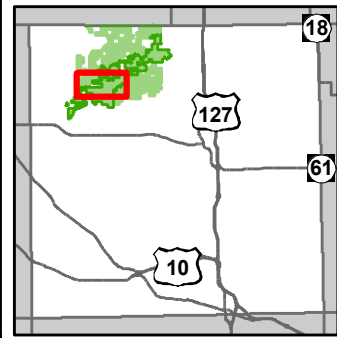


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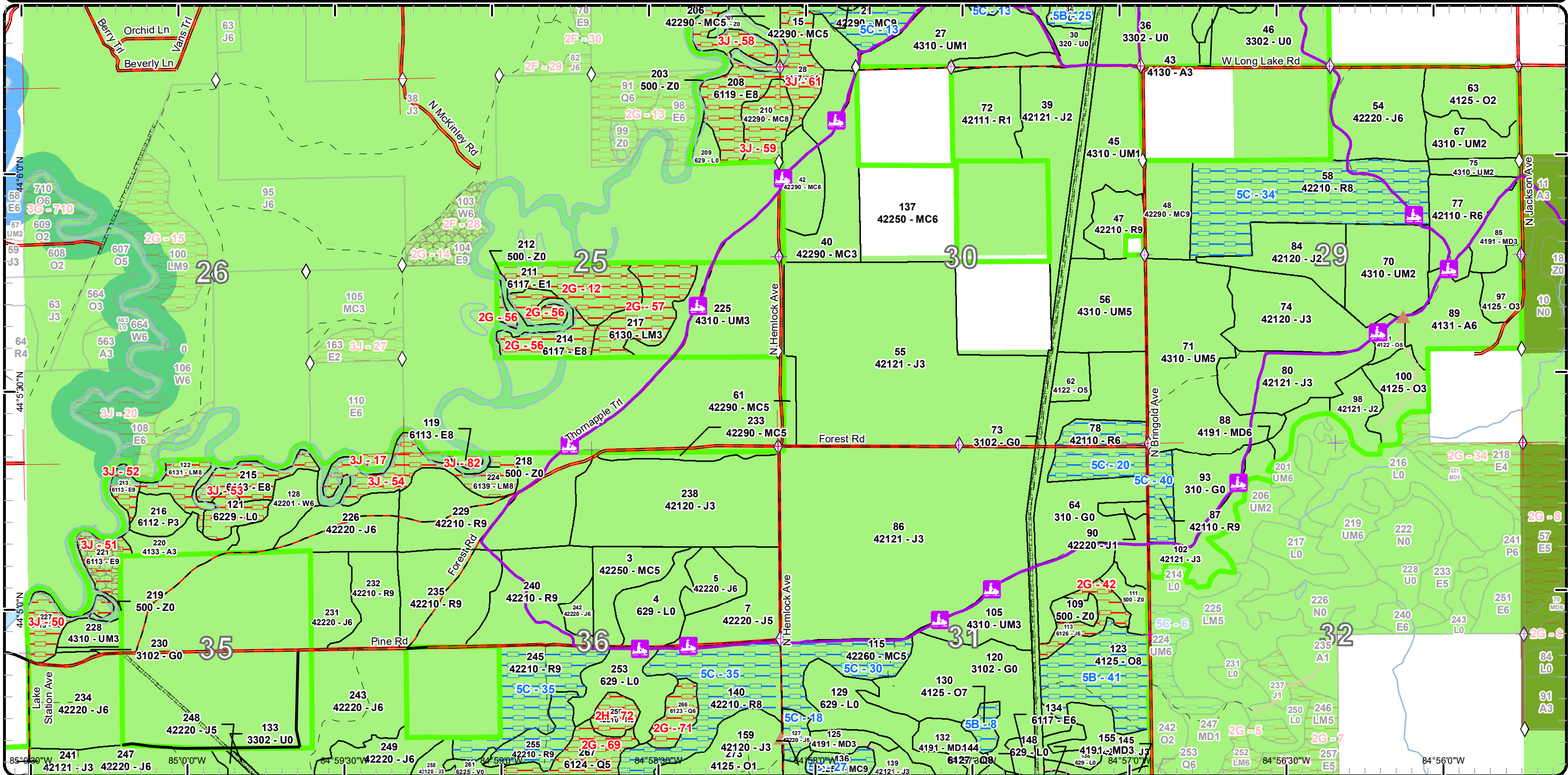


Special Conservation Areas & Site Conditions Map

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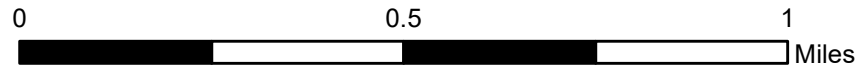
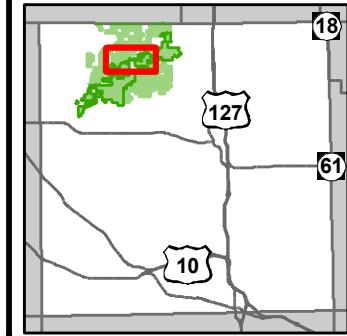


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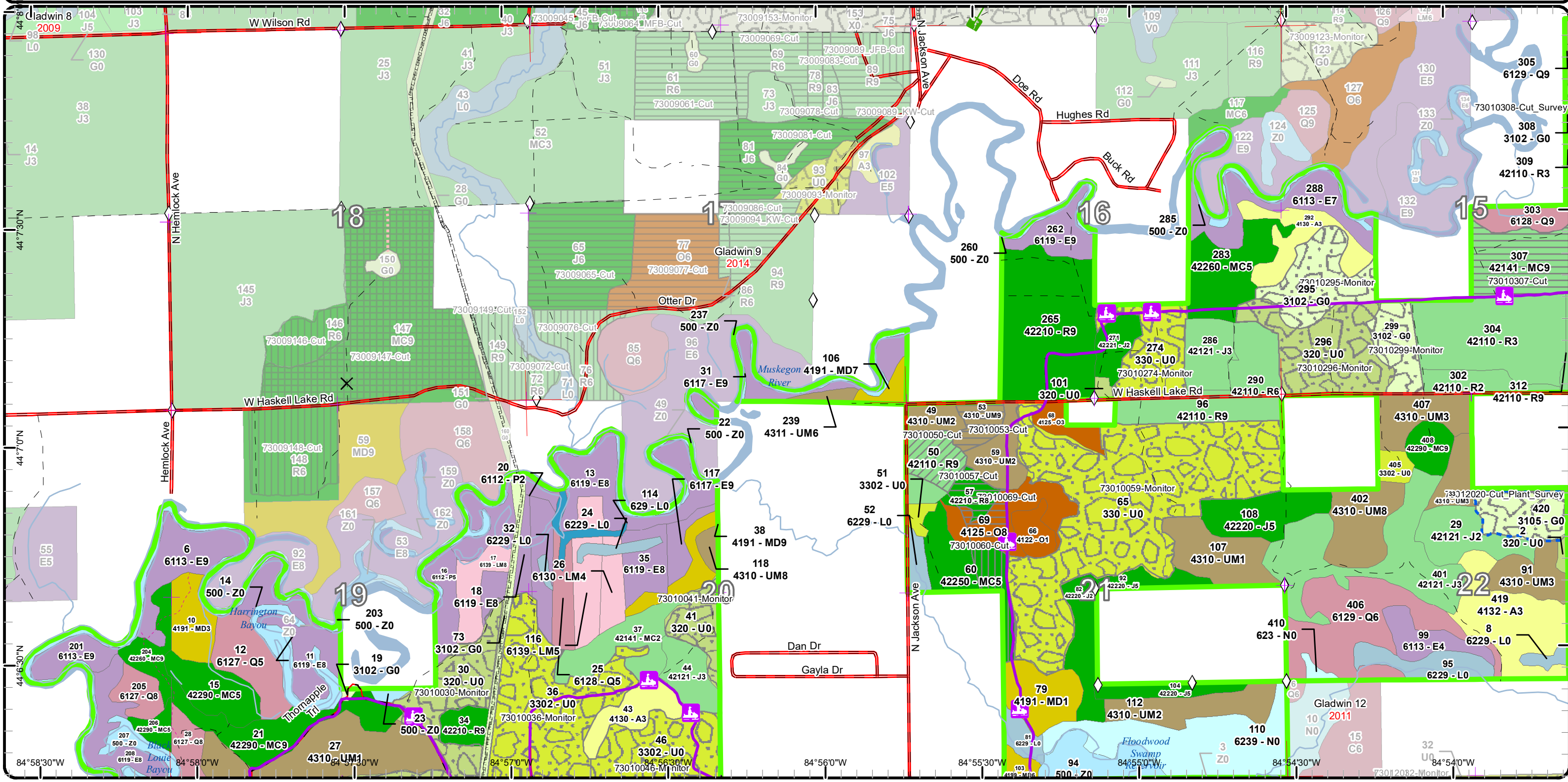


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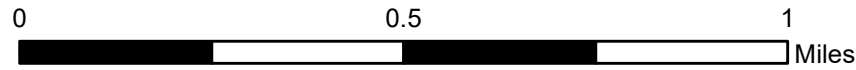
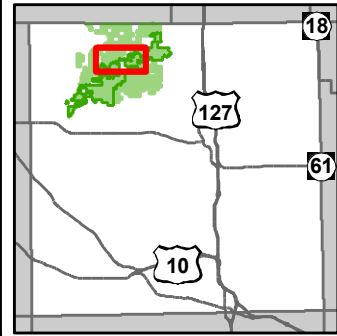


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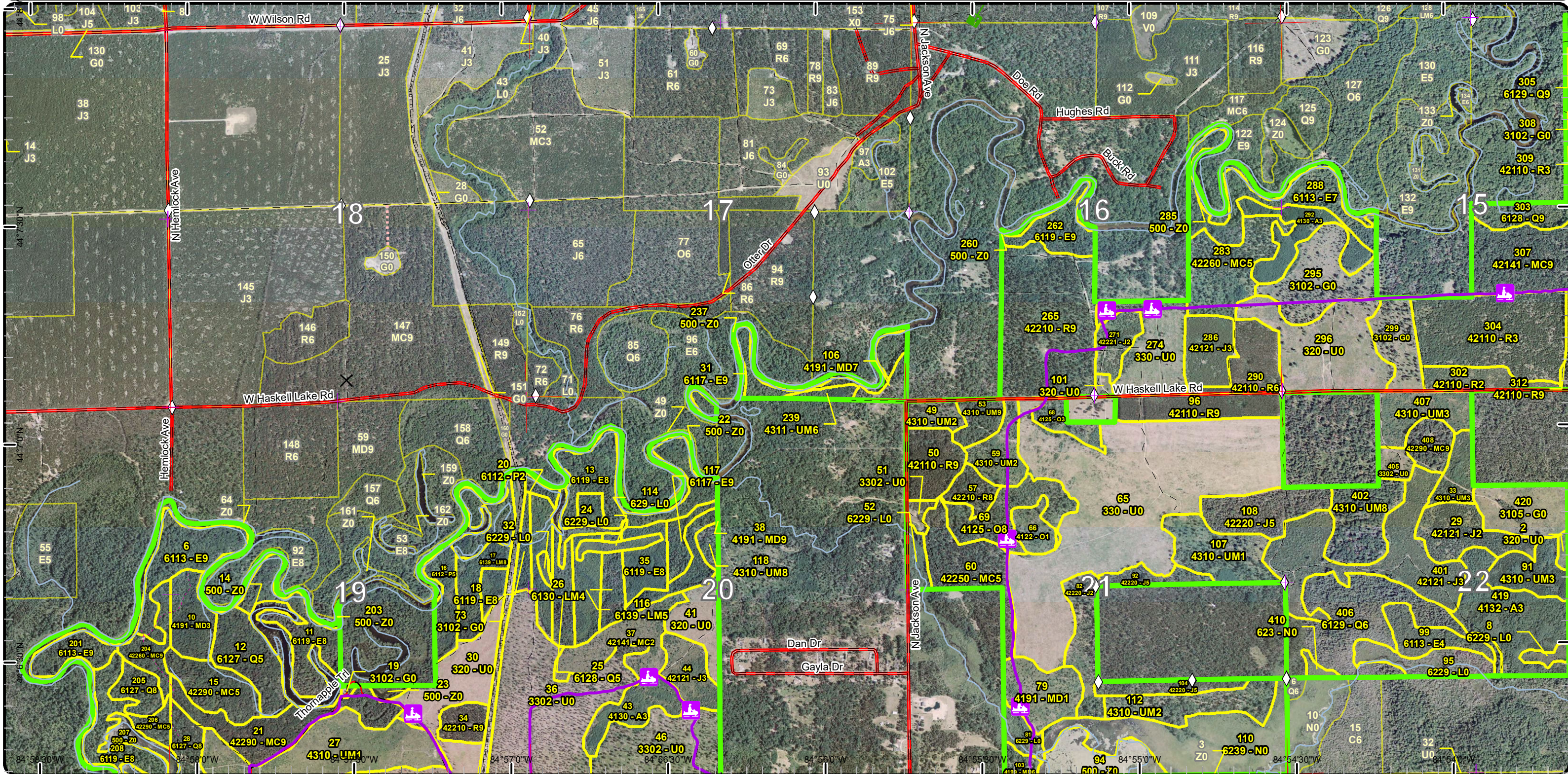


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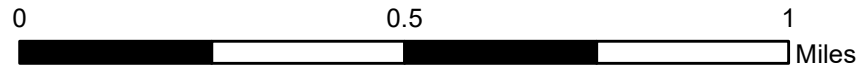
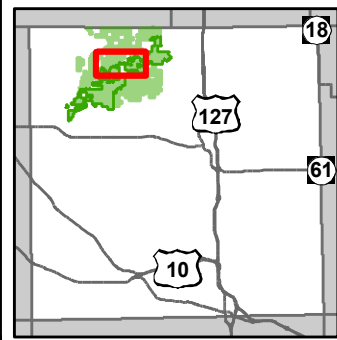


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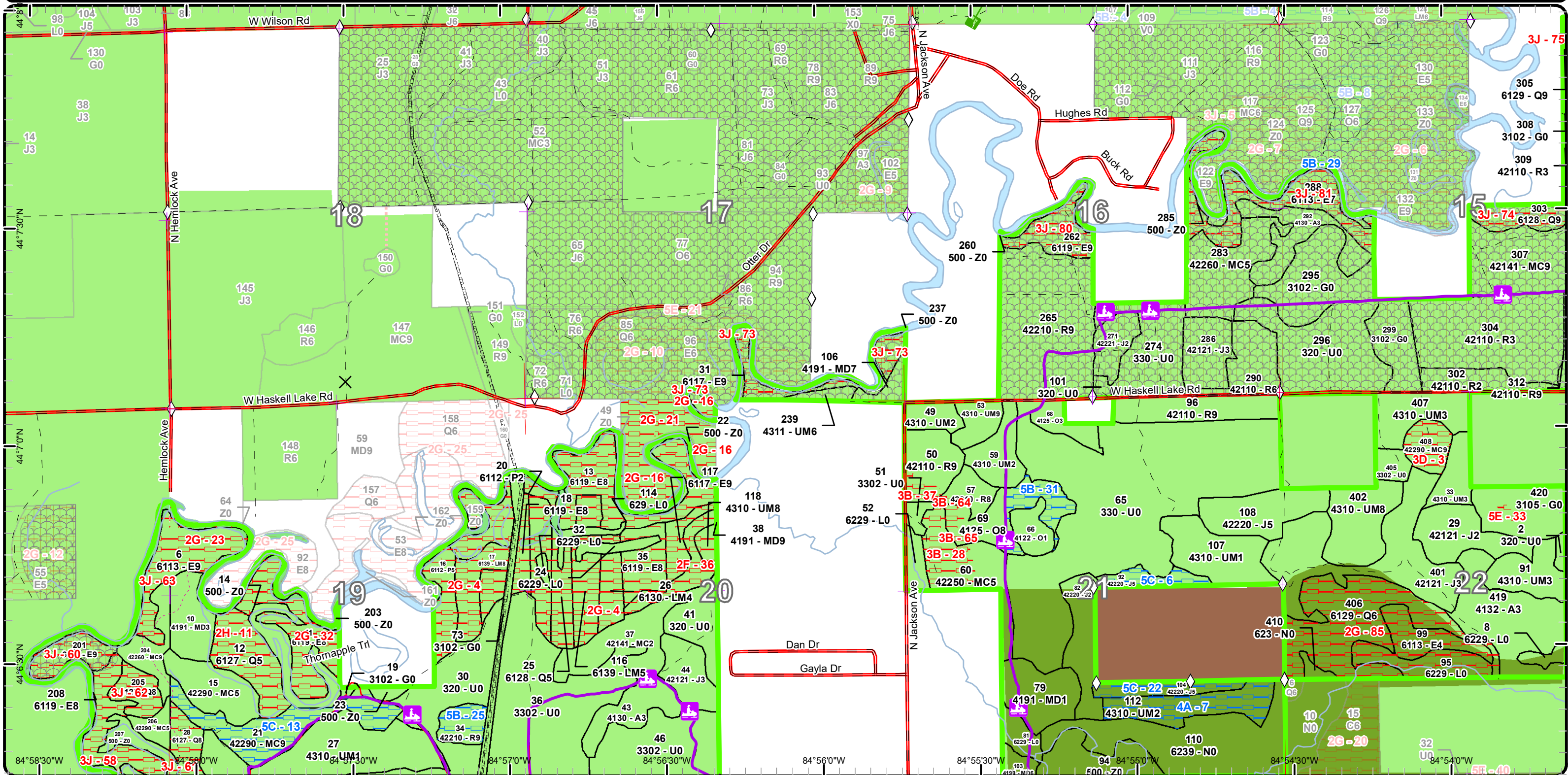


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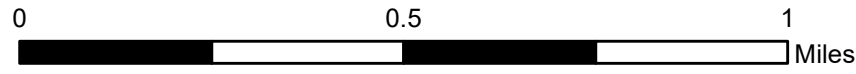
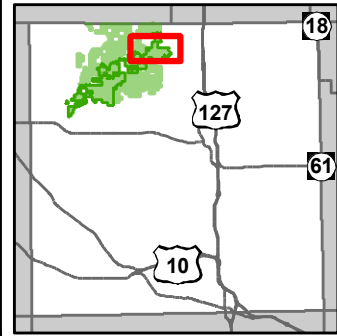


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- 4A: No Markets Available for these Forest Products
- 5B: Maintain for regeneration purposes
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- 2F: Too steep
- 2G: Too wet (sensitive soils, does not include access issues)
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 🟩 3B: Threatened, endangered, and special concern species/communities
- 🟦 3D: Recreational / Scenic values
- 🟦 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- 🟩 Stand Boundaries
- 🟩 Kirtland Warbler Habitat
- 🟦 Cold Water Streams
- 🟦 Cold Water Lakes
- 🟤 Wildlife Management Areas
- 🟨 Other SCA (No Category Assigned)

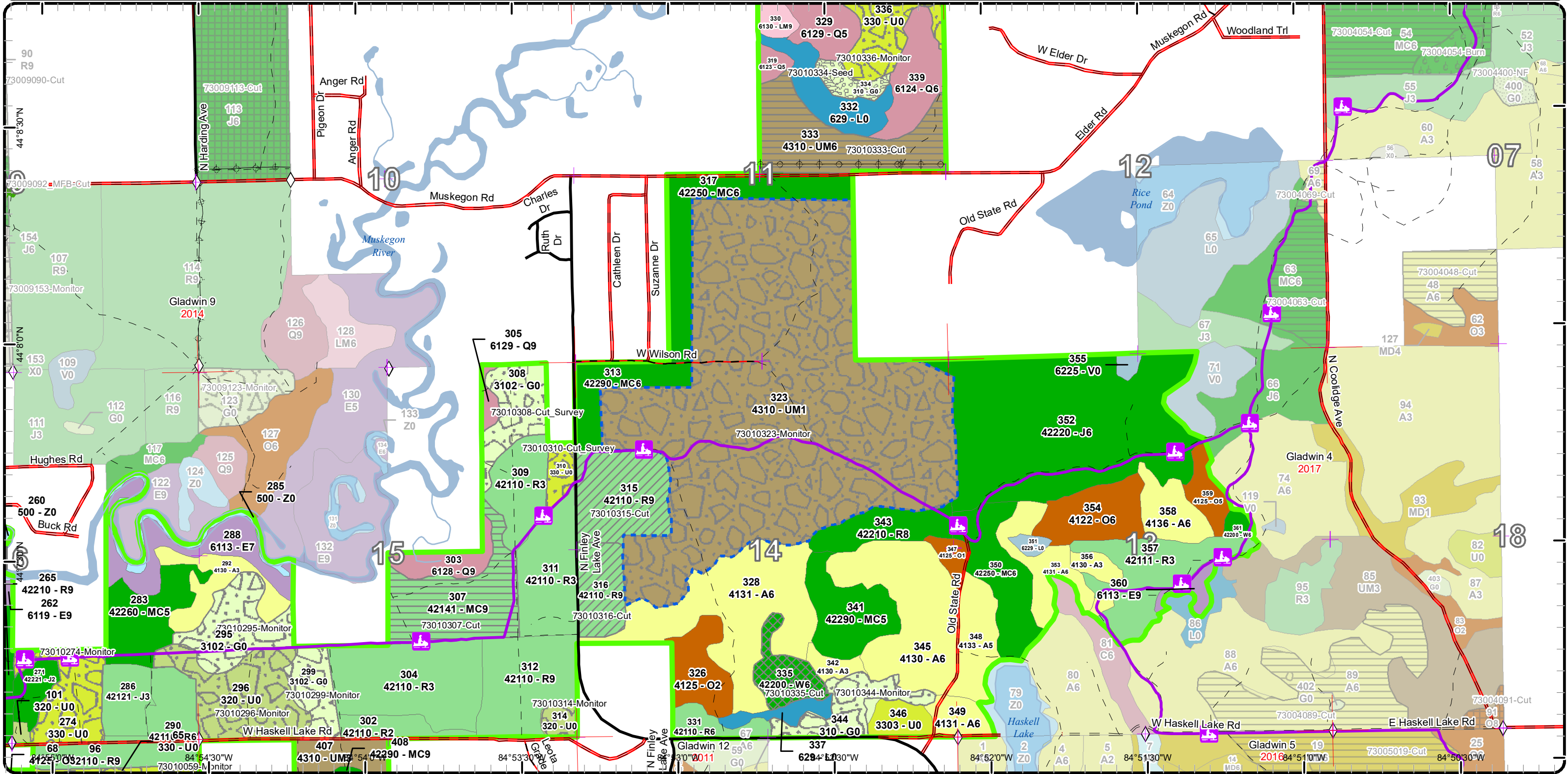


Cover Type & Treatments Map

Compartment: 10
 T19N R06W Sec. 1-3,10
 County: Clare
 Unit: Gladwin
 Mgmt Area: Kirtland's Warbler
 YOE: 2018
 Acres: 7303 GIS Calculated
 Examiner: Steve Nyhoff
 Map Revised: 6/14/2016
 Map Phase: Web-Post

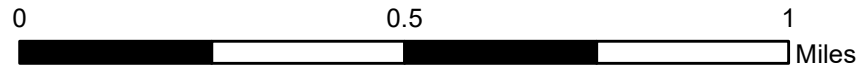
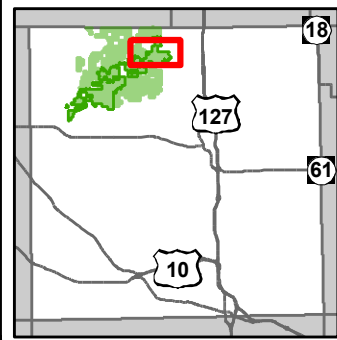


- Miris Corners
- Remonumented Section Corners
- ◇ Field Grade GPS Corners
- 🏠 Snowmobile Trails
- 🏠 Designated Hunter Walking Trails
- 🏠 Designated Snowmobile Trails
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Rivers
- ⚡ Powerline
- ▭ Compartment Boundary
- ▭ Treatments with Site Conditions
- ▭ Selection (Group, Single Tree)
- ▭ Clearcut (w/Reserves)
- ▭ Seeding (tree species)
- ▭ Regeneration Survey
- ▭ Thinning (Crown, Low, Systematic)
- ▭ 412 - Oak Types
- ▭ 413 - Aspen Types
- ▭ 421 - Planted Pines
- ▭ 422 - Natural Pines
- ▭ 430 - Upland Mixed Forest
- ▭ 611 - Lowland Deciduous Forest
- ▭ 612 - Lowland Coniferous Forest
- ▭ 613 - Lowland Mixed Forest
- ▭ 310 - Herbaceous Openland
- ▭ 320 - Upland Shrub
- ▭ 330 - Low Density Trees
- ▭ 500 - Water
- ▭ 622 - Lowland Shrub
- ▭ 629 - Mixed non-forested wetland
- ▭ Lakes

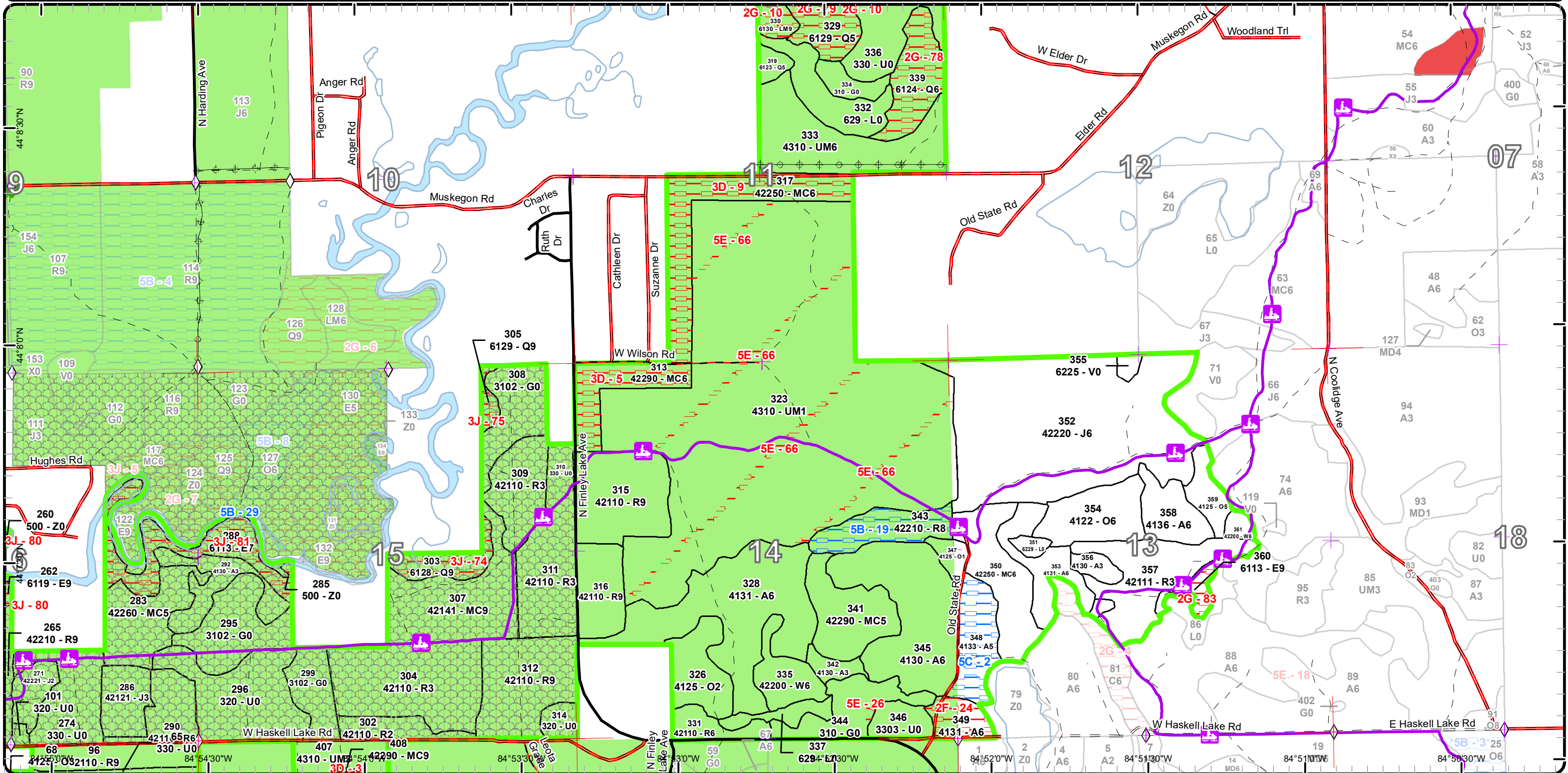


Special Conservation Areas & Site Conditions Map

Compartment: 10
 T19N R06W Sec. 1-3,10
 County: Clare
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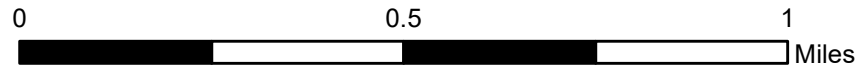
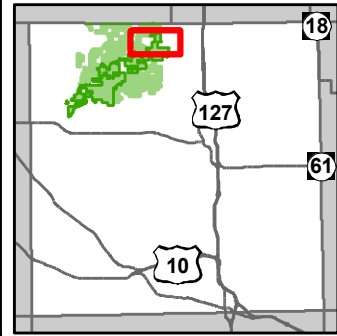


- Miris Corners
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- Field Grade GPS Corners
- Snowmobile Trails
- Designated Hunter Walking Trails
- Designated Snowmobile Trails
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Rivers
- Powerline
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2F: Too steep
- 2G: Too wet (sensitive soils, does not include access issues)
- 3D: Recreational / Scenic values
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Ecological Reference Areas
- Kirtland Warbler Habitat
- Cold Water Lakes
- Other SCA (No Category Assigned)

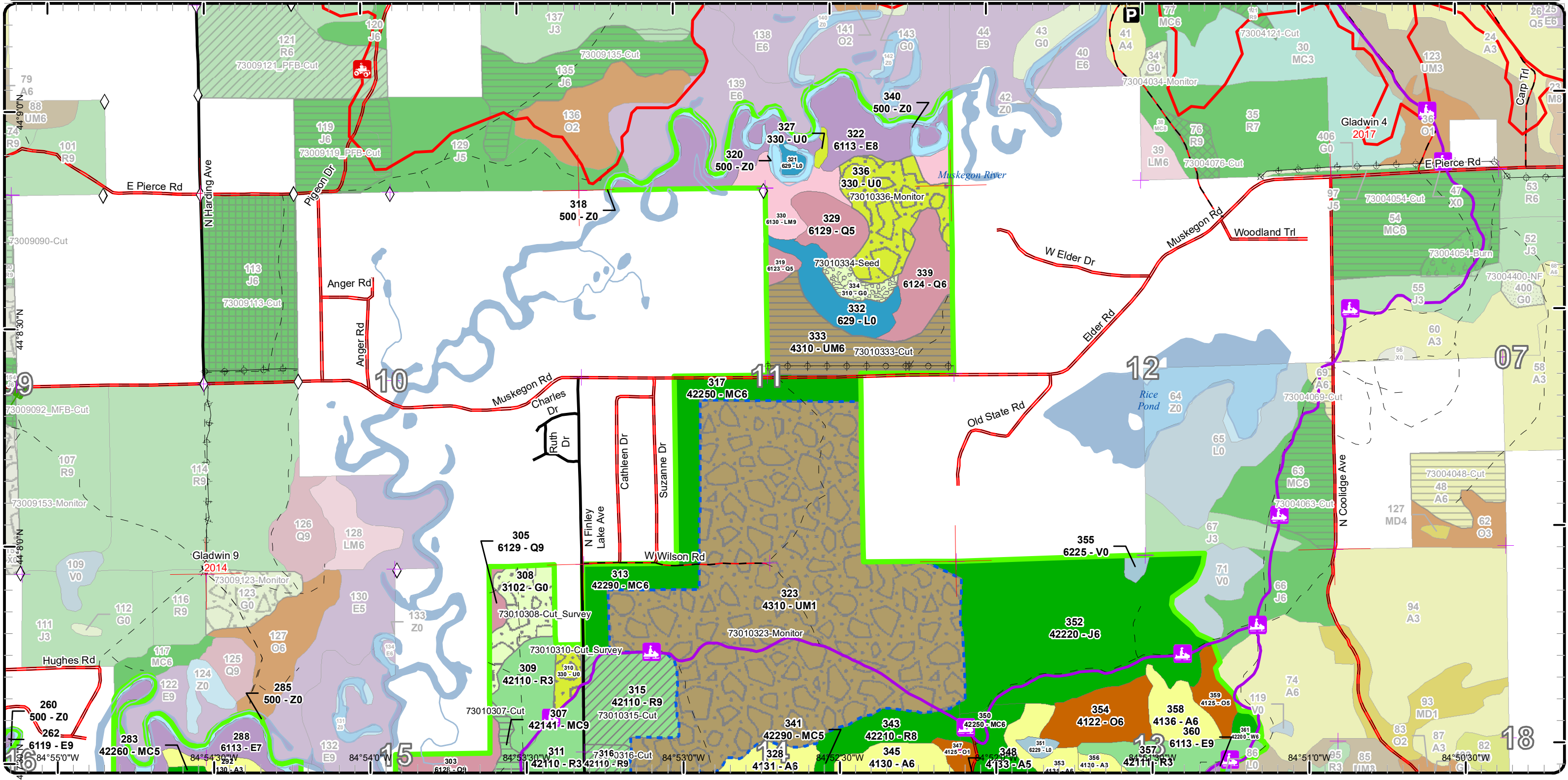


Cover Type & Treatments Map

Compartment: 10
 T19N R06W Sec. 1-3,10
 County: Clare
 Unit: Gladwin
 Mgmt Area: Kirtland's Warbler
 YOE: 2018
 Acres: 7303 GIS Calculated
 Examiner: Steve Nyhoff
 Map Revised: 6/14/2016
 Map Phase: Web-Post

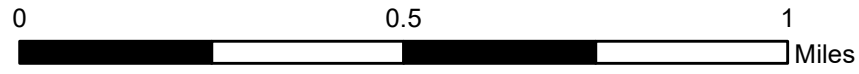
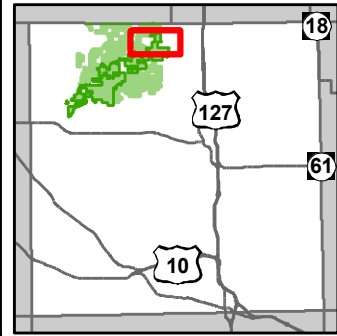


- | | | |
|--|---|---|
| <ul style="list-style-type: none"> — Miris Corners — Remonumented Section Corners ◇ Field Grade GPS Corners P Parking Lot ORV Trails Snowmobile Trails Designated Hunter Walking Trails Designated ATV Trails Designated Snowmobile Trails Paved Roads County Gravel Roads Poor Dirt Roads County Poor Dirt Roads | <ul style="list-style-type: none"> — Rivers — Powerline — Compartment Boundary — Treatments with Site Conditions Clearcut (w/Reserves) Seeding (tree species) Regeneration Survey Thinning (Crown, Low, Systematic) 412 - Oak Types 413 - Aspen Types 421 - Planted Pines 422 - Natural Pines 430 - Upland Mixed Forest 611 - Lowland Deciduous Forest 612 - Lowland Coniferous Forest | <ul style="list-style-type: none"> 613 - Lowland Mixed Forest 310 - Herbaceous Openland 330 - Low Density Trees 500 - Water 622 - Lowland Shrub 629 - Mixed non-forested wetland Lakes |
|--|---|---|

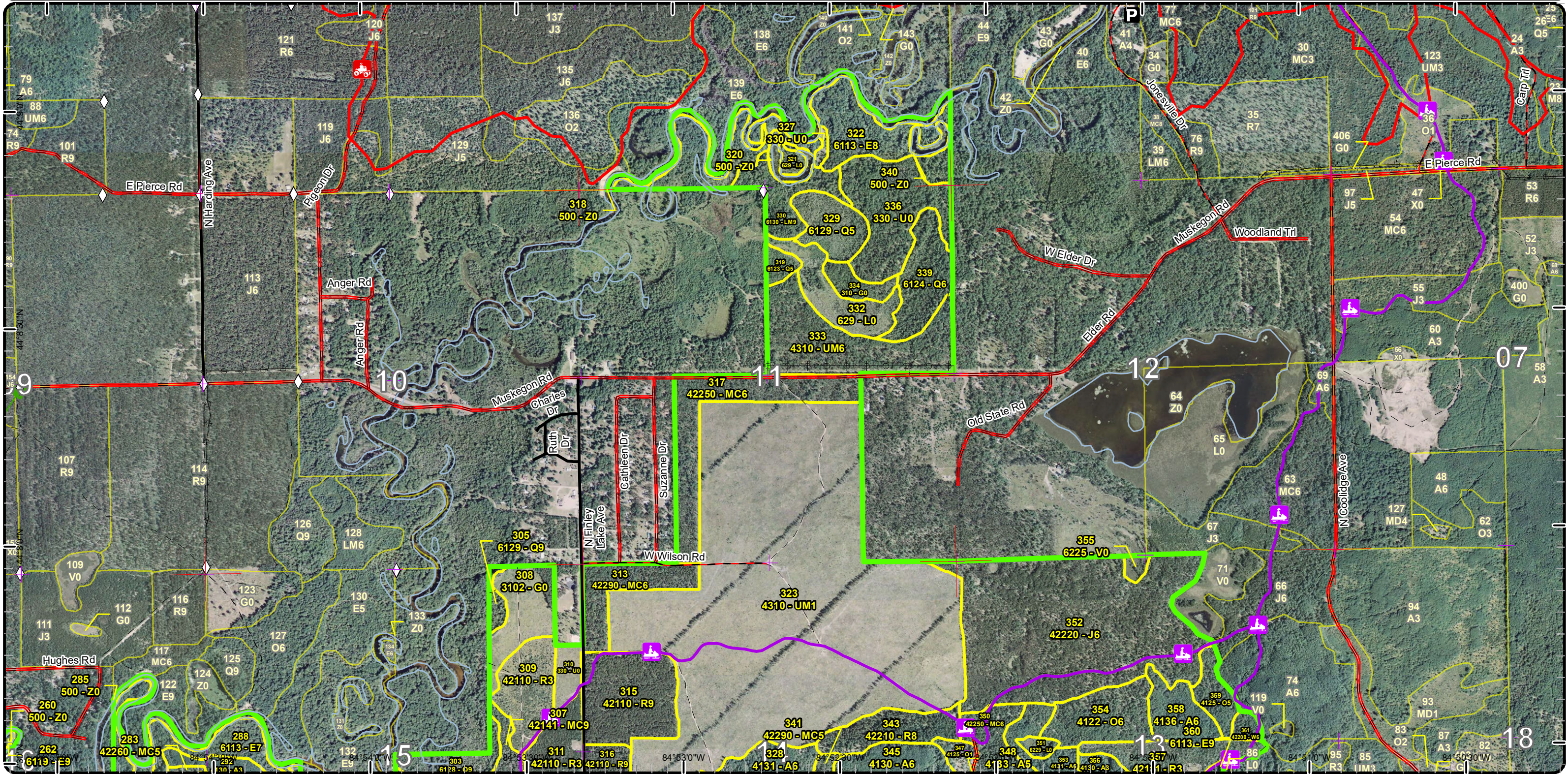


Stand Boundary Map

Compartment: 10
 T19N R06W Sec. 1-3,10
 County: Clare
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 Acres: 7303 GIS Calculated
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 Map Phase: Web-Post

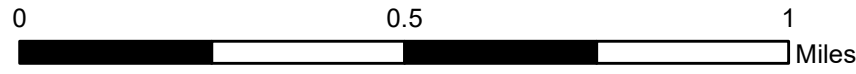
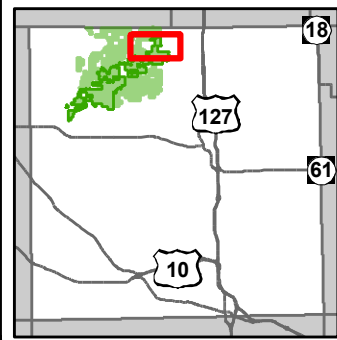


- Miris Corners
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- ◇ Field Grade GPS Corners
- P Parking Lot
- ORV Trails
- Snowmobile Trails
- Designated Hunter Walking Trails
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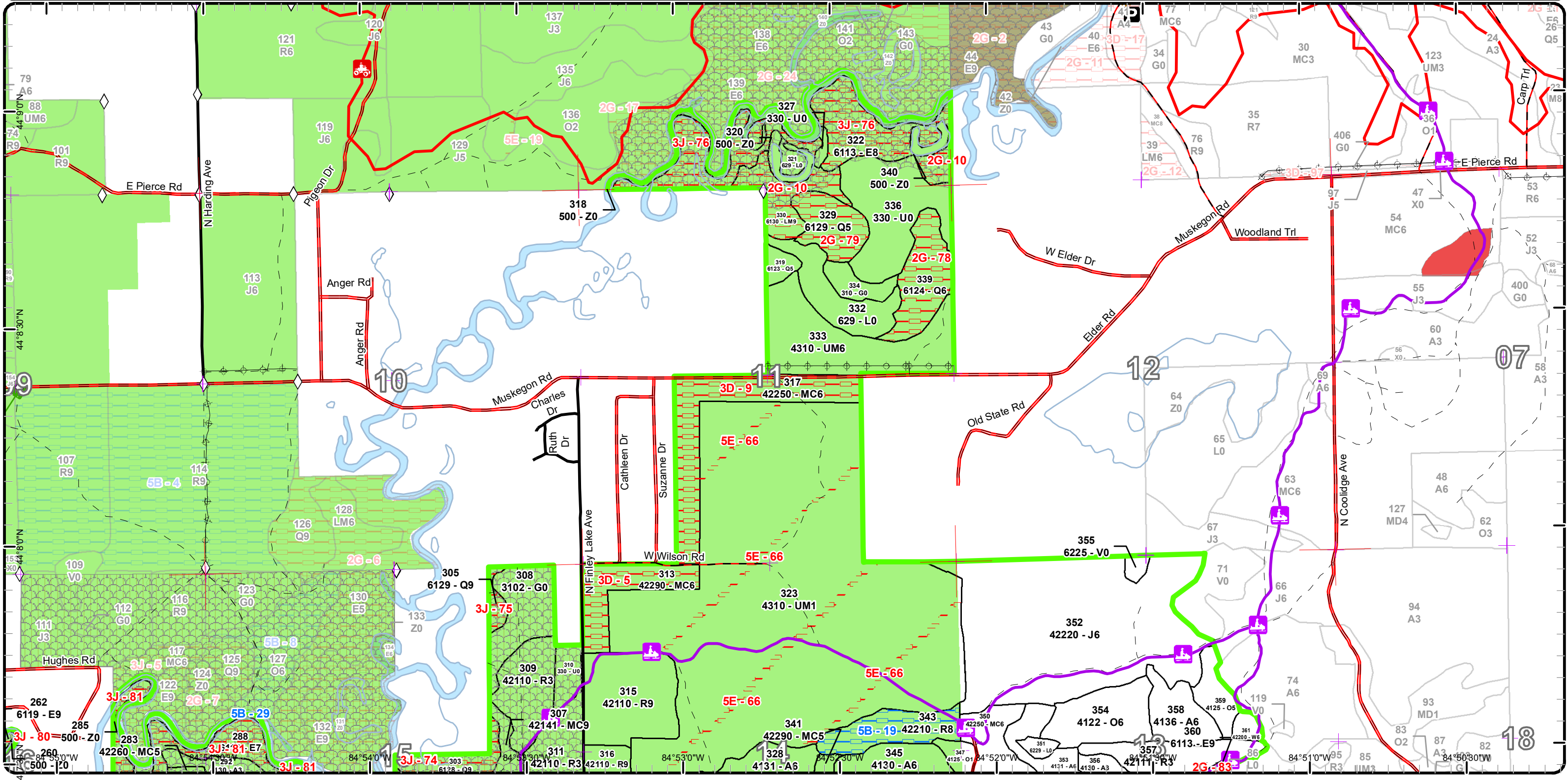


Special Conservation Areas & Site Conditions Map

Compartment: 10
 T19N R06W Sec. 1-3,10
 County: Clare
 Unit: Gladwin
 Mgmt Area: Kirtland's Warbler
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- Miris Corners
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- 2G: Too wet (sensitive soils, does not include access issues)
- 3D: Recreational / Scenic values
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Ecological Reference Areas
- Kirtland Warbler Habitat
- Cold Water Lakes
- Potential Old Growth
- Other SCA (No Category Assigned)



Report 1 – Total Acres by Cover Type and Age Class

Gladwin Mgt. Unit

Compartment 10 Year of Entry 2018

Steve Nyhoff : Examiner



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	0	26	215	28	123	0	0	0	20	0	0	0	0	0	0	0	0	412
Bog	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Cedar	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
Herbaceous Openland	345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	345
Jack Pine	0	44	879	177	33	356	241	51	22	0	0	0	0	0	0	0	0	0	1803
Low-Density Trees	347	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	347
Lowland Aspen/Balsam Poplar	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	26	35
Lowland Conifers	0	0	0	0	10	9	0	12	16	0	47	23	71	0	0	0	0	98	286
Lowland Deciduous	0	0	0	0	36	0	2	0	0	23	82	27	9	0	0	0	0	205	384
Lowland Mixed Forest	0	0	0	23	0	0	0	0	0	35	0	0	0	0	0	0	0	95	153
Lowland Shrub	223	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223
Marsh	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
Mixed Upland Deciduous	0	0	38	116	4	0	0	12	5	0	0	0	10	0	0	0	0	10	195
Natural Mixed Pines	0	0	15	0	27	39	0	179	85	86	14	0	0	0	0	0	0	44	489
Oak	0	95	20	36	4	34	0	0	16	65	5	0	0	0	0	0	0	0	275
Planted Mixed Pines	0	0	21	0	0	0	0	0	44	0	0	0	0	0	0	0	0	0	65
Red Pine	0	28	71	84	25	0	34	66	250	250	100	0	0	0	0	0	0	0	908
Upland Conifers	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45
Upland Mixed Forest	0	423	212	117	111	0	0	55	0	0	0	0	0	0	0	0	0	25	943
Upland Shrub	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101
Water	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	160
White Pine	0	0	0	0	0	5	6	10	3	15	16	0	0	0	0	0	0	0	55
Total	1244	635	1282	777	278	566	283	385	441	494	264	55	90	0	0	0	0	503	7297



Report 2 – Treatment Summary

Gladwin Mgt. Unit

Year of Entry: 2018

Acres of Harvest

Compartment 10

Total Compartment Acres: 7,303

Commercial Harvest - 1026
 Harvests with Site Condition - 0
 Next Step Harvest - 0
 Habitat Cut - 0

Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	97	0	0	0	0	0	0	0	0	97
Jack Pine	412	0	0	0	0	0	0	0	0	412
Natural Mixed Pines	101	0	0	0	30	0	0	0	0	132
Oak	7	0	0	0	0	0	0	0	0	7
Planted Mixed Pines	44	0	0	0	0	0	0	0	0	44
Red Pine	167	0	0	0	14	83	0	0	0	263
Upland Mixed Forest	55	0	0	0	0	0	0	0	0	55
White Pine	0	15	0	0	0	0	0	0	0	15
Total	885	15	0	0	44	83	0	0	0	1026

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	1026	0	0	7	0	0	1034	0	0	2067
Next Step	0	652	775	0	0	107	2202	0	0	3736
Total	1026	652	775	7	0	107	3235	0	0	5803



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
3	73010003-Cut	20.4	42250 - Pine, Oak	Poletimber Medium	68	51-80	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u>			Harvest the stand as a clearcut with retention. Then replant with jack pine and red pine. Keep the retention in pockets and between 3 and 4%. It								
<u>Specs:</u>			should be cut as part of a KW block 121 that is scheduled to be planted in 2019.								
<u>Next Step</u>			SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)								
<u>Treatments:</u>											
<u>Acceptable</u>			75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.								
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u>			10/01/2016								
5	73010005-Cut	12.7	42220 - Natural Jack Pine	Poletimber Well	67	51-80	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u>			Harvest the stand as a clearcut with retention. Then replant with jack pine and red pine. Keep the retention in pockets and between 3 and 4%. It is as								
<u>Specs:</u>			part of a KW block 121 that is scheduled to be planted in 2019.								
<u>Next Step</u>			SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)								
<u>Treatments:</u>											
<u>Acceptable</u>			75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.								
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u>			10/01/2016								
7	73010007-Cut	28.2	42220 - Natural Jack Pine	Poletimber Medium	68	51-80	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u>			Harvest the stand as a clear cut with retention. The retention should be kept in pocket not to exceed 5% by area.								
<u>Specs:</u>											
<u>Next Step</u>			SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)								
<u>Treatments:</u>											
<u>Acceptable</u>			75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.								
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u>			10/01/2016								
30	73010030-Monitor	35.2	320 - Upland Shrub	Nonstocked	0	Unspec ified	Monitoring	Artificial Regen(1yr)	42211 - Natural Red Pine, Mixed Deciduous	Two-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u>											
<u>Specs:</u>											
<u>Next Step</u>			; Monitoring, Artificial Regen(3yr)								
<u>Treatments:</u>											
<u>Acceptable</u>			planted red pine mixed with oak.								
<u>Regen:</u>											
<u>Other</u>			Percent to Treat = 100%								
<u>Comment:</u>											
<u>Proposed Start Date:</u>			02/04/2016								



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
36	73010036-Monitor	69.1	3302 - Low Density Conifer Trees	Nonstocked	0	Unspecified	Monitoring	Natural Regen (Intermediate)	429 - Mixed Upland Conifers	Two-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> The site need to be check for natural regeneration in 2018.											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> mixture of red pine, jack pine and oak.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
Proposed Start Date: 10/01/2017											
41	73010041-Monitor	12.8	320 - Upland Shrub	Nonstocked		Unspecified	Monitoring	Artificial Regen(1yr)	42121 - Planted Jack Pine, Mixed Deciduous	Even-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u>											
<u>Specs:</u>											
<u>Next Step</u> ; Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable</u> planted jack pine											
<u>Regen:</u>											
<u>Other</u> Percent to Treat = 100%											
<u>Comment:</u>											
Proposed Start Date: 02/04/2016											
46	73010046-Monitor	35.3	3302 - Low Density Conifer Trees	Nonstocked	0	Unspecified	Monitoring	Natural Regen (Intermediate)	429 - Mixed Upland Conifers	Two-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> The stand was harvested and the regeneration needs to be check in 2018.											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> mixture of pines and oak											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
Proposed Start Date: 10/01/2017											
47	73010047-Cut	13.6	42210 - Natural Red Pine	Sawtimber Well	73	111-140	Harvest	Shelterwood	4221 - Natural Red Pine	Two-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> harvest the stand by removing the jack pine and aspen. Then mark the stand down to and average of 40 Sq. Ft. The trees should be kept in group											
<u>Specs:</u> to help avoid windthrow and provide light to regenerated pines, oak, and aspen.											
<u>Next Step</u> Monitoring, Natural Regen (Re-Inventory)											
<u>Treatments:</u>											
<u>Acceptable</u> The stand should regenerate to a mix of hardwood and conifer.											
<u>Regen:</u>											
<u>Other</u> The jack pine and oak are declining.											
<u>Comment:</u>											
Proposed Start Date: 10/01/2017											



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
48	73010048-Cut	20.7	42290 - Natural Mixed Pine	Sawtimber Well	73	81-110	Harvest	Shelterwood	4221 - Natural Red Pine	Two-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription harvest the stand by removing the jack pine and aspen. Then mark the stand down to and average of 40 Sq. Ft. The trees should be kept in group
Specs: to help avoid windthrow and provide light to regenerated pines, oak, and aspen.

Next Step SitePrep, Scarification; Monitoring, Natural Regen (Re-Inventry)
Treatments:

Acceptable a mixture of pines and hardwoods.
Regen:

Other The jack pine and oaks are declining. Harvest would be best in late summer or fall to get some scarification.
Comment:

Proposed Start Date: 10/01/2017

50	73010050-Cut	12.1	42110 - Planted Red Pine	Sawtimber Well	86	171-200	Harvest	Low Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Harvest the stand as a thinned taking the
Specs: BA down to 90 BA. The thinning should mainly be from below. However do not just cut the smaller and poorly formed trees. Some of the larger pine should also be taken.

Next Step
Treatments:

Acceptable
Regen:

Other An area is to be left uncut along he south side of the stand as a buffer to maintain habitat for Secretive Locust.
Comment:

Proposed Start Date: 10/01/2017

53	73010053-Cut	8.1	4310 - Pine, Oak Mix	Sawtimber Well	63	81-110	Harvest	Clearcut with Retention	4122 - Oak, Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription The stand could be harvested as a clear cut with retention pockets. There is a significant amount of advance regeneration in the stand and it is a
Specs: mixture of oak and pine. The stand should be interplanted with red pine after the harvest.

Next Step Planting, Interplant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)
Treatments:

Acceptable oak and planted red pine mixed with some maple and aspen.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

57	73010057-Cut	6.7	42210 - Natural Red Pine	Sawtimber Medium	63	51-80	Harvest	Clearcut with Retention	42111 - Planted Red Pine, Mixed Deciduous	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription The stand should be harvested as a clear cut with retention pockets. After it is harvested interplant with red pine.
Specs:

Next Step Planting, Interplant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)
Treatments:

Acceptable Interplanted red pine mixed with oak, aspen, maple, and natural pines.
Regen:

Other An area is to be left uncut along he south side of the stand as a buffer to maintain habitat for Secretive Locust.
Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
59	73010059- Monitor	144.5	4310 - Pine, Oak Mix	Sapling Medium	15	Immature	Monitoring	Artificial Regen(3yr)	4122 - Oak, Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**PrescriptionSpecs:Next Step Monitoring, Artificial Regen(1yr)Treatments:Acceptable A mix of planted red pine and natural oak regeneration.Regen:Other Percent to Treat = 100%Comment:Proposed Start Date: 06/01/2018

60	73010060-Cut	9.8	42250 - Pine, Oak	Poletimber Medium	87	111- 140	Harvest	Shelterwood	4122 - Oak, Pine	Two-Aged	Proposal
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Habitat Cut: No**Site Condition:**Prescription The stand should be shelterwood harvested. retaining all the red pines and mark some oaks for retention. This should leave the stand with 40-60 BA of pine.Next Step Monitoring, Natural Regen (Re-Inventory)Treatments:Acceptable oak and pine in understory.Regen:Other An area is to be left uncut along the west side of the stand as a 10 chain buffer to maintain habitat for Secretive Locust.Comment:Proposed Start Date: 10/01/2017

64	73010064- Monitor	37.2	310 - Herbaceous Openland	Nonstocked	0	Unspec ified	Monitoring	Artificial Regen(3yr)	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**PrescriptionSpecs:Next Step Monitoring, Artificial Regen(1yr)Treatments:Acceptable A mix of planted red pine and natural oak regeneration.Regen:Other Percent to Treat = 100%Comment:Proposed Start Date: 06/01/2018

64	73010064- Monitor	37.2	310 - Herbaceous Openland	Nonstocked	0	Unspec ified	Monitoring	Artificial Regen(3yr)	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**PrescriptionSpecs:Next Step Monitoring, Artificial Regen(1yr)Treatments:Acceptable A mix of planted red pine and natural oak regeneration.Regen:Other Percent to Treat = 100%Comment:Proposed Start Date: 06/01/2018



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
64	73010064-Monitor	37.2	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(3yr)	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription Specs:</u>											
<u>Next Step</u> Monitoring, Artificial Regen(1yr)											
<u>Treatments:</u>											
<u>Acceptable Regen:</u> A mix of planted red pine and natural oak regeneration.											
<u>Other Comment:</u> Percent to Treat = 100%											
<u>Proposed Start Date:</u> 06/01/2018											
64	73010064-Monitor	37.2	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(3yr)	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription Specs:</u>											
<u>Next Step</u> Monitoring, Artificial Regen(1yr)											
<u>Treatments:</u>											
<u>Acceptable Regen:</u> A mix of planted red pine and natural oak regeneration.											
<u>Other Comment:</u> Percent to Treat = 100%											
<u>Proposed Start Date:</u> 06/01/2018											
64	73010064-Monitor	37.2	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(3yr)	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription Specs:</u>											
<u>Next Step</u> Monitoring, Artificial Regen(1yr)											
<u>Treatments:</u>											
<u>Acceptable Regen:</u> A mix of planted red pine and natural oak regeneration.											
<u>Other Comment:</u> Percent to Treat = 100%											
<u>Proposed Start Date:</u> 06/01/2018											
64	73010064-Monitor	11.1	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(1yr)	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription Specs:</u>											
<u>Next Step</u> Planting, Initial Plant; ; Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable Regen:</u> A mix of planted red pine and natural oak regeneration.											
<u>Other Comment:</u> Percent to Treat = 100%											
<u>Proposed Start Date:</u> 06/01/2016											



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
64	73010064-Monitor	11.1	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(1yr)	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**PrescriptionSpecs:Next Step Planting, Initial Plant; ; Monitoring, Artificial Regen(3yr)Treatments:Acceptable A mix of planted red pine and natural oak regeneration.Regen:Other Percent to Treat = 100%Comment:Proposed Start Date: 06/01/2016

64	73010064-Monitor	11.1	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(1yr)	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**PrescriptionSpecs:Next Step Planting, Initial Plant; ; Monitoring, Artificial Regen(3yr)Treatments:Acceptable A mix of planted red pine and natural oak regeneration.Regen:Other Percent to Treat = 100%Comment:Proposed Start Date: 06/01/2016

64	73010064-Monitor	11.1	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(1yr)	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**PrescriptionSpecs:Next Step Planting, Initial Plant; ; Monitoring, Artificial Regen(3yr)Treatments:Acceptable A mix of planted red pine and natural oak regeneration.Regen:Other Percent to Treat = 100%Comment:Proposed Start Date: 06/01/2016

64	73010064-Monitor	11.1	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(1yr)	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**PrescriptionSpecs:Next Step Planting, Initial Plant; ; Monitoring, Artificial Regen(3yr)Treatments:Acceptable A mix of planted red pine and natural oak regeneration.Regen:Other Percent to Treat = 100%Comment:Proposed Start Date: 06/01/2016



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
69	73010069-Cut	7.4	4125 - Black, N. Pin Oak	Sawtimber Medium	80	51-80	Harvest	Clearcut with Retention	4122 - Oak, Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> The stand can be harvested as a clear cut with retention pockets. It will need to be interplanted with red pine after it has been harvested.											
<u>Specs:</u>											
<u>Next Step</u> Planting, Interplant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable</u> oak mixed with inter planted red pine.											
<u>Regen:</u>											
<u>Other</u> An area is to be left uncut along the west side of the stand as a buffer to maintain habitat for Secretive Locust.											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2017											
120	73010120- Monitor	55.1	3102 - Grass	Nonstocked	0	Unspec ified	Monitoring	Natural Regen (Intermediate)	42221 - Natural Jack Pine, Mixed Deciduous	Even-Aged	Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Check regen in 2-3 years											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> Regeneration should consist of jack pine and mixed hardwoods.											
<u>Regen:</u>											
<u>Other</u> Percent to Treat = 100%											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2017											
137	73010137-Cut	81.1	42250 - Pine, Oak	Poletimber Well	60	81-110	Harvest	Clearcut with Retention	429 - Mixed Upland Conifers	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Harvest the stand as a clearcut with retention. The retention should favor the red pine and healthy oak but should not exceed 4% in BA or area. Try											
<u>Specs:</u> and keep the retention in pocket. The will probably need to be interplanted with red pine.											
<u>Next Step</u> Monitoring, Natural Regen (Intermediate); Planting, Interplant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable</u> mix of oak and pine may have interplanted red pine.											
<u>Regen:</u>											
<u>Other</u> Parcel are State Land according to the Clare County equalization but stand are not in Lots.											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2017											
158	73010158- Monitor	39.5	3102 - Grass	Nonstocked	0	Unspec ified	Monitoring	Natural Regen (Intermediate)	42220 - Natural Jack Pine	Even-Aged	Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Check for regeneration in 2-3 years											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> Acceptable regeneration would consist of jack pine and any deciduous trees.											
<u>Regen:</u>											
<u>Other</u> Percent to Treat = 100%											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2017											



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
168	73010168-Cut	97.4	4130 - Aspen	Poletimber Well	48	111-140	Harvest	Clearcut	413 - Aspen	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription The stand should be harvested as a clearcut with reserves. The retention should be in pockets and not exceed 5% by area. Some of the oaks and pines can be marked as well for retention, mast and structural diversity.

Next Step Monitoring, Natural Regen (Re-Inventry)

Treatments:

Acceptable Mainly aspen mixed with some oak and pine.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

226	73010226-Cut	24.3	42220 - Natural Jack Pine	Poletimber Well	43	81-110	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription It is part of a KW block 121 that is scheduled to be planted in 2019. So clearcut the stand and plant for KW.

Specs:

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable 75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2016

229	73010229-Cut	60.2	42210 - Natural Red Pine	Sawtimber Well	94	141-170	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription It is part of a KW block 121 that is scheduled to be planted in 2019. So clearcut the stand and plant for KW.

Specs:

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable 75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2016

231	73010231-Cut	17.2	42220 - Natural Jack Pine	Poletimber Well	71	111-140	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription It is part of a KW block 121 that is scheduled to be planted in 2019.

Specs:

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable 75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2016



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
232	73010232-Cut	20.8	42210 - Natural Red Pine	Sawtimber Well	71	111-140	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription It is part of a KW block 121 that is scheduled to be planted in 2019. so clear cut the stand and plant for KW.

Specs:

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable 75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2016

234	73010234-Cut	36.7	42220 - Natural Jack Pine	Poletimber Well	44	Unspecified	Harvest	Clearcut	4212 - Planted Jack Pine	Two-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Clearcut the stand for KW. It is part of a KW block 121 that is scheduled to be planted in 2019.

Specs:

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable 75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2016

235	73010235-Cut	39.3	42210 - Natural Red Pine	Sawtimber Well	94	51-80	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription It is part of a KW block 121 that is scheduled to be planted in 2019. so harvest as a clearcut and plant for KW

Specs:

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable 75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2016

240	73010240-Cut	39.8	42210 - Natural Red Pine	Sawtimber Well	74	111-140	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription It is part of a KW block 121 that is scheduled to be planted in 2019. So clearcut the stand and plant for KW.

Specs:

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable 75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2016



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
242	73010242-Cut	5.3	42220 - Natural Jack Pine	Poletimber Well	59	81-110	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> It is part of a KW block 121 that is scheduled to be planted in 2019.											
<u>Specs:</u>											
<u>Next Step</u> SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable</u> 75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2016											
243	73010243-Cut	59.8	42220 - Natural Jack Pine	Poletimber Well	43	81-110	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Harvest the stand as a clear cut and plant for KW. This stand is part of block 121 and is scheduled to be planted in 2019. Within 5 chains of private											
<u>Specs:</u> line leave all red pine and do not replant with jack pine. Maintain area in an sparse condition to act as a fuel break.											
<u>Next Step</u> SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable</u> 75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2016											
247	73010247-Cut	129.1	42220 - Natural Jack Pine	Poletimber Well	55	81-110	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Harvest the stand as a clear cut with retention. The retention should be is pockets but not exceed 3% by area. It will need to be planted to jack pine.											
<u>Specs:</u> The north half of the stand is part of KW block 121.											
<u>Next Step</u> SitePrep, Trenching; Planting, Interplant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable</u> 75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2016											
248	73010248-Cut	17.1	42220 - Natural Jack Pine	Poletimber Medium	43	51-80	Harvest	Clearcut	4222 - Natural Jack Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Harvest the stand as a clear cut and plant for KW. It is part of a KW block 121 that is scheduled to be planted in 2019.											
<u>Specs:</u>											
<u>Next Step</u> SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable</u> 75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2016											



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
249	73010249-Cut	25.8	42220 - Natural Jack Pine	Poletimber Well	57	111-140	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Harvest the stand as a clear cut and plant for KW. This stand is part of block 121 and is scheduled to be planted in 2019. Within 5 chains of private line leave all red pine and do not replant with jack pine. Maintain area in an sparse condition to act as a fuel break.

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable 75% planted jack pine mixed with 25% planted red pine. some oak is acceptable.

Other
Comment:

Proposed Start Date: 10/01/2017

254	73010254-Cut	22.9	42220 - Natural Jack Pine	Poletimber Medium	55	81-110	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Harvest the stand as a clear cut with retention. The retentions should be in islands and should not exceed 3% of the area.

Next Step Monitoring, Natural Regen (Intermediate); Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable stand should regenerate to mix of oak and pine

Other if stand does not regenerate interplant with red pine.

Proposed Start Date: 10/01/2017

274	73010274-Monitor	26.5	330 - Low-Density Trees	Nonstocked		Unspecified	Monitoring	Artificial Regen(1yr)	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription
Specs:

Next Step ; Monitoring, Artificial Regen(3yr)

Acceptable Planted red pine.

Other Percent to Treat = 100%

Proposed Start Date: 04/28/2016

279	73010279-Cut	33.1	42220 - Natural Jack Pine	Poletimber Well	45	81-110	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Harvest the stand as a clear cut with retention. The retention should be in pockets and not exceed 5% by area.

Next Step Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)

Acceptable Planted jack pine

Other
Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
295	73010295- Monitor	0.1	3102 - Grass	Nonstocked		Unspec ified	Monitoring	Artificial Regen(1yr)	4129 - Mixed Oak	Even-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u>											
<u>Specs:</u>											
<u>Next Step</u> ; Monitoring, Artificial Regen(3yr); Pesticide, Aerial											
<u>Treatments:</u>											
<u>Acceptable</u> Stand is to be planted to red pine											
<u>Regen:</u>											
<u>Other</u> Percent to Treat = 100%											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 08/13/2015											
295	73010295- Monitor	0.1	3102 - Grass	Nonstocked		Unspec ified	Monitoring	Artificial Regen(1yr)	4129 - Mixed Oak	Even-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u> monitor for regeneration survival at one year											
<u>Specs:</u>											
<u>Next Step</u> ; Monitoring, Artificial Regen(3yr); Pesticide, Aerial											
<u>Treatments:</u>											
<u>Acceptable</u> red pine mixed some other tree species											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 08/13/2015											
295	73010295- Monitor	27.9	3102 - Grass	Nonstocked		Unspec ified	Monitoring	Artificial Regen(1yr)	4211 - Planted Red Pine	Even-Aged	Approved Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u>											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> Stand is to be planted to red pine											
<u>Regen:</u>											
<u>Other</u> Percent to Treat = 100%											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2007											
295	73010295- Monitor	27.9	3102 - Grass	Nonstocked		Unspec ified	Monitoring	Artificial Regen(1yr)	4211 - Planted Red Pine	Even-Aged	Approved Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> monitor for regeneration survival at one year											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> red pine mixed some other tree species											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2007											



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
296	73010296-Monitor	41.3	320 - Upland Shrub	Nonstocked		Unspecified	Monitoring	Artificial Regen(1yr)	42111 - Planted Red Pine, Mixed Deciduous	Even-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u>											
<u>Specs:</u>											
<u>Next Step</u> ; Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable</u> Planted red pine.											
<u>Regen:</u>											
<u>Other</u> Percent to Treat = 100%											
<u>Comment:</u>											
Proposed Start Date: 04/28/2016											
299	73010299-Monitor	15.5	3102 - Grass	Nonstocked		Unspecified	Monitoring	Artificial Regen(1yr)	4211 - Planted Red Pine	Even-Aged	Approved Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> monitor regeneration survival after 1 year											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Artificial Regen(3yr); Pesticide, Aerial											
<u>Treatments:</u>											
<u>Acceptable</u> planted red pine											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
Proposed Start Date: 10/01/2007											
306	73010306-Cut	13.5	42110 - Planted Red Pine	Poletimber Well	60	171-200	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> The stand could be thinned removing every 3rd row may need to mark some additional trees to make the stand loggable.											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u>											
<u>Regen:</u>											
<u>Other</u> Row are well defined but curve.											
<u>Comment:</u>											
Proposed Start Date: 10/01/2017											
307	73010307-Cut	43.7	42141 - Planted Mixed Pine, Mixed Deciduous	Sawtimber Well	77	81-110	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Harvest the stand as a clear cut with reserves. The retention should be kept along the top of the ridge going down into the flood plain of the Muskegon River. Leave no retention within 2 chains of the private line. Follow the harvest with a trenching and planting of red pine.											
<u>Specs:</u>											
<u>Next Step</u> Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); Pesticide, Aerial											
<u>Treatments:</u>											
<u>Acceptable</u> The stand should come back as a mixture of oaks and red pines with some jack pines, maples and white pines.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
Proposed Start Date: 10/01/2017											



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
308	73010308-Cut_Survey	21.7	3102 - Grass	Nonstocked		Unspecified	Monitoring	Artificial Regen(1yr)	42110 - Planted Red Pine	Unspecified	Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription Specs:</u>											
<u>Next Step Treatments:</u>											
<u>Acceptable Regen:</u>											
<u>Other Comment:</u> Old next step comments: After harvest replant the stand to red pine.											
<u>Proposed Start Date:</u> 06/03/2014											
310	73010310-Cut_Survey	6.8	330 - Low-Density Trees	Nonstocked	0	Unspecified	Monitoring	Artificial Regen(1yr)	42110 - Planted Red Pine	Unspecified	Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription Specs:</u>											
<u>Next Step Treatments:</u>											
<u>Acceptable Regen:</u>											
<u>Other Comment:</u> Old next step comments: After the harvest plant the stand to red pine.											
<u>Proposed Start Date:</u> 06/03/2014											
314	73010314-Monitor	5.2	320 - Upland Shrub	Nonstocked		Unspecified	Monitoring	Artificial Regen(1yr)	42110 - Planted Red Pine	Even-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription Specs:</u>											
<u>Next Step Treatments:</u> ; Monitoring, Artificial Regen(3yr)											
<u>Acceptable Regen:</u> Planted red pine with natural hardwood regeneration mixed in.											
<u>Other Comment:</u> Percent to Treat = 100%											
<u>Proposed Start Date:</u> 04/28/2016											
315	73010315-Cut	37.6	42110 - Planted Red Pine	Sawtimber Well	80	141-170	Harvest	Crown Thinning	4221 - Natural Red Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription Specs:</u> Marked thinning taking the Ba down to 100 sq. ft.											
<u>Next Step Treatments:</u>											
<u>Acceptable Regen:</u>											
<u>Other Comment:</u> This area was left to help shield Leota from the harvest of stand 232,											
<u>Proposed Start Date:</u> 10/01/2017											



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
316	73010316-Cut	19.4	42110 - Planted Red Pine	Sawtimber Well	80	111- 140	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> Harvest the stand as a systematic thinning taking the BA dow to 100 sq. ft.											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u>											
<u>Regen:</u>											
<u>Other</u> The stand was left as a buffer for Leota to the clear cut of stand 232.											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2017											
323	73010323- Monitor	371.2	4310 - Pine, Oak Mix	Sapling Poor	3	Immatur re	Monitoring	Natural Regen (Intermediate)	4212 - Planted Jack Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition: Long-Term Retention								
<u>Prescription</u> Trench and plant jack pine											
<u>Specs:</u>											
<u>Next Step</u>											
<u>Treatments:</u>											
<u>Acceptable</u> planted jack pine											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2017											
333	73010333-Cut	47.3	4310 - Pine, Oak Mix	Poletimber Well	65	81-110	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Proposal
Habitat Cut: No			Site Condition:								
<u>Prescription</u> The stand needs to be harvested as a clearcut. Then it should be planted to red. Because of the low vigor in the oaks, regeneration from stump sprouts is expected to be poor. The retention should be left along the edges or in pockets not to exceed 5%.											
<u>Specs:</u>											
<u>Next Step</u> SitePrep, Trenching; SitePrep, Roller Chopping; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable</u> Planted red pine mixed with some jack pine, white pine, oak and aspen.											
<u>Regen:</u>											
<u>Other</u>											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/01/2017											
334	73010334- Seed	7.3	310 - Herbaceous Openland	Nonstocked	0	Unspec ified	Seeding	Hand Seed	42120 - Planted Jack Pine	Even-Aged	Draft Field Boundary
Habitat Cut: No			Site Condition:								
<u>Prescription</u>											
<u>Specs:</u>											
<u>Next Step</u> Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr)											
<u>Treatments:</u>											
<u>Acceptable</u> Seeded jack pine, mixed with natural oak regeneration.											
<u>Regen:</u>											
<u>Other</u> Percent to Treat = 100%											
<u>Comment:</u>											
<u>Proposed Start Date:</u> 10/14/2015											



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
335	73010335-Cut	14.9	42200 - Natural White Pine	Poletimber Well	83	111-140	Harvest	Single Tree Selection	42260 - Natural Pine, Mixed Deciduous	Even-Aged	Proposal

Habitat Cut: No

Site Condition:

Prescription The stand could be harvested as a thinning taking it down to 90 sq. ft.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable oak and white pine is expected to come up in the understory.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

336	73010336-Monitor	39.0	330 - Low-Density Trees	Nonstocked	0	Unspecified	Monitoring	Natural Regen (Re-Inventory)	4121 - Oak, Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription

Specs:

Next Step

Treatments:

Acceptable A mix of natural regeneration, mixed oak and aspen.

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 10/14/2015

344	73010344-Monitor	20.0	310 - Herbaceous Openland	Nonstocked	0	Unspecified	Monitoring	Natural Regen (Re-Inventory)	4121 - Oak, Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription

Specs:

Next Step

Treatments:

Acceptable A mix of natural regeneration, mixed oak and aspen

Regen:

Other Percent to Treat = 100%

Comment:

Proposed Start Date: 10/14/2015

420	73012020-Cut_Plant_Survey	18.6	3105 - Mixed Upland Herbaceous	Nonstocked		Unspecified	Monitoring	Artificial Regen(1yr)	42120 - Planted Jack Pine	Unspecified	Field Boundary
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Habitat Cut: No

Site Condition: Long-Term Retention

Prescription

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Old next step comments: The stand will need to be trenched and planted to jack pine after harvest. There should be some oak and aspen regeneration as well. This combination is acceptable. FTP 73-907 submitted.

Proposed Start Date: 04/27/2014

Total Treatment Acreage Proposed: 2288.2

Report 4 – Site Conditions

Gladwin Mgt. Unit
Steve Nyhoff : Examiner

Compartment: 10
Year of Entry: 2018

Availability for Management

Total Acres	Acres Available	Acres Avail With Condition		Acres Not Available	Dominant Site Conditions											
					2B	4A	5B	5C	2F	2G	2H	3B	3D	3J	5E	
412	382	20	10	Aspen				20	10							
15	15	0	0	Bog												
5	0	0	5	Cedar						5						
345	342	0	2	Herbaceous Openland				0								2
1804	1773	21	10	Jack Pine				21		10						
346	346	0	0	Low-Density Trees				0								
35	9	0	26	Lowland Aspen/Balsam Poplar						26						
287	12	0	275	Lowland Conifers						190	20				65	
384	4	0	380	Lowland Deciduous						163					216	
154	1	0	153	Lowland Mixed Forest						115					39	
223	196	0	27	Lowland Shrub						14					13	
53	53	0	0	Marsh												
194	174	0	19	Mixed Upland Deciduous					10						10	
490	318	74	97	Natural Mixed Pines	13			61				14	69	14		
276	216	55	5	Oak			55					3		2		
65	65	0	0	Planted Mixed Pines												
909	618	279	12	Red Pine			27	253			7	4		1		
45	45	0	0	Upland Conifers												
943	896	20	27	Upland Mixed Forest		20			3							24
101	101	0	0	Upland Shrub												
160	149	0	11	Water						6					5	
55	45	0	10	White Pine											10	
7,301	5,760	470	1,070	Total Forested Acres	13	20	81	356	23	529	27	21	69	374	26	
	79%	6%	15%	Relative Percent												

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
2	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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Gladwin Mgt. Unit
Steve Nyhoff : Examiner

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3	Unavailable	3D: Recreational / Scenic values	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	137	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	3D: Recreational / Scenic values	21	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand was left as a buffer for Leota.							
6	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Available	4A: No Markets Available for these Forest Products	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Available	5B: Maintain for regeneration purposes	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gladwin Mgt. Unit
Steve Nyhoff : Examiner

Compartment: 10
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9	Unavailable	3D: Recreational / Scenic values	40	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Stand was left as a buffer for Leota.							
10	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	22	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
11	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	20	Unspecified	Unspecified	Unspecified	Unspecified
Comments: There is a drainage that runs along the west side of the stand which comes our of stand 14.							
12	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	21	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
13	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	28	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
14	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	3	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

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Steve Nyhoff : Examiner

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15	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	22	2A: Adjacent landowner denied access	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified
Comments:							
16	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	22	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
17	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	2	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
18	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
19	Available	5B: Maintain for regeneration purposes	19	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
20	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	24	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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21	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
22	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
23	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	15	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
24	Unavailable	2F: Too steep	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
25	Available	5B: Maintain for regeneration purposes	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
26	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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Steve Nyhoff : Examiner

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27	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
28	Unavailable	3B: Threatened, endangered, and special concern species/communities	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Secretive Locust							
29	Available	5B: Maintain for regeneration purposes	0	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
30	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	23	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
31	Available	5B: Maintain for regeneration purposes	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
32	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	26	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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Steve Nyhoff : Examiner

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33	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
34	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	76	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
35	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	142	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
36	Unavailable	2F: Too steep	13	2F: Too steep	Unspecified	Unspecified	Unspecified
Comments:							
37	Unavailable	3B: Threatened, endangered, and special concern species/communities	4	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
40	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

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41	Available	5B: Maintain for regeneration purposes	39	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
42	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
43	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	23	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
44	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	35	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
45	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	12	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
46	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							

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47	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	11	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
48	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	3	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
49	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	7	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
50	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	11	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
51	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	10	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
52	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	5	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							

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53	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	30	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
54	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	23	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
55	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	16	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
56	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	20	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Comments:							
57	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	26	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
58	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	34	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

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59	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	11	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
60	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	10	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
61	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	20	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
62	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	8	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
63	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	9	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							

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Steve Nyhoff : Examiner

Compartment: 10
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64	Unavailable	3B: Threatened, endangered, and special concern species/communities	0	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
65	Unavailable	3B: Threatened, endangered, and special concern species/communities	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
66	Unavailable	5E: Long-Term Retention	24	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Jack pine skips that have some red pine and oak in them.							
69	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	67	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
70	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
71	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

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Compartment: 10
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72	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
73	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	12	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
74	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	12	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
75	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	4	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
76	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	49	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
78	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	23	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gladwin Mgt. Unit
Steve Nyhoff : Examiner

Compartment: 10
Year of Entry: 2018

79	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	16	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
80	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	13	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
81	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	27	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
82	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	2	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments:							
83	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
84	Available	2B: Unknown if access through adjacent landowner(s) is possible	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Gladwin Mgt. Unit
Steve Nyhoff : Examiner

Compartment: 10
Year of Entry: 2018

85	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	73	Unspecified	Unspecified	Unspecified	Unspecified
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Comments:



Report 5 – 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.

SCA Name	SCA Category	Detail Type	Recommendation	Acres
	Potential Old Growth		SCA Removal	10
Comments				
This area no longer meets the criteria to be classified as a Special Conservation Area.				
	Potential Old Growth		SCA Removal	12
Comments				
This area no longer meets the criteria to be classified as a Special Conservation Area.				
	Potential Old Growth		SCA Removal	20
Comments				
This area no longer meets the criteria to be classified as a Special Conservation Area.				
	Potential Old Growth		SCA Removal	32
Comments				
This area no longer meets the criteria to be classified as a Special Conservation Area.				
	Potential Old Growth		SCA Removal	40
Comments				
This area no longer meets the criteria to be classified as a Special Conservation Area.				
	Potential Old Growth		SCA Removal	556
Comments				
This area no longer meets the criteria to be classified as a Special Conservation Area.				



Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

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

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
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.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4122 - Oak, Pine	Poletimber Medium	4.4	32	51-80	The stand was final harvested to 4" DBH in 1984. The aspen clones are in patches. The oak regeneration is evenly distributed. There are also pockets of pine and spruce. The overall crown closure is around 60%. There are several areas where the stem density is very low. In these open areas oak, jack pine, and cherry are seeding in.
3	42250 - Pine, Oak	Poletimber Medium	20.4	68	51-80	The stand is a new acquisition. It is a mixture of jack pine and oak. The jack pine is declining. This has created numerous crown gaps. The understory is variable going from non-stocked to well stocked.
5	42220 - Natural Jack Pine	Poletimber Well	12.7	67	51-80	The stand is a new acquisition and is mainly jack pine mixed with some oak.
6	6113 - Lowland Maple	Sawtimber Well	21.8	94	111-140	The stand is undulating. It is on the flood plain of the Muskegon River and has some wet areas including a couple of vernal ponds. Many of the wet areas are the old river channels of the Muskegon River. The ash has heavy EAB. However, some of the ash is still alive.
7	42220 - Natural Jack Pine	Poletimber Medium	28.2	68	51-80	The stand is a new acquisition. It is a mixture of jack pine and oak. The jack pine is declining. This has created numerous crown gaps. The understory is variable going from non-stocked to well stocked.
9	42220 - Natural Jack Pine	Sapling Poor	3.5	18	Immature	This stand was harvested in 1995. The stand was not trenched and planted with jack pine the soils are too wet. This area is mainly jack pine seeding in over leather leaf. The crown closure overall is between 30 and 60%.
10	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	14.2	20	51-80	The stand has been cut in the past (30 years). When it was harvested the white pine was retained. There are several low wet areas in the stand which are the old river channels. Much of this stand is on a slightly higher terrace of the Muskegon River Flood Plain.
11	6119 - Mixed Lowland Deciduous Forest	Sawtimber Medium	22.7	86	51-80	The stand is heavily impacted by pre-inventory stand 14, which is an oxbow that beaver have dammed to raise the water level. The stand does have some areas that are higher having maple and oak. However, much of the stand is ash and has standing water in it much of the year. EAB has reduced the ash significantly and opened up the crowns.
12	6127 - Lowland Pine	Poletimber Medium	19.9	89	81-110	The stand is variable going from areas of thick white pine sapling poles to areas of extra large red pine sawlogs with a heavy white pine understory. The terrain is undulating and goes from dry to very wet. Many of the wet areas are old river channels. This stand is on one of the lower terraces of the Muskegon River. Overall the stand is lowland. The aspen in the stand is declining and is currently only 1/3 what it was last YOY.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
13	6119 - Mixed Lowland Deciduous Forest	Sawtimber Medium	41.6	86	81-110	The stand is a matrix of uplands and lowlands with the lowlands being about 80%. It is also on the flood plain of the Muskegon River. There are inclusions of lowland shrubs. These inclusions are in the old river channels. In addition, there is some beaver activity along the river removing a significant amount of the aspen regeneration.
15	42290 - Natural Mixed Pine	Poletimber Medium	17.4	59	81-110	The stand is on one of the higher terraces in the flood plain of the Muskegon River. It is a mixture of uplands and lowlands with the uplands being the majority. There are distinct areas in the stand that are closer to lowland shrub. These areas are located in some of the old oxbows. The density in the stand is variable. There is also significant mortality in the overstory oak and jack pine. The upland portions of the stand have a higher density of conifers. In contrast, the lowlands areas are heavy to hardwood. The ash in the stand has EAB. However, there are some trees that are still alive. The edges of the stand have drainages and are very wet.
16	6112 - Lowland Aspen	Poletimber Medium	15.2	40	81-110	The stand is a matrix of uplands and lowlands with the lowlands being about 60%. The east and west sides have a lower BA because of beaver activity. It also appears to have had a habitat cut of cedar. There are inclusions that are very wet.
17	6139 - Mixed Lowland Forest	Sawtimber Medium	12.0	86	51-80	The stand is a matrix of uplands and lowlands with the lowlands being about 60%. Many of the lowland areas are old oxbows. Some of the lowlands are closer to being lowland shrub types then forested.
18	6119 - Mixed Lowland Deciduous Forest	Sawtimber Medium	5.2	86	81-110	The stand is variable. It goes from well stocked swamp hardwoods of ash and oak, to areas of lowland shrubs. Some of the ash is still alive. EAB is in the stand but the damage is minimal at the current time. It is also on a slightly higher tier than stand 13. The red pine in the stand is at the south end and it grades to ash and maple going north.
20	6112 - Lowland Aspen	Sapling Medium	11.0	25	1-50	The stand is moving toward poles. It has inclusions of lowland shrubs. The shrub types are in the old oxbows. In addition, the stand has some beaver activity, especially closer to the Muskegon River. The terrain is hummocky.
21	42290 - Natural Mixed Pine	Sawtimber Well	27.5	89	141-170	The red pine is heavy in the west end of the stand and white pine is heavy in the east end and along the north side. The stand has several vernal ponds in the eastern portion of the stand. The jack pine has decline a lot since the last YOY. In addition there is now some decline in the oak. This stand is out of the flood plain of the Muskegon River.
25	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Medium	9.7	86	51-80	The stand is variable going from well stocked swamp hardwoods to lowland shrubs. Much of the lowland shrubs are located in the old oxbows of the Muskegon River. This leads to a terrain that is made up of ridges and swales. The swales are very wet.
26	6130 - Fir, Aspen, Maple	Poletimber Poor	8.3	86	81-110	The stand is moving toward poles. It has inclusions of lowland shrubs. The shrub types are in the old oxbow. In addition, the stand has some beaver activity, especially closer to the Muskegon River. It has some active springs so the site is very wet. There is also a thick brush layer in the stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
27	4310 - Pine, Oak Mix	Sapling Poor	45.4	6	Immature	This stand has some scattered natural regeneration of oak and pine. It was harvested in 2009 under the red pine project. Then it was planted to red pine in 2011 with FTP #C73-846.
28	6127 - Lowland Pine	Sawtimber Medium	16.5	73	111-140	This is a mature white pine stand with many oversized log trees. Some of the red and white pines have more than 8 logs in them. There is a thick layer of advanced regeneration. The regeneration is white pine and balsam fir. The stand is in a depression and has drainages running along both sides. The crown closure ranges from 50-80% and the density runs from 50-160 sq. ft.
29	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Medium	19.1	22	1-50	The stand is mainly jack pine with some oak, cherry and aspen. The aspen is in small scattered clones. The stand is fairly open and the jack pine is squat because it is open grown. The terrain is mainly flat and upland.
31	6117 - Lowland Deciduous, Mixed Coniferous	Sawtimber Well	12.9	94	51-80	The stand goes down over a steep slope then onto the Muskegon River Floodplain. There is a large wet area along the base of the slope. There is a significant understory of conifer; especially on the land paralleling the river which is slightly higher than the rest of the stand. The slope is heavy to birch, aspen, white pine, red pine with a thick understory of balsam fir. The ash on the flood plain is dead. The maple and fir is still alive. The crown closure on the slope is 100%. On the flood plain the crown closure is 35%.
33	4310 - Pine, Oak Mix	Sapling Well	9.4	22	1-50	The stand is mainly oak and jack pine with very little aspen or white pine. The terrain is generally flat and dry. Much of the stand has a good density. However, there are several openings in the stand. The crown closure is closer to 75%.
34	42210 - Natural Red Pine	Sawtimber Well	7.7	82	111-140	This area was heavier to red pine. The jack pines and oaks were harvested in 2007. The stand looks good and it is still very park like. At the current time there is very little regeneration present. The overstory oak in the stand is dead, for the most part.
35	6119 - Mixed Lowland Deciduous Forest	Sawtimber Medium	11.8	86	81-110	The stand is a matrix of uplands and lowlands with the lowlands being about 80%. It is also on the flood plain of the Muskegon River. There are inclusions of lowland shrubs. These inclusions are in the old river channels. In addition, there is some beaver activity along the river removing a significant amount of the aspen regeneration.
37	42141 - Planted Mixed Pine, Mixed Deciduous	Sapling Medium	21.5	13	Immature	This stand has regenerated naturally with some oak, red pine, white pine, and jack pine. The stocking was supplemented by the trenching and planting of red pine. This brought the stand up to full stocking. The planted red pines have good level of survival. The crown closure is around 70% and should be > 75% in 10 years.
38	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	9.8	89	81-110	The stand is undulating to hilly. It is on the middle tier coming out of the Muskegon River flood plain. The tier is heavier to conifers. The stand has some inclusions that are very wet.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
39	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Medium	35.4	10	Immature	The stand was clear cut in 2007. It has some natural regeneration of oak and cherry. In addition to the natural regeneration it was trenched and planted with jack pine. The stand is now fully stocked and coming along well. There is some minor problem with weevil.
40	42290 - Natural Mixed Pine	Sapling Well	39.2	40	1-50	The stand is undulating to rolling. It was harvested in 2006. The harvest removed all the oak, jack and white pine to 4" DBH. However, all red pines were retained. The regeneration is good and mainly jack pine, white pine, and oak.
42	42290 - Natural Mixed Pine	Poletimber Well	17.4	60	51-80	There is some mortality in the jack pine. Because of the mortality there is a lot of down woody material. The stand itself is variable in species mix, density, and size class. The overall crown closure is closer to 75%.
43	4130 - Aspen	Sapling Well	14.1	15	Immature	This stand has regenerated naturally to a mixture of aspen and oak with some jack and red pine. Most of the area is fairly dense. However, there are pockets that are open. Overall the stand is doing very well.
44	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	13.2	15	Immature	The stand has regenerated naturally to a mixture of oak and aspen. However in addition to the natural regeneration it was also planted with jack pines. The stand is now fully stocked and doing well.
45	4310 - Pine, Oak Mix	Sapling Poor	36.1	10	Immature	The stand was clear cut in 2007. The stand has some natural regeneration of oak, aspen, cherry, and jack pine. In addition to the natural regeneration it was trenched and planted to red pine. Currently the red pine is a little shorter than the oak. The red pine is expected to overtake much of the oak in the next 10 years. The stand is now fully stocked and coming along well. There are some residual jack pines and white pines in the stand. These were left along the easement for the gas pipeline..
47	42210 - Natural Red Pine	Sawtimber Well	13.6	73	111-140	The red pine BA on the three plots was 70, 90, and 70 Sq Ft. There are fire plow lines in the stand; this shows that there is a history of fire. The overstory is declining especially the oak and jack pines. The red pine appears to be in good shape. In the canopy gaps the stand is filling in with oak, aspen, and red pine.
48	42290 - Natural Mixed Pine	Sawtimber Well	20.7	73	81-110	The overstory jack pines and oaks are declining. Their BA is around 40 Sq Ft. The jack pine density is higher at the south end and white pine at the north end of the stand. The red pine and oak are fairly evenly distributed.
49	4310 - Pine, Oak Mix	Sapling Medium	6.8	2	1-50	This stand looks like it might have been a plantation but it is hard to tell. The rows are not straight. The stand has little to no understory, except along the edges and in the larger canopy gaps. The central portion of the stand has some regeneration but it is all < 5' tall and it's not established. Most of the overstory oak in the stand is now dead.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
50	42110 - Planted Red Pine	Sawtimber Well	16.0	86	171-200	This stand looks like it might have been a plantation but it is hard to tell. The rows are not straight. The stand has little to no understory, except along the edges and in the larger canopy gaps. The central portion of the stand has some regeneration but it is all < 5' tall and it's not established. Most of the overstory oak in the stand is now dead.
53	4310 - Pine, Oak Mix	Sawtimber Well	8.1	63	81-110	This stand is a mixture of pine and oak. The stand has pockets of high mortality in the east and west ends. Red pine density is higher in east end. The white pine density is higher in the rest of the stand.
54	42220 - Natural Jack Pine	Poletimber Well	39.6	55	81-110	The jack pine in the stand is heaviest through the center of the stand going from SW to NE. Red pine is more common along the east side and south boundary. The hardwoods increase in the NW corner. There are several aspen clones scattered in the stand. The crown closure is around 75%.
55	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	172.5	10	Unspecified	The stand was final harvested in 1995, then it was burned. It was planted in 2005. It has regenerated as a mix of planted pine, hybrid oak, and choke cherry. There is some scattered natural red and jack pine. There are scattered aspen clones and oak sprouts in the southeast portion of the stand.
56	4310 - Pine, Oak Mix	Poletimber Medium	34.2	32	1-50	The stand was final harvested to 4" DBH in 1984. There is significant cherry present so some areas appear to be more of an upland brush type. The overall crown closure is around 50%. However there is a lot of open ground and some areas of thick canopy.
57	42210 - Natural Red Pine	Sawtimber Medium	7.2	63	51-80	The overstory is declining, especially in the oaks and jack pines. There are some larger canopy gaps from the dead oak coming down. The gaps are filling in with oak, white pine, and cherry.
58	42210 - Natural Red Pine	Sawtimber Medium	76.2	78	81-110	The stand had the hardwoods and jack pines harvested in 2006. The oak has regenerated well. However much of it is less than 4' tall and it is not established. There are portions of the stand that are sparse. Most of these areas are along the south edge. The open areas have some red and jack pine regeneration. In addition there are some scattered aspen clones in the stand.
59	4310 - Pine, Oak Mix	Sapling Medium	13.0	15	Immature	The stand was harvested in 2006 to 4" DBH on all species except red pine. The regeneration is coming in fairly well; in time it will be a fully stocked stand. The aspen is concentrated in a clone in the north end. The oak and jack pine regeneration is now tall enough to be established. The overall crown closure is around 70%.
60	42250 - Pine, Oak	Poletimber Medium	23.6	87	111-140	The overstory oaks are declining. The stand is heavier to white and red pines in the western portion of the stand. The eastern portion is heavier to jack and red pine. Because of the declining overstory there is a lot of downed wood in the stand. The terrain is generally flat but the elevation increases going east.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
61	42290 - Natural Mixed Pine	Poletimber Medium	4.8	95	81-110	This stand was left as a buffer strip to screen the final harvest to the east. Within the buffer the jack pine was harvested in 1995. The over story oak is declining. However, oak regeneration is coming up under it. Leave the stand, for now, and let the stand to the east grow. There is a portion of this stand that is on private land, so the boundary needs to be adjusted.
62	4122 - Oak, Pine	Poletimber Medium	7.9	21	1-50	The stand was harvested retaining the red pine in 1994. The oak, jack pine and cherry are regenerating. This has left a stand as a two-aged stand.
63	4125 - Black, N. Pin Oak	Sapling Medium	23.1	7	Immature	The stand was clear cut in 2009 under the red pine project. The oak regeneration is good and it is uniformly scattered. The stand was planted to red pine in 2011 with FTP #C73-848. The crown closure is now around 50%. The planted pine is doing well in the open but somewhat suppressed in the areas of thick oak. However it looks like it may be able to eventually over top the oak so it should survive.
66	4122 - Oak, Pine	Sapling Poor	7.6	12	Immature	The stand is a series of 3 areas that were marked for salvage cuts. The cuts were set up in 2009 and 2010 removing all the oaks. The regeneration is coming along well. The retention is mainly jack pine and it is widely scattered.
67	4310 - Pine, Oak Mix	Sapling Medium	15.9	20	1-50	The stand was harvested as a clear cut in 1995 removing all species except the red pine less than 6" in DBH. It has since regenerated with some oak and jack pines. The residual red pine density is variable going from 20 to 60 BA. The stand averages 20-30 BA. The crown closure is around 65%
68	4125 - Black, N. Pin Oak	Sapling Well	7.4	10	1-50	The stand was harvested in 2006. The harvest removed all the dead oak, also jack pine was harvested to 4" DBH. The retention is declining, and much of it is on the ground. The regeneration in the stand is good.
69	4125 - Black, N. Pin Oak	Sawtimber Medium	21.2	80	51-80	Stand 69: The overstory is declining, especially the oaks. There are areas where most of the overstory has come down. The stand is almost 2 separate stands. The portion west of the snowmobile trail has low regeneration and higher mortality with a crown closure closer to 75%. The portion of the stand east of the snowmobile trail has heavy regeneration and high mortality and the crown closure is closer to 50%.
70	4310 - Pine, Oak Mix	Sapling Medium	34.4	10	Immature	The stand was clear cut in 2006 and was interplanted to red pine. However, the natural jack pine and oak dominate the stand. There are pockets of jack pine that are heavily weevilled. The aspen regeneration is in 2 or 3 clones. The red pines appear to be a mixture of seed source and planted.
71	4310 - Pine, Oak Mix	Poletimber Medium	76.6	31	1-50	The stand was final harvested to 4" DBH in 1984. It is now a two-aged stand. The crown closure is variable. It is around 75% at the southern end but goes below 50% at the northern end. There is evidence of fires in the stand because of multiple plow lines. Much of the jack pine is open grown so it has poor form. The aspen in the stand is in pockets and more common in the northern portion. There are also significant gall problems on the jack pine.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
72	42111 - Planted Red Pine, Mixed Deciduous	Sapling Poor	28.1	8	Immature	The stand was harvested as a clear cut in 2007. It has some natural regeneration of oak and cherry. In addition to the natural regeneration it was trenched and planted with red pine. The stand is now fully stocked and coming along well. Currently the crown closure is just over 25%.
74	42120 - Planted Jack Pine	Sapling Well	41.3	29	1-50	The stand was final harvested to 4" DBH in 1984. It was planted to jack pine without KW openings. Overall it appears to have less oak and cherry than the stand to the south. The stand is now starting to become a pole stand. There are pockets of high mortality but overall it is in good shape.
75	4310 - Pine, Oak Mix	Sapling Medium	6.9	23	Immature	The stand has regenerated fairly well overall. However, the density is variable going from poorly to fully stocked. The aspen regeneration is heaviest in the east end of the stand. The regeneration of oak and jack pine is fairly evenly distributed throughout the rest of the stand. The crown closure is around 50%. Much of the jack pine growing here has an open grown form.
77	42110 - Planted Red Pine	Poletimber Well	25.2	32	111-140	The stand was harvested to 4" DBH in 1984. Then it was planted to red pine. There is some natural regeneration of oak and cherry that is scattered in the stand. There are also two large aspen clones. The stand is now 30+ years old and it has not had the first time row thinning done yet.
78	42110 - Planted Red Pine	Poletimber Well	23.9	59	141-170	The stand was thinned in 1995 and 2007.
79	4191 - Mixed Upland Deciduous with Conifer	Sapling Poor	18.7	13	1-50	The stand was harvested to 4" DBH retaining all the red pine in 2006. It was interplanted with red pine on 4/26/2013; FTP number C73-769. There is also good natural oak regeneration scattered throughout the stand. In addition, there is a small L-type inclusion but it is less than a half-acre in size.
80	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	32.9	30	1-50	The stand was final harvested to 4" DBH in 1984. It was then planted to jack pine with KW openings. These openings have a significant amount of jack pine, oak and cherry seeding into them. However, they are still sparse. The stand is now converting into a pole stand.
82	42220 - Natural Jack Pine	Sapling Medium	16.5	20	1-50	This stand was harvested in 1995 removing all the jack pine. The oak regeneration in the stand is 4-plus feet tall. The residual overstory oaks are declining and falling down. The crown closure is getting close to 75% but it is not there yet.
83	6113 - Lowland Maple	Sawtimber Medium	8.5	113		The stand is on the flood plain of the Muskegon River. The ash is gone and now there are significant crown gaps. The leaf off imagery shows very little conifer cover and wet soils. It is also land locked by private land. The 2014 imagery shows that the trespass has been resolved.
84	42120 - Planted Jack Pine	Sapling Medium	26.8	10	Immature	The stand was final harvested in 2006. It was planted with jack pine. The density is variable going from moderate to fully stocked. There are also volunteers of oak, jack pine, red pine and cherry scattered throughout the stand. The aspen regeneration is in 2 or 3 clones.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
85	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	12.8	22	Immature	The stand was harvested in 1993 to 4" DBH. The regeneration is good. The stand has jack pine in the draws, aspen clones along the road, and oak on the ridges. Some of the jack pine has been weevilled.
86	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	194.9	10	Immature	The stand was harvested in 2003 and then planted with jack pine in 2005. It has regenerated as a mix of planted pine, hybrid oak, and choke cherry. There is some scattered natural regeneration of red and jack pine. The aspen clones are heaviest in the central portion of the stand. The oak regeneration is heaviest in the eastern portion of the stand.
87	42110 - Planted Red Pine	Sawtimber Well	10.5	59	141-170	The stand was thinned in 1995 and 2007. The understory is sparse having only a trace of red pine and oak.
88	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	5.7	22	1-50	The stand was harvested in 1994 to 2" DBH. However, all the red and white pine was retained and they are in pockets. It is narrow along the lowland to the south. It is also variable in species composition and size. Most of the trees are sapling oak and jack pine. There are also pockets of sapling/pole aspen and log/pole white pine.
89	4131 - Aspen, Oak	Poletimber Well	28.2	32	81-110	The stand was harvested to 4" DBH in 1984. The aspen regeneration is in clones so it is patches. The oak regeneration is fairly evenly distributed. There are also pockets of pine and spruce regeneration. Currently the aspen is starting to thin naturally leaving a lot of down wood. Much of the red pine in the stand is residual from when it was harvested.
90	42220 - Natural Jack Pine	Sapling Poor	2.9	12	Immature	The stand still looks sparse from the road. At that end it is more of an herbaceous opening. However, the open areas at the west end of the stand are starting to fill in with jack pine seedlings.
91	4310 - Pine, Oak Mix	Sapling Well	14.4	22	1-50	The stand is mainly oak and jack pines but there are several larger clones of aspen. It is uplands for the most part but there are areas of jack pine over leather leaf along the east side. There are also some openings but they are not overly large.
92	42220 - Natural Jack Pine	Poletimber Medium	7.0	58	51-80	There is a high mortality and stem breakage in the jack pine and high mortality in the oak. There is a lot of down woody material making navigating the stand difficult. The oak regeneration goes from 2 to 20 feet tall. The overall crown closure is closer to 50%. The density in the stand is variable going from 0 to 90 sq. ft.
96	42110 - Planted Red Pine	Sawtimber Well	18.7	60	141-170	This pine plantation was thinned in 1995 and in 2007. There is very little understory at the current time.
97	4125 - Black, N. Pin Oak	Sapling Well	10.2	23	1-50	The stand is undulating and thick. It was harvested to 4" in diameter in 1993. It is now fairly thick with oak regeneration and there is also a few aspen clones. Some of the aspen, oak, and red pine are residual trees from the harvest in 1993 and most are now pole size.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
98	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Medium	12.3	10	Immature	The stand was final harvested to 4" DBH in 1984. It was then planted to jack pine with KW openings. These openings now have a significant amount of cherry and oak seeding into them. The survival of the planted jack pine was moderate but there are a lot of volunteer jack pines and oaks between the rows. The oak seedlings are less than 5' tall. So they are not considered established. The stand is now moving into poles. The crown closure is approaching 75%.
99	6113 - Lowland Maple	Poletimber Poor	12.0	36	1-50	The stand is very wet. The ash is dead. There are portions of the stand that are more like lowland shrub types than anything else. The north edge transitions from lowlands to uplands. This transition area is where the white pine, balsam fir and oak are heaviest.
100	4125 - Black, N. Pin Oak	Sapling Well	17.4	23	1-50	The stand was harvested as a 4" final harvest in 1993. The terrain is undulating. There are some planted Norway spruce, scots pine and some others in the stand. The oak is now 5-10 feet tall and coming along well.
102	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	20.6	10	Immature	The stand was final harvested in 2005. It was trenched and planted to jack pine. However the stand also has a lot of volunteer oaks and a few aspen clones in it. The oaks and jack pines are fairly evenly distributed and they are approximately the same height. However, the aspen in the stand is significantly taller. The terrain is undulating
103	4199 - Other Mixed Upland Deciduous	Poletimber Well	4.0	33	81-110	The overstory is mainly oak, jack pine, and other conifers. The aspen in the stand is in the south end. It is in pockets.
104	42220 - Natural Jack Pine	Poletimber Medium	8.9	58	51-80	The overstory oaks and jack pines are declining. There is a significant amount of mortality and a lot of down trees. This makes the stand hard to navigate. The stem density goes from low to high. The overall crown closure is around 75%. The oak density of the stand increases going to the east.
105	4310 - Pine, Oak Mix	Sapling Well	37.5	22	51-80	The stand was harvested in 2003 and then planted with jack pine in 2005. It has regenerated to a mix of planted pines, oaks, and cherry. There is also some scattered natural regeneration of red and jack pines. The aspen clones are heaviest in the central portion of the stand and the oak regeneration is heaviest in the eastern portion. The stand is currently moving into poles.
106	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Poor	4.8	74	1-50	This is a narrow stand along the Muskegon River flood plain and private land. The northwest portion of the stand slopes steeply into the flood plain of the river. There is a significant conifer on the bank, overlooking the flood plain.
107	4310 - Pine, Oak Mix	Sapling Poor	22.5	10	1-50	The stand was harvested in 2006 by removing all the dead oak and jack pine to 4 inches DBH. It is regenerating. However the oak seedlings are less than 4 foot tall. Therefore they are not considered established. The stand is expected to regenerate to a fully stocked stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
108	42220 - Natural Jack Pine	Poletimber Medium	20.7	45	51-80	There is a lot of down jack pine and oak making navigating the stand difficult. There is high mortality in both jack pine and oak and the crown closure is closer to 50%. The density ranges from 20-90 BA. The understory regeneration is also patchy. It is heaviest along the north edge and in canopy gaps.
112	4310 - Pine, Oak Mix	Sapling Medium	20.1	20	1-50	The jack pine in the stand was harvested in 1995. The residual oak is starting to decline and is coming down. The stand is starting to fill in with oak and jack pine but it is still fairly sparse. The area of the stand that has the highest density is along the flooding.
113	6126 - Lowland Jack Pine	Poletimber Well	10.3	65	81-110	The stand is a matrix of uplands and lowlands with the lowlands being the majority. There is an upland ridge along the east side of the stand. This portion is heavy to red pine and oak.
115	42260 - Natural Pine, Mixed Deciduous	Poletimber Medium	23.3	72	81-110	The stand has a significant amount of down jack pines and oaks. This has created several large canopy gaps. These gaps are starting to fill in with oak and jack pine seedlings. The red pine is heaviest in the central portion of the stand. It could be harvested now as a final harvest to 2" DBH or held for 10 years.
116	6139 - Mixed Lowland Forest	Poletimber Medium	15.2	40	81-110	The stand is in the flood plain of the Muskegon River. There are inclusions of L-type in the stand. The terrain is undulating. The oak, pine and aspen are all declining. So there is a lot of down wood. The understory is heavy to fir and this will eventually dominate the stand.
117	6117 - Lowland Deciduous, Mixed Coniferous	Sawtimber Well	6.5	89	81-110	This stand is a tier that is just a little higher than stand 13. It is very wet and the terrain is hummocky.
118	4310 - Pine, Oak Mix	Sawtimber Medium	3.4	89	51-80	This is a higher terrace and it is heavier to oak and pine. Many of these areas have significant windthrow or die off and the down woody material is heavy. The oak, aspen, and jack pine on the terrace is declining.
119	6113 - Lowland Maple	Sawtimber Medium	2.0	125	51-80	The stand is on the flood plain of the Muskegon River. There appears to be a patchy understory of balsam fir. There is also a significant amount of downed wood in the stand. The ash is now dead and the crown closure is around 50%.
122	6131 - Hemlock, White Pine, Maple, Birch	Sawtimber Medium	9.1	109	51-80	The stand is on the flood plain of the Muskegon River. The soils are very wet. There is a lot of conifer and ash in the understory in places. The stand has significant beaver activity.
123	4125 - Black, N. Pin Oak	Sawtimber Medium	38.7	85	1-50	The stand was harvested in 2005 by removing the jack pines and aspens. The retention was mainly oak, red and white pines. The residual oaks were fairly evenly distributed. The pines are mostly in one pocket though some are scattered. The stand has regenerated to a mix of oaks and pines. Most of the pines are in the areas with a low crown closure. In the north end of the stand there is a large aspen clone.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
125	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	6.9	10	1-50	The stand was final harvested in 2005 with the red pine being retained. The stand was then interplanted with red pine. Beside the planted red pine there is natural oak, red pine, jack pine, and cherry regeneration as well. There is a lot of competition. Much of the red pine is slightly shorter than the natural regeneration.
126	42120 - Planted Jack Pine	Poletimber Well	21.5	41	81-110	This stand was planted with jack pine in 1973. The amount of hardwoods in the stand is minimal. The jack pine has moderate to poor form. There is some mortality in the jack pine making some canopy gaps. In the gaps the jack pine and oak are trying to regenerate.
127	42220 - Natural Jack Pine	Poletimber Medium	5.3	75	51-80	The oaks are heavier in the north end of the stand, red pines in the south end, and jack pines are distributed throughout. There is some aspen regeneration in the north end of the stand.
128	42201 - Natural White Pine, Mixed Deciduous	Poletimber Well	15.7	93	111-140	This stand was scheduled to be harvested in the Pine Forest Harvest #73-010-05-01. This unit was not harvested. The oak and jack pine are starting to decline. The aspen is declining fast. The stand is on one of the upper tiers of the Muskegon Flood plain. It is high enough not to flood. It is converting to a white pine stand. It is part of a KW block that is scheduled to be harvested in 2024.
130	4125 - Black, N. Pin Oak	Sawtimber Poor	5.2	85	1-50	The stand looks like it was set up and harvested for firewood. The retain crown closure is around 40%. The regeneration is starting to come in throughout the stand.
132	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	12.2	65	51-80	The stand has a small area in it that was harvested. This portion is close to 1 acre and it has regenerated to aspen. The stand is wet along the north edge. In addition there are scattered wet pockets in it.
134	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	1.9	54	81-110	The stand is wet. The regeneration in the understory is mainly stump sprout red maple but there are some single stem maples in it.
135	42220 - Natural Jack Pine	Sapling Poor	1.5	20	1-50	This stand is an island in a larger conifer type. The area looks like a old well and slurry pit. The jack pine is heavily galled. There is a lot of reindeer moss in the ground cover. The site looks like it may be degraded.
136	42250 - Pine, Oak	Sawtimber Well	11.1	75	81-110	The red pines are heavier in the south end but common throughout the stand. The jack pines are evenly distributed but declining and coming down in many places.
137	42250 - Pine, Oak	Poletimber Well	81.1	60	81-110	This stand is one of the lost 40s. The jack pine and oak in the stand is declining. There is a lot of down woody material. This allowed numerous canopy gaps to exist in the stand. In the gaps is where the regeneration is concentrated.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
139	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	22.5	10	Immature	The stand was final harvested in 2005. It was then planted to jack pine. In addition there is some naturally regenerating maple, oak and cherry which is mixed with some additional natural jack pine regeneration. The south end of the stand was not planted and has a drainage flowing through it. However, in this area there is good regeneration of jack pine mixed with oak. The jack pine is healthy, for the most part, but there are some gall and leader kill problems in the stand.
140	42210 - Natural Red Pine	Sawtimber Medium	46.5	81	81-110	This stand was scheduled to be harvested by the removal of hardwood and jack pine in the Pine Forest Harvest 73-010-05-01. This portion of the sale was not harvested. The stand has a lot of downed wood that is heavy to oak and jack pine. The western portion of the stand has a very heavy understory of balsam fir. The fir goes from seedling to poles in size. The oak and jack pine are more common in the eastern portion of the stand. There is also a drainage that goes through the stand but there is no defined bed and bank.
144	6127 - Lowland Pine	Sawtimber Medium	5.7	96	81-110	The stand is a drainage and it is very wet. The stand's long finger has a low crown closure being around 25%. The part of the stand that is next to the pipeline has a crown closure closer to 75%. So the average crown closure is 50-75%. There are also areas in the stand that are marginally uplands which are heavy to maple. In addition there is an area of low wet cedar in the central portion of the east end.
145	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	35.0	10	Immature	The stand was final harvested in 2005. The harvest was to 2" DBH except in the northern portion; there it was cut to 4" DBH. The stand was planted to jack pine. In addition, there is a fair amount of natural regeneration of pine. This regeneration is concentrated in areas of moister soils. There are some problems with galls in the stand but it is not heavily infested with them.
146	4122 - Oak, Pine	Sawtimber Medium	1.3	95	81-110	The stand has a light understory of white pine and balsam fir. The overstory is jack pine and northern pin oak. The jack pine is heaviest in the central portion of the stand. The jack pine and oak are declining creating significant canopy gaps.
154	4125 - Black, N. Pin Oak	Sawtimber Medium	16.2	75	1-50	The stand was harvested in 2005 removing all the aspen, red maple, and jack pine. The oaks, red and white pines were retained. After it was harvested there were some small areas planted to jack pine. The oak and jack pine are now coming in well in the understory. The aspen regeneration is along the south side of the stand.
155	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	16.9	25	1-50	It appears that the stand was harvested to 4" DBH and the pine was retained. The stand is now moving into poles. Most of the stand is stump sprout origin. There are inclusions of wet pockets. There is a trace of white pine which has poor form. The terrain is undulating.
156	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	18.4	8	Unspecified	The stand was clearcut in 2005. It was then trenched and planted with jack pine. Among the planted jack pine there is some natural jack, red and white pine, and oak regeneration. There are also inclusions of leather leaf which are in depressions.
159	42120 - Planted Jack Pine	Sapling Well	89.8	21	1-50	The stand was clearcut in 1994. Then it was planted to jack pine. The stand is doing well and moving into poles.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
168	4130 - Aspen	Poletimber Well	97.4	48	111-140	The stand is doing well. There is a lot of understory oak. There are also some scattered oak, maple and pine logs. The amount of oak and pine increases going south. The white pine in the stand is concentrated along the private line. The low pockets are along the road and at the south end where there is also a drainage.
169	4191 - Mixed Upland Deciduous with Conifer	Sapling Medium	48.0	23	1-50	The stand was final harvested to 4" DBH in 1985. The regeneration is patchy so there are many areas of open ground, especially in the central portion of the stand. The overall crown closure is approaching 75%. Jack pine is seeding into the open areas. The cherry in the stand appears to be struggling and has significant mortality.
170	4191 - Mixed Upland Deciduous with Conifer	Sapling Poor	11.8	10	Immature	The stand was planted to red pine. There is some good regeneration of oak stump sprouts and seed source jack pine occurring in the stand. Some of the red pine is now being overtopped by the oak and cherry, especially at the west end. Most of them are still free to grow.
171	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	18.6	24	1-50	The stand was harvested as a clearcut in 1994. It is coming along well. There are some open areas in the stand. The crown closure is around 75%. The aspen and jack pine density increases going north.
172	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Medium	5.2	10	Immature	The stand was planted to jack pine. The planted pine appears to have had a moderate survival rate. Much of the jack pines have semi-serotinous cones. Therefore, natural seeding of jack pine is occurring. There are also some good areas of natural regenerating oaks and white, red and jack pines. The crown closure is now close to 60%.
178	42120 - Planted Jack Pine	Sapling Well	12.9	10	Unspecified	The terrain is undulating with some lower pockets that have a trace of willow shrubs and red maple. .
179	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Medium	11.4	10	Immature	The terrain is undulating. The stand was planted with jack pine. There are some residual pole size red and white pines. In addition there are some scattered clones of aspen.
180	42100 - Planted White Pine	Poletimber Medium	5.1	45	1-50	The stand was harvested leaving white pines. Then it was interplanted with jack pine. There is also some seeding in of white and red pine. The stand is also very wet at the south west corner.
201	6113 - Lowland Maple	Sawtimber Well	10.1	91	81-110	The stand is on the flood plain of the Muskegon River and it is very wet. There is a significant amount of downed trees in the stand especially around the vernal pond. The stand has a significant understory of conifer which is mainly made up of balsam fir and white pine. The ash, basswood, and maple are heaviest on the lower ground and hardwood mixed with fir on the higher ground. The ash has heavy EAB but not all the trees are dead at the current time. The EAB on the ash is lowest in areas of thick balsam fir.
204	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	10.9	86	81-110	Overall the stand is converting to a mixture of oak and pine. It is on one of the higher tiers of the Muskegon River Flood Plain. However, there are old oxbows in the stand which are quite wet. The density is variable. There is a traditional hunting camp in the stand. The understory is heavy to conifer.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
205	6127 - Lowland Pine	Sawtimber Medium	8.3	121	81-110	The stand is on the flood plain of the Muskegon River and it is very wet. There are 2-oxbows that cross the stand. The area is not on the lowest tier of the flood plain. The understory canopy closure is almost to the point it could be made the featured stand. There has been significant blow down and die off of the super canopy red and white pines making the stand difficult to navigate.
206	42290 - Natural Mixed Pine	Poletimber Medium	4.9	88	81-110	Most of the hardwoods were removed in 2006. The stand is out of the bottom land of the Muskegon River. The crown closure is around 70%. However, there are definite open areas in the stand. Also there is a two-track that traverses it going to an oxbow.
208	6119 - Mixed Lowland Deciduous Forest	Sawtimber Medium	34.3	118	51-80	The stand is on the flood plain of the Muskegon River. There are many low wet depressions in it. There are areas in the stand that are uplands. The understory is heavy to conifer. Balsam fir is heavier in the north end and white pine in the south end. The crown closure is closer to 50%. There is a creek flowing through the stand from the oxbow. The ash is declining. The stand has a lot of down woody material.
210	42290 - Natural Mixed Pine	Sawtimber Medium	13.9	86	111-140	The terrain is slightly hummocky. The stand is on the Muskegon River flood plain but has a couple of tiers. It has a thick understory of conifers which is heavy to white pines. The jack pine in the stand is declining. Also there is a drainage that bisects the stand.
211	6117 - Lowland Deciduous, Mixed Coniferous	Sapling Poor	24.5	30	1-50	The stand was harvested in 1985 with 4" DBH white pines and oaks being left. The regeneration is patchy leaving some large canopy gaps. These gaps are mainly lowland shrubs or marsh grass. Some of the lower ground swamped out after the overstory was cut. Some of the white pine is sawlog size. However, they are squat having only 2 or 3 sticks in them. There is a two-track that comes off of the private land to the north that goes all the way to the river.
213	6113 - Lowland Maple	Sawtimber Well	4.5	111	51-80	The stand is on the flood plain of the Muskegon River. There are vernal ponds in the stand. The soils, overall, are very wet. The trees have a low percentage of soundness and a high percentage of wildlife activity. The ash is dead and coming down. So there is a lot of course woody material.
214	6117 - Lowland Deciduous, Mixed Coniferous	Sawtimber Medium	20.4	121	51-80	This stand is on the flood plain of the Muskegon River and it is very wet. There is a heavy understory of conifers in place which is mainly balsam fir and white pine. The ash in the stand has heavy EAB and many have died or are declining. The crown closure goes from 0-70% with the overall crown closure being 50-60%. There are also areas of flowing water in the stand.
215	6113 - Lowland Maple	Sawtimber Medium	12.4	109	51-80	The stand is on the flood plain of the Muskegon River. The soils are very wet. Where the stand meets the uplands to the south there is a steep slope going out of the flood plain. There is evidence of some beaver activity near the back waters at the west side of the stand. The slope portion of the stand and the dryer low ridges is where the conifers are located.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
216	6112 - Lowland Aspen	Sapling Well	8.6	28	1-50	This stand is on one of the higher tiers of the Muskegon River Flood Plain. It was harvested in 1987. There is a significant amount of conifer in it. However, much of it has been overtopped by aspen. There is seasonal standing water in it, especially along the bottom of the ridge, and in the west end of the stand. The stand is moving well into poles.
217	6130 - Fir, Aspen, Maple	Sapling Well	23.4	21	Immature	The terrain is a mixture of uplands and lowlands with most of the stand being lowlands. There are drainages visible along the west side of it. Along the east side is a steep bank going out of the Muskegon River Flood Plain. The stand was harvested in 1995 in which some of the 4" white pines and oaks were left. There is a two-track that comes off of the private land to the north.
220	4133 - Aspen, Mixed Pine	Sapling Well	10.6	28	1-50	This stand is on the ridge above the Muskegon River Flood Plain. There are some low swales. It was harvested in 1987. The regeneration is filling in well. The density is somewhat variable and there are several larger openings. Around these openings the aspen density is very good. It is moving well into poles.
221	6113 - Lowland Maple	Sawtimber Well	9.9	107	81-110	The stand is on the flood plain of the Muskegon River. The SE corner is very wet. The east side is bordered by a steep bank that climbs out of the flood plain. The ash is dead leaving a stand with many canopy gaps and a lot of downed woody material.
224	6139 - Mixed Lowland Forest	Sawtimber Medium	23.1	122	Unspecified	This stand is on the Muskegon River flood plain. The south edge of the stand is a steep bank that climbs out of the flood plain. Most of the conifer is located on the slope. The slope is where all the XL white pine and most of the understory balsam fir are located. The flood plain itself is mainly hardwoods. The ash is dead, but there is still some red maple, basswood, swamp white oak, and balsam fir.
225	4310 - Pine, Oak Mix	Sapling Well	46.9	15	Immature	The stand was cut to 4" DBH in 2000. The regeneration is heaviest along the old skid trails. Because of this the overall regeneration is patchy. The portion of the stand that lies west of the snowmobile trail has a lower crown closure being around 50%. However, east of the trail the density is much better with a crown closure which is around 80%. Overall, the stand has an average crown closure which is around 75%
226	42220 - Natural Jack Pine	Poletimber Well	24.3	43	81-110	The stand was harvested in 1972. The crown closure is more variable than during the last YOE. There is some mortality in the jack pine and oak making numerous canopy gaps. Currently the average crown closure is around 75%. The oaks are heaviest in the NE corner. The balsam fir is heaviest along the north edge of the stand on the ridge above the flood plain. It is part of a KW block 121 that is scheduled to be planted in 2019.
227	6113 - Lowland Maple	Sawtimber Medium	11.4	111	51-80	The stand is on the flood plain of the Muskegon River. There are many drainages going through it. The southern and eastern edges are bordered by a steep bank that climbs out of the flood plain. The ash is dead leaving a medium stocked stand with a lot of downed woody material.
228	4310 - Pine, Oak Mix	Sapling Well	9.5	20	1-50	The stand was harvested in 1995. It has regenerated fairly well. Jack pine appears to be heaviest in the SE portion of the stand, white pine along the NW edge. The regeneration is natural from seed and oak stump sprouts.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
229	42210 - Natural Red Pine	Sawtimber Well	60.5	94	141-170	The stand was part of the Pine Forest Sale #73-010-05-01. This portion of the stand was not harvested. It is part of a KW block 121 that is scheduled to be planted in 2019. The jack pine and oak is declining. The white pine understory is very thick along the ridge above the flood plain.
231	42220 - Natural Jack Pine	Poletimber Well	17.2	71	111-140	This area is heavy to jack pines but has a strong component of red pines. There are some scattered oaks in the stand. It is part of a KW block 121 that is scheduled to be planted in 2019.
232	42210 - Natural Red Pine	Sawtimber Well	20.8	71	111-140	The stand appears to be red pine mixed with jack pine. The jack pines and oaks are declining. Down wood is common in the stand. It is part of a KW block 121 that is scheduled to be planted in 2019..
233	42290 - Natural Mixed Pine	Poletimber Medium	5.5	85	81-110	This stand was left as a buffer when stand 238 was harvested. Also the private line is a little south of the road. The jack pine has significant mortality making numerous canopy gaps. These gaps are filling in with oaks and white pines mainly, but there are some red and jack pines as well.
234	42220 - Natural Jack Pine	Poletimber Well	36.7	44	Unspecified	The stand was harvested in 1972. The harvest was a clearcut to 4" DBH. The stand regeneration is variable and there are some canopy gaps in it. These are seeding in with jack pines and oaks. The height of the jack pine is variable going from 1 stick to 4 sticks. It is part of a KW block 121 that is scheduled to be planted in 2019.
235	42210 - Natural Red Pine	Sawtimber Well	39.3	94	51-80	This stand was part of the Pine Forest Sale #73-010-05-01. This portion was harvested in 2008. The sale removed all the jack pine, white pine, and hardwoods. The residual in the stand is around 70 BA. It is part of a KW block 121 that is scheduled to be planted in 2019. The crown closure is around 75%. The residual BA ranges from 20-120 sq. ft. In the areas of low BA there is good regeneration of oak, jack pine, and red pine.
238	42120 - Planted Jack Pine	Sapling Well	79.6	18	Immature	The stand was harvested in 1995 retaining trees > 4" DBH. It was then planted to jack pine in 1997. The stand density is high and in some areas it is hard to navigate.
239	4311 - Pine, Aspen Mix	Poletimber Well	3.1	26	1-50	This stand is a narrow one along the bluff that overlooks the Muskegon River flood plain. The east end is heavier to oak, the west end heavier to white pine and the center is aspen. The upper portion was harvested in 1989 and has regenerated well to aspen.
240	42210 - Natural Red Pine	Sawtimber Well	39.8	74	111-140	This stand was part of the Pine Forest Sale #73-010-05-01. It was scheduled to have the jack pine, hardwoods, and the marked red pine removed. It is part of a KW block 121 that is scheduled to be planted in 2019.. The jack pine in the stand is declining and there is also some mortality in the oak.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
241	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	39.1	17	Immature	The stand was harvested in 1999. Then trenched and planted to jack pine in 1999. In many areas the jack pine seems not to have taken. However, there is a significant amount of oak and jack pine regeneration between the rows. The oak regeneration is heaviest along the west edge. The stump sprout oak is 10-20 ft. tall. Most of the jack pine is 5-10 ft. tall, and the single stem oak is < 5 ft. tall
242	42220 - Natural Jack Pine	Poletimber Well	5.3	59	81-110	This is a pocket of jack pines. There are some scattered red pines but it is minimal. Most of the red pine is along the boundary. The jack pine has some mortality but at the current time it is not too bad. It is part of a KW block 121 that is scheduled to be planted in 2019.
243	42220 - Natural Jack Pine	Poletimber Well	59.8	43	81-110	The stand was harvested as a clearcut to 4" DBH in 1972. Most of the residual was jack pine. The regeneration density is variable. So the crown closure goes from 65 to 95%. However, it averages around 85%. When it was harvested the majority of the regeneration was jack pines but there are also some oaks. The jack pine that was left and what has regenerated has poor form. The scattered openings in the stand are seeding in with jack pine. It is part of a KW block 121 that is scheduled to be planted in 2019.
245	42210 - Natural Red Pine	Sawtimber Well	32.9	81	141-170	The terrain in the stand is rolling. This area was part of the Pine Forest Harvest #73-010-05-01 but it was not harvested. The oaks and jack pines are declining. There is a lot of down jack pine in the stand. There are also some inclusions of low wet ground.
247	42220 - Natural Jack Pine	Poletimber Well	131.3	55	81-110	The stand was harvested as a clearcut to 4" DBH in 1960. The understory oaks and jack pines are patchy. Much of the stand has no understory. There are numerous small openings. It is part of a KW block 121 that is scheduled to be planted in 2019.
248	42220 - Natural Jack Pine	Poletimber Medium	17.1	43	51-80	The stand was harvested as a clearcut to 4" DBH in 1972. At that time the residual was jack pine. The crown closure goes from 25 to 95% and averages 70%. When it was harvested some oak regenerated as well as jack pine. The jack pine has poor form. The openings in the stand are seeding in with jack pine. It is part of a KW block 121 that is scheduled to be planted in 2019.
249	42220 - Natural Jack Pine	Poletimber Well	25.8	57	111-140	This is mainly a jack pine stand. However, there are some oaks and red pines scattered in it. The jack pine is 4-8 sticks tall with some logs. Some of the logs have good form. It is part of a KW block 121 that is scheduled to be planted in 2019.
251	42201 - Natural White Pine, Mixed Deciduous	Poletimber Well	6.4	51	81-110	The oaks and jack pines are declining. There is a pole size understory of white pine that is now progressing to the overstory. The west side of the stand includes the steep bluff that overlooks the Muskegon River Flood Plain. The stand has many areas that are used for disperse camping.
252	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Medium	23.6	15	Immature	The stand was harvested in 1997. It was trenched and seeded in June of 2001. The regeneration is variable and goes from well stocked to medium stocked. There are some veins of natural jack pine in the stand that are doing very well. There are significant gall problems on the planted jack pines. The crown closure is closer to 75%.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
254	42220 - Natural Jack Pine	Poletimber Medium	22.9	55	81-110	The stand is a mature jack pine stand. The diameter is variable going from just poles to sawlogs. The jack pine and oak are showing signs of declining. There is a lot of jack pines on the ground. The oak regeneration is higher at the north end and along stand 252 and the road.
255	42210 - Natural Red Pine	Sawtimber Well	13.6	81	111-140	This stand was set up as a clearcut in the Pine Forest Harvest # 73-010-05-01. It was not cut. The terrain is rolling and has some pockets of lowlands but the majority is uplands. The jack pines are heavier in the N half and red pine in the S half. There is a lot of dead oak and jack pine. Many of the larger oaks and pines are concentrated on the ridge along stand 267. Many of the larger trees have damage from pileated wood peckers.
256	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Medium	25.9	7	Immature	The stand was harvested in 2008 and replanted to jack pine in 2009. The stand is coming along well. There is also a lot of oak regeneration in the stand.
257	6131 - Hemlock, White Pine, Maple, Birch	Poletimber Well	6.6	119	81-110	The stand is on the flood plain of the Muskegon River. It has a dense understory of conifers, which is heavy to balsam firs and white pines. There is a portion of an old oxbow along the east side. The stand lies along the bottom of a steep bluff that overlooks the flood plain. The stand is variable in species mix but fairly uniform in density. The terrain is hummocky. Overall the stand is one of the dryer E-Types.
258	42120 - Planted Jack Pine	Sapling Well	21.7	18	Immature	This stand was harvested in 1995 and it was planted to jack pine in 1997. The stand is very dense with some low wet pockets.
259	42210 - Natural Red Pine	Sawtimber Well	7.0	81	141-170	This stand is an upland knob surrounded by low wet ground. A marsh borders the north side and a lowland conifer swamp is on the south side. There is significant mortality in the oaks and jack pines making numerous canopy gaps. Some of the gaps are starting to fill in with pines and oaks. The overall canopy closure is closer to 75%
262	6119 - Mixed Lowland Deciduous Forest	Sawtimber Well	12.8	91	Unspecified	The stand goes down over a steep bank and on to the Muskegon River Floodplain. The soils are very wet. The ash is holding on, but has significant EAB. The understory conifer is scattered through the center of the stand. Some of the overstory is white pine; especially along the slope at the west end. The stand is bisected by a pipeline that crosses the river.
265	42210 - Natural Red Pine	Sawtimber Well	62.1	75	111-140	All the mature jack pine and oak were removed in 2000. The oak understory is now getting established. The northern portion of the stand is on a lower tier and has some wet pockets. The rest of the stand is dry. Hold the stand until the next year of entry, then reevaluate. At that time the removal the red pine to release the oak may be desired. At the present time the red pine is acting as a nurse crop for the oak regeneration. The Natural Gas Injection Sites #341 & #255 and associated pipelines are in the stand.
266	6123 - Lowland Fir	Poletimber Well	9.0	45	81-110	The stand is low and wet and it is made up of swamp conifers. There are some hardwoods along the eastern edge. The balsam fir is a major component of the stand at the north end. In the central portion of the stand it is mixed with cedar, spruce, birch, quaking aspen, red maple and white pine.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
267	6124 - Lowland Spruce-Fir	Poletimber Medium	70.7	111	81-110	The ash in the stand is dead making large canopy gaps. Some of the areas have a very low density in the overstory. These areas do have a thick understory of spruce and fir. Overall the stand is very wet.
268	4199 - Other Mixed Upland Deciduous	Sawtimber Well	9.6	113	81-110	This stand is on the bluff above the flood plain of the Muskegon River. There is a component of pines in the stand which are concentrated in the SE corner.
269	6123 - Lowland Fir	Sapling Medium	5.7	31	1-50	This stand was habitat cut. It has regenerated and it is now a mixture of balsam fir, spruce, and some hardwoods. There is some ash regeneration. It is doing okay at the current time.
270	42250 - Pine, Oak	Sapling Medium	14.6	18	Immature	The stand was harvested in 1997. It has regenerated to a mixture of jack pine and pin oak. The density is greatest along the north edge. The trees get sparser going south. The crown closure goes from 25 to 100 %, however it averages 50%.
271	42221 - Natural Jack Pine, Mixed Deciduous	Sapling Medium	9.5	25	1-50	The stand was final harvested in 1990. The regeneration is patchy. The stand is mainly jack pine but there are some small clones of aspen and scattered oak stump sprouts. The pines in the stand are also patchy but it is more evenly distributed. The density is higher in the east 1/2 of the stand. The trees are open grown so they are branchy and squat. Gas Storage pipelines run through this stand.
272	42210 - Natural Red Pine	Sawtimber Well	49.9	81	111-140	This stand was scheduled to be harvested by the removal of hardwoods and jack pines in the Pine Forest Harvest 73-010-05-01. This portion of the sale was not harvested. The jack pine in the stand has poor form and it is declining.
273	4125 - Black, N. Pin Oak	Sapling Poor	52.4	5	Immature	The stand was harvested in the Hemlock RRP sale #73-015-08-01. The harvest occurred in 2008. The stand was planted to red pine in 2011 with FTP #C73-847. The stand has some residual fir and white pine. Though the stand was planted to red pine the oak is currently dominate. The crown closure is low enough that the red pine is still free to grow, for the most part
276	4122 - Oak, Pine	Sawtimber Medium	3.9	95	81-110	The stand has a light understory of white pine and balsam fir. The overstory is jack pine and northern pin oak. The jack pine is heaviest in the central portion of the stand. The jack pine and oak are declining creating significant canopy gaps.
277	42120 - Planted Jack Pine	Sapling Well	30.7	14	Immature	The stand was harvested in 1997. It was trenched and seeded in 2001 with the sigma seeder. The seeding had good results. The area is now a mixture of jack pine and oak. There are pockets of near pole size jack pine. The crown closure is around 75 %. The stand also has a significant amount of natural regeneration.
278	4130 - Aspen	Sapling Well	4.8	27	1-50	The stand was harvested in 1998. The regeneration is in several large patches. The stand has some scattered white and red pines. The crown closure overall is around 80%.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
279	42220 - Natural Jack Pine	Poletimber Well	35.3	45	81-110	The stand was cut in 1970. It is now a mixture of jack pine and pin oak. There are some red maples in it; especially in the western and southern ends. The NW corner is pure jack pine. some of the J Pine is showing signs of decline.
280	6113 - Lowland Maple	Sawtimber Poor	3.5	95	1-50	The stand borders Green Creek. It is on the flood plain of Green Creek and the soils are very wet. It is mainly red maple and ash with some scattered white pines. The ash in the stand is dead or dying. The ground cover is mainly marsh grass. There are some uplands at the east end.
281	4310 - Pine, Oak Mix	Sapling Poor	41.9	15	Immature	The stand was harvested then trenched and planted to red pine. The planted red pine has a high survival. There are also a lot of volunteers of oaks and jack pines. Much of the oak regeneration is stump sprouts. There are also 3 clones of aspen in the south west end of the stand. There is no aspen in the main part of the stand.
283	42260 - Natural Pine, Mixed Deciduous	Poletimber Medium	27.1	36	1-50	The stand was harvested in 2000 leaving all the pines. The regeneration is patchy being mainly oak stump sprouts and some small aspen clones. The current crown closure is around 35%. Natural Gas Storage Pipelines runs along the roadway. The white pines in the stand appear to have weevil problems.
284	42201 - Natural White Pine, Mixed Deciduous	Sawtimber Well	10.0	68	81-110	This stand is along the Green Creek. It drops off into the flood plain going west. Along the creek it is heavy to red maple with pine becoming heavier going away from the creek. The ash in the stand is dead.
286	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	14.9	15	Immature	The stand was Clear-cut and replanted to jack pine in 2000. Several rows of red pine were left along Haskel Lake Road for visual. There is a Natural Gas Storage Injection site and pipeline here. The trees in the stand look healthy and the oak, according to the imagery is scattered throughout the stand.
288	6113 - Lowland Maple	Sawtimber Poor	26.6	107	1-50	The stand goes down over a steep bank then onto the Muskegon River Floodplain. The soils are very wet on the floodplain and there is not much understory. The slope coming out of the floodplain is heavy to conifer. There are also numerous springs in the slope. The floodplain itself is mostly hardwoods. Much of this is ash and it is dead or dying. There is no Commercial Harvest Opportunities in this stand.
289	6117 - Lowland Deciduous, Mixed Coniferous	Sawtimber Medium	11.4	98	51-80	The stand is along the flood plain of Green Creek. The bluff that overlooks the flood plain becomes more pronounced going south. There is also a significant understory of conifer that also becomes more pronounced going south. Along the creek there is an open area that is non-forested. However, it is less than 0.4 acres in size. Ash in the stand is dead and dying leading to the lower canopy closure.
290	42110 - Planted Red Pine	Poletimber Well	16.4	68	111-140	Natural gas injection site and pipeline is in the stand and long the north edge. This stand was third row thinned in 1991 and thinned again in 2013 to a BA of 120. The red pine is still doing well.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
292	4130 - Aspen	Sapling Well	17.9	25	51-80	The stand was harvested in 1990. The regeneration is good overall. There are some significant openings in the stand that are sparsely treed. The average crown closure is around 85%, but it ranges from 10 to 100%
293	42120 - Planted Jack Pine	Sapling Medium	52.1	14	Immature	The stand was harvested in 1997, and then seeded in 2001 with the sigma seeder. The regeneration is patchy. There are some areas where the crown closure is 100% and other areas where it is less than 15%. There also appears to be some oak regeneration present.
294	6120 - Lowland Cedar	Poletimber Well	5.1	100	111-140	The stand is on the flood plain of the Muskegon River. The soils are very wet. The stand is heavy to cedar with some balsam fir and white pine. There is a lot of down woody material.
297	429 - Mixed Upland Conifers	Sapling Poor	44.7	7	1-50	The stand was harvested in 2008 leaving all the white pines and marked oaks. The residual was around 18 sq. ft. The crown closure is around 25%. The regeneration is patchy. The stand appears to be seeding in with jack pines.
298	6123 - Lowland Fir	Poletimber Well	12.4	68	111-140	The stand is on the flood plain of the Muskegon River. It has good species diversity. The understory is heavy to conifers, mainly balsam. The soils are very wet. There is a lot of down woody material in the stand.
300	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	23.3	107	111-140	The stand goes in and out of the flood plain of Green Creek. On the flood plain the stand is heavy to fir. Out of the flood plain the stand is heavy to white pine. Overall the stand is variable. There are also inclusions, of lowland shrubs but they are less than .5 acres in size. Hardwoods become more common going north.
301	6132 - Mixed Lowland Forest with Cedar	Poletimber Medium	34.7	83	51-80	: The stand is on the flood plain of the Muskegon River. There is a heavy understory of conifers which is heavy to balsam fir. Much of the overstory is made up of ash which is dead or dying. There is a lot of down woody material making the stand difficult to navigate.
302	42110 - Planted Red Pine	Sapling Medium	11.4	13	Immature	The stand was left as a buffer when stand 304 was harvested. However, in 2002 it was cut and replanted too red pine. There is some oak and cherry regeneration but it is minimal.
303	6128 - Lowland Coniferous, Mixed Deciduous	Sawtimber Well	12.0	81	111-140	The stand drops down over a slope then into the flood plain of the Muskegon River. The slope is heavy to balsam fir, maple, white pine and red pine. The base of the slope is very wet and it is heavy to cedar, balsam fir and hemlock. The ash in the stand is dead or dying. There is a creek in the stand and numerous springs in the slope. So overall the stand is not manageable.
304	42110 - Planted Red Pine	Sapling Well	51.7	25	111-140	The stand was clear cut and replanted to red pine in 1990. (Notes:SI RP=54 MUCH BETTER THAN JP) Besides what was planted, there is some naturally regenerating oak and cherry. The oak and cherry is heaviest in the west ½ of the stand. The stem density goes from 40 to 180 BA. The stand is well on its way to becoming a pole stand in 10 years.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
305	6129 - Mixed Coniferous Lowland Forest	Sawtimber Well	3.5	81	111-140	The stand drops down into the flood plain of the Muskegon River and the east edge is a steep slope. The slope is heavy to balsam fir, maple, white pine and red pine. The base of the slope is very wet and it is heavy to cedar, balsam fir and hemlock. There is a creek in the northern portion of the stand. Overall the stand is not manageable.
306	42110 - Planted Red Pine	Poletimber Well	13.5	60	171-200	The stand was planted in 1955 among oaks and white pines. The rows are not straight but they are well defined.. There are some wolfy oak present several of them are dead or dying. The stand sits on a ridge between the Muskegon River and Green Creek. The terrain is level. The regeneration is heaviest at the north end of the stand.
307	42141 - Planted Mixed Pine, Mixed Deciduous	Sawtimber Well	43.7	77	81-110	The stand is a mixture of red pines, jack pines, and oaks. The density and the mixture of species are variable throughout the stand. The pines are heavier in the east end; the hardwoods are heavier in the west end. The jack pine and oak are showing signs of decline. The red pines and jack pines were planted in 1940.
309	42110 - Planted Red Pine	Sapling Well	22.6	16	Immature	The stand was Final harvested and replanted in 2000. When harvested a buffer was left along Finley Lake Ave. The stand is filling in very well and the crown closure is around 75%.
311	42110 - Planted Red Pine	Sapling Well	32.1	25	81-110	This stand is mainly a red pine plantation that was planted in 1990. There is a portion along the west side of the stand that appears to have had some jack pine planted as well. There is also oak and jack pine natural regeneration scattered throughout the stand.
312	42110 - Planted Red Pine	Sawtimber Well	38.2	77	111-140	This is an old hand planting and the rows are vaguely running E/W. The record indicates it was hand planted in 1938. All jack pines, oaks and marked red pines were removed in 2000. There is excellent quality timber in the stand and some of them are Utility Poles. The crown spacing created by the harvest is still good. If the stand is thinned again it will have a thick understory of oak in 10 years. There is a Natural Gas Storage Injection pipelines are located along the north edge
313	42290 - Natural Mixed Pine	Poletimber Well	20.6	67	111-140	This area was left as a buffer along Leota. The jack pine in the stand is declining and falling out as well as some of the oak. The openings created by the dying trees are filling in with oak, red pine, jack pine, and white pine. The red pine appears to be thickest along Finley Lake Ave. The jack pine is heaviest along Muskegon Rd. The red pine is scattered throughout the stand.
315	42110 - Planted Red Pine	Sawtimber Well	37.6	80	141-170	The stand was thinned in 1996. The basal area was taken down to around 90 sq. ft. The stand was left as a buffer to the Yellow Bird Sale. Currently the trees are just moving from poles into logs.
316	42110 - Planted Red Pine	Sawtimber Well	19.4	80	111-140	The stand may have been planted during the early CCC days but now it looks natural. There are openings in the crowns and they are filling in with oak and pine. This stand was thinned in 1986 and is being left as a buffer to the Yellow Bird Sale.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
317	42250 - Pine, Oak	Poletimber Well	39.8	63	81-110	This area was left as a buffer along Leota. The jack pine in the stand is declining and falling out as well as some of the oak. There is an area that is wetter than the rest of the stand and in that area there is a high amount of regeneration. The regeneration is heavy to balsam fir, white pine, oak, and jack pine.
319	6123 - Lowland Fir	Poletimber Medium	4.2	35	81-110	The southern edge of the stand is heavy to balsam fir. This area is also a steep slope going down to the drainage that flows through stand 332. There the rest of the stand is very wet and is heavy to black spruce, balsam fir, and other lowland conifers. The stand was habitat cut in 1980. The north end had some beaver activity that killed off a portion of the conifer.
322	6113 - Lowland Maple	Sawtimber Medium	48.8	90	51-80	This stand is on the flood plain of the Muskegon River. It is very wet much of the year having numerous old oxbows. The ash in the stand is either dead or down. The 2010 imagery shows a lot of down woody material. Most of the trees went down between 2005 and 2009 looking at the imagery. The heaviest concentration is in the eastern portion of the stand and around the oxbow that's stand 320. There is a significant amount of conifer in the understory on the alluvial ridges. The conifer is a mix of fir, white pine and some spruce. There is a lot of standing water and numerous beaver runs in the stand.
323	4310 - Pine, Oak Mix	Sapling Poor	371.1	3	Immature	The stand was clearcut in 2012. Than it was trenched and planted to jack pine with FTP W73-876 and it was completed in 5/2013 for KW habitat. There are 4 narrow strips of pole size jack pine that were left for retention. There is also a noticeable amount of natural jack pine seedling mixed with stump sprout northern pin oak. The overall crown closure is just over 25%. (Note: the flat areas in the stand are heavily infested with mound ants.)
326	4125 - Black, N. Pin Oak	Sapling Medium	19.8	7	Immature	This stand was part of the Hawthorn Mix sale that was harvested in 2009. Jack pine was planted in 2001 with the FTP C73-836. The planted jack pine has a low survival rate. However, there are a lot of volunteers of jack pine, red pine, oak and aspen. The aspen has the highest density in the northern portion of the stand. The stand has red and white pines scattered throughout. The crown closure is closer to 75%.
328	4131 - Aspen, Oak	Poletimber Well	70.8	27	51-80	The stand is starting to self-thin. Some portions of the stand are heavy to oak and jack pine and other areas are pure aspen. The aspen has the highest density in the northern portion of the stand. The stand has red and white pines scattered throughout. The crown closure is closer to 75%.
329	6129 - Mixed Coniferous Lowland Forest	Poletimber Medium	16.4	79	111-140	The stand is a mixture of cedar, tamarack, white pine, and black spruce with some scattered hardwoods. The hardwoods are mainly ash and are dead, dying, and coming down. There is a lot of windthrow and down woody debris. There is a significant amount of regeneration coming in, which is mainly fir, spruce, and tamarack.
330	6130 - Fir, Aspen, Maple	Sawtimber Well	21.5	96	111-140	The stand is on the flood plain of the Muskegon River. It is very wet much of the year. There are some conifers in the understory, which are heavy to balsam firs. There are also some super canopy white pines; especially on the slopes, which is the transition between the flood plain and the uplands. There are also numerous springs and drainages running through the stand as well as some ridges. Overall the stand is not manageable.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
331	42110 - Planted Red Pine	Poletimber Well	9.9	60	141-170	The stand was put up to be thinned in the entry year 1996. The pines are still doing well. The understory is heavy to brush and there are not many trees. The pines are of high quality and there are some utility poles. The stand is wetter along the north edge and in the east end. This is where the oaks, ashes, maples and birch trees are located. However, the ash trees are currently dead or dying.
333	4310 - Pine, Oak Mix	Poletimber Well	47.3	65	81-110	The stand is declining and there is a lot of down oak and jack pine. The jack pine has the highest density west and oak east. There is also a fair amount of white pine east. The northwest end of the stand drops down in elevation. There are some prairie remnant grasses in the stand.
335	42200 - Natural White Pine	Poletimber Well	14.9	83	111-140	The terrain is undulating. There is a high ridge just north of stand 337. The stand has significant oak mortality and there is a lot of down wood. There is a wet swale in the finger of the stand that goes north. The stand is a mixture of pines and hardwoods. The crown closure is around 85%.
339	6124 - Lowland Spruce-Fir	Poletimber Well	22.6	99	111-140	There is a drainage going through the stand and it is very wet overall. The ash is dead and coming down creating numerous canopy gaps. The edges of the stand have steep slopes. There are numerous age classes in the stand ranging from seedling to extra-large sawlogs.
341	42290 - Natural Mixed Pine	Poletimber Medium	26.9	83	81-110	The stand was thinned in 1996 by removing the hardwoods and marked trees. The regeneration of aspen and maple is good. The residual oak and jack pine has significant mortality and it is coming down. There are areas of aspen, oak and red maple regeneration visible on the imagery. However, they are below the dominate and co-dominate trees. So they were not counted in the crown closure.
342	4130 - Aspen	Sapling Well	5.1	19	1-50	The stand has regenerated well, for the most part, there are a couple of sparse areas along the north and west sides. The crown closure is around 80%. There are areas of thick oak regeneration. The terrain is rolling and drops in elevation going to the north.
343	42210 - Natural Red Pine	Sawtimber Medium	19.4	83	81-110	The stand had the hardwoods removed about 18 years ago. The red pines ring spacing shows the release from that harvest. The stand has some regeneration mainly in the areas of lower crown closure. The regeneration is heavy to oaks, pines, and aspens. Overall the stand is now a red pine stand with a hard wood understory.
345	4130 - Aspen	Poletimber Well	56.0	28	81-110	The stand was harvested in 1987 and has regenerated well overall. The stand has a heavy understory of maple. Currently the stand is self-thinning so there is a lot of down woody material. There are several open pockets in the stand that are heavier to oak and pine.
347	4125 - Black, N. Pin Oak	Sapling Poor	5.4	18	1-50	The crown closure is just passed 25%. The ground cover is grass and blueberry.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
348	4133 - Aspen, Mixed Pine	Poletimber Medium	20.0	86	51-80	Haskel Lake is along the south end of the stand. The pines are concentrated at the north end but it is also scattered throughout. There are numerous two-track roads running through the stand. Some of these are RDRs. The oak in the stand has significant die off because of age.
349	4131 - Aspen, Oak	Poletimber Well	10.0	48	111-140	The stand is mostly oak sawlogs near Old State and Haskel Lake Road. The east ½ - 1/3 of the stand is aspen. The terrain is rolling. The stand has a couple of large grassy opening with some scattered large crown oak in it. There are also several trails going through the stand. The southern end of the stand butts up against the Haskel Lake RDR..
350	42250 - Pine, Oak	Poletimber Well	30.2	77	81-110	The stand is heavy to oak/pine along the east side and it grades to aspen/oak along the west side. There are 3 depressions in the stand that are vernal ponds. The southern one is the largest and they get progressively smaller going north. The northern most one is more of a lowland shrub swale than a vernal pond. Much of the stand is upland but there are some lower areas in the eastern portion. The crown closure is around 80%.
352	42220 - Natural Jack Pine	Poletimber Well	140.9	42	81-110	The terrain is rolling with pockets of low wet ground. The oak in the stand is on the ridges. The jack pines ranges in diameter from 3" to 9" DBH. The white and red pines are mainly in the south west corner. The snowmobile trail runs through the southern portion of the stand. (Note: The stand is heavily infested with mound ants.)
353	4131 - Aspen, Oak	Poletimber Well	19.2	26	51-80	The stand is heavy to aspen/oak with some jack pine in the north end. The south east corner has some white pine especially along the drainage. The terrain is rolling.
354	4122 - Oak, Pine	Poletimber Well	24.0	41	51-80	The stand density is variable going from poor to well stocked. The crown closure averages around 85%. There are inclusions of grassy openings and lowland shrubs. The oak in the stand are mostly of stump sprout origin. The terrain is undulating. (Note: the flat areas in the stand are heavily infested with mound ants.)
356	4130 - Aspen	Sapling Well	6.3	19	Unspecified	The stand is made up of aspen clones. Some red pines were planted in it when stand 357 was planted. There are some scattered white pines along the southwest edge. The oak is concentrated along the south west edge.
357	42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	37.5	16	Immature	The stand was planted to red pine. There are some scattered aspen clones and scattered patches of oak and cherry in it. Most of the hardwoods appear to be of sprout origin. The current crown closure is around 75%. This area is a mixture of red pine, oak, aspen, red maple, and white pine.
358	4136 - Aspen, Mixed Conifer	Poletimber Well	15.9	41	81-110	The stand has a low depression that runs south to north, more or less. This area is very wet and has some cedar and spruce in it. The southern end is heavy to white pine. It also has some pockets of balsam fir in the understory along the east side. The oak is heaviest along the NW edge.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
359	4125 - Black, N. Pin Oak	Poletimber Medium	9.8	41	1-50	The stem density increases going to the south as does the white pine. The oak is mostly of stump sprout origin. The terrain is undulating. Mound ants colonies are common throughout the stand.
360	6113 - Lowland Maple	Sawtimber Well	6.4	93	51-80	Portions of the stand have been treated as a seed tree and has a thick layer of red maple in the understory. The terrain is a mix of upland knobs and low wet draws. The ash in the stand is dead or dying.
361	42200 - Natural White Pine	Poletimber Well	3.3	75	141-170	This is a pocket of white pine that sits on a ridge. The diameter goes from seedling to 24" DBH.
401	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	47.9	12	Immature	The stand was harvested in 2003. Then it was interplanted with jack pines in 2004. The regeneration is a fairly even mix of jack pines and oaks. There are some small aspen clones scattered in the stand.
402	4310 - Pine, Oak Mix	Sawtimber Medium	21.5	90	51-80	The stand was harvested in 2003 by removing the jack pine. After the harvest the white pine poles have a greater percentage of the crown space. The oaks seem to have a high mortality and they are starting to come down. In the stand where the BA is < 40 Sq. Ft. there is good oak regeneration starting. Overall the crown closure is closer to 50%. This percentage is lower going south and higher going north.
406	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	47.3	95	81-110	The terrain is hummocky. There is an upland knob in the west end. This knob has oak and white pine. Going south and east the stand has more cedar and fir. Black spruce is more concentrated along the north edge of the stand. There is high mortality in the cedar and in some of the fir and spruce. The density in the stand is variable going from a BA 10 to 100. There are a lot of crown gaps in the stand that are filling in with tag alder.
407	4310 - Pine, Oak Mix	Sapling Well	17.1	12	Immature	The stand was interplanted with red pine. It is coming along well and the red pine is starting to compete with the oak. The crown closure is closer to 75%. So there are some openings in the crowns.
408	42290 - Natural Mixed Pine	Sawtimber Well	9.1	90	111-140	Stand is around a gas injection well. The J pine in the stand is declining and there are many snags. Some oak mortality is also present. This stand was left as a buffer too break up the visual impact of a harvest. The jack pine is more common at the north east corner and red pine through the rest of the stand.
419	4132 - Aspen, Jack Pine	Sapling Well	35.8	23	1-50	The stand has some low pockets but overall it is dry. Much of the planted jack pine is now over topped by the aspen and oak. The crown closure is closer to 75%. So there are numerous openings and some are traditional hunting camps.



Stand	Cover Type	Acres	Managed Site	General Comments:
2	320 - Upland Shrub	1.7	No	This is an area of shrubs. The center portion of the stand looks to be wet but much of it is uplands.
4	629 - Mixed non-forested wetland	20.5	No	This stand is part of a larger lowland complex. The area is mainly water and marsh grasses with an island of jack pine. In addition the perimeter is heavy to lowland shrubs.
8	6229 - Mixed lowland shrub	2.9	No	This is a swale that is very wet. The stand was harvested with stand 419 and it was heavily rutted. Conifers are starting to seed in. The main species are tamarack, balsam fir and white pine.
14	500 - Water	12.7	No	This is an oxbow of the Muskegon River.
19	3102 - Grass	0.6	No	This is an area that looks to be used as a camping area. The opening starts on state land but continues onto private land.
22	500 - Water	12.5	No	This is a portion of the Muskegon River
23	500 - Water	1.8	No	This stand has move from lowland shrubs to water because of beaver activity.
24	6229 - Mixed lowland shrub	4.0	No	This is a swale that is mainly tag alder and dogwood which is thick. There is also some scattered balsam fir. The swale is being fed by springs making it very wet.
30	320 - Upland Shrub	37.2		The stand was planted to red pine in 2015. Because of snow the survival of the planted seedlings is unknown. There is some natural regeneration of oak that is evenly scattered and mainly sprout origin. Along the west side and in the south leg of the stand some red pines were marked to be retained.
32	6229 - Mixed lowland shrub	1.3	No	This is a swale that is mainly tag alder and dogwood with some scattered trees. The site is very wet.
36	3302 - Low Density Conifer Trees	69.1	No	The stand was seed tree harvested in August of 2013. It has regenerated naturally to a mix of oak and pine. The slash load was low. The south east corner of the stand is thick with cherry and aspen. The terrain is mainly flat but get hillier toward the north edge. The seedlings are still less than 3 feet tall so they are not considered established.
41	320 - Upland Shrub	13.8		The stand was clear cut in August of 2013. Overall the stand is upland and has a fairly even mix of oak and pine. The stand was planted with red pine in the spring of 2015 at a stocking rate of 1031 trees/ac. This was done with FTP #C73-943.
46	3302 - Low Density Conifer Trees	35.3	No	The stand had a salvage harvest done in 1994. The harvest left the red and white pines. The sale boundary did not include the entire stand. Later the stand was seed tree harvested which was completed in August of 2013. This left a medium slash load. The regeneration of the stand has bigtooth dominating the edges and quaking aspen dominate the middle. The west side is heavier to cherry. There is also a fair amount of oak regeneration throughout the stand.



Stand	Cover Type	Acres	Managed Site	General Comments:
51	3302 - Low Density Conifer Trees	2.9	No	The stand is filling in with Jack pine along the edges.
52	6229 - Mixed lowland shrub	5.3	No	This is the flood plain of the Floodwood Creek. It is heavy to tag alder and marsh grass.
64	310 - Herbaceous Openland	62.2		The stand was clear cut in the summer of 2014. Then it was trenched in the fall of 2014, and planted to red pine in the spring of 2015. There are some oak sprouts visible. However, the planted red pine is not visible because of snow depth. Therefore the survival of the planted red pine is unknown.
65	330 - Low-Density Trees	148.7		The stand was harvested in April of 2014. It was trenched in the fall of 2014 and it was planted in the spring of 2015. The oak regeneration is coming in well and there are areas that are very thick. Overall the oak regeneration is less than 5 feet tall so it is not established. The survival looks to be fair to good on the planted red pine.
73	3102 - Grass	48.7	No	This stand is a long grassy stand that has a high pressure gas pipeline going along the east ½ of the stand. There is a two-track that is in the other ½ of the stand. There has been some attempt to curtail the use of the two-track but for the most part it has not been successful.
76	500 - Water	4.2	No	This is the Muskegon River.
81	6229 - Mixed lowland shrub	5.9	No	This is down stream from the control structure for Floodwood Swamp Reservoir. It is an L-Type mixed with some swamp hardwoods.
93	310 - Herbaceous Openland	21.4		The stand was clear cut in the summer of 2014. Then it was trenched in the fall of 2014, and planted to red pine in the spring of 2015. There are some oak sprouts visible. However, the planted red pine is not visible because of snow depth. Therefore the survival of the planted red pine is unknown.
94	500 - Water	17.4	Yes	This is the Floodwood Swamp Reservoir. It is a mixture of open water and cattails.
95	6229 - Mixed lowland shrub	13.8	No	The stand was mainly ash at one time but now the trees are dead. It is now mainly tag alder and dogwood. There are some scattered cedars. However, the tops look to be thinning and they appear to be declining.
101	320 - Upland Shrub	1.7	No	This stand is where the Harrison DNR weather station is located. The area around the station was cleared out when the Otter Pines sale was harvested. There is a lot of blueberry and sweet fern on the site.
109	500 - Water	5.0	No	The stand was flooded by beaver activity. The overstory is dead and the lowland shrubs are in patches.
110	6239 - Mixed Emergent Wetland	47.8	Yes	This portion of the Floodwood Swamp Reservoir is mostly cattails with lowland shrubs along the perimeter.



Stand	Cover Type	Acres	Managed Site	General Comments:
111	500 - Water	7.0	No	The water level in the stand has increased since the last inventory. The edges have some shrubs but much of the stand is now water.
114	629 - Mixed non-forested wetland	4.6	No	The stand is in the flood plain of the Muskegon River. It is an old oxbow that beaver have been damming up so it is currently flooded.
120	3102 - Grass	55.1		The stand was clearcut in 2015. It is to be left to regenerate naturally. Currently the cones on the branches and tops are opening. The stand is undulating and it has inclusions of lowlands. The red maples are heavily browsed and the oaks are moderately browsed. In places the oak regeneration is thick but all of it is < 5' tall.
121	6229 - Mixed lowland shrub	8.8	No	The stand is on the flood plain of the Muskegon River. The soils are very wet and there is standing water. The ash is gone and it has converted to a lowland shrub type with some ash, cedar, and maple. The crown closure is around 15-20%.
129	629 - Mixed non-forested wetland	36.1	No	The stand is a beaver flooding. The vegetation goes from marsh to lowland shrubs to water going from east to west.
131	629 - Mixed non-forested wetland	4.3	No	This stand is along the Green Creek. It is on the flood plain. The ash in this stand is dead so it has converted to non-forested wetland.
133	3302 - Low Density Conifer Trees	2.8	No	This is a grassy stand that contains a pipeline. The jack pines are seeding into the stand from the neighboring trees.
138	629 - Mixed non-forested wetland	5.5	No	The central portion of the stand is heavy to lowland shrubs and marsh grass. There are trees around the edges of the stand. These trees are mainly red maple, tamarack, birch, white pine, and jack pine.
148	629 - Mixed non-forested wetland	5.3	No	The stand is in a depression. The crown closure is between 15-25%. The trees in the stand are mainly tamarack, white pine, and red maple. The trees are heaviest along the edges, but some are scattered throughout the stand. There also appears to be significant mortality in the overstory.
149	6233 - Wet Meadow	3.7	No	The stand is in a well-defined depression. The edges of the stand are an L-Type. The rest of the stand is marsh grass and water.
158	3102 - Grass	38.6		The red maple in the stand is heavily browsed. There appears to be a lot more branch material on the ground than in stand 120. There is a lot of oak regeneration and it is heavy in areas. There is some seedling jack and red pines observed. The stand was planted in 2015.
203	500 - Water	19.5	No	Muskegon River
207	500 - Water	8.7	No	Oxbow of the Muskegon River
209	629 - Mixed non-forested wetland	3.7	No	This area is on the flood plain of the Muskegon River. It is low and wet with a mixture of lowland shrubs and herbaceous ground cover. There are some trees in the stand. However, a significant amount of them are down. The crown closure is less than 15%.



Stand	Cover Type	Acres	Managed Site	General Comments:
212	500 - Water	6.3	No	This is the Muskegon River and a connected backwater.
218	500 - Water	12.3	No	Muskegon river and its backwaters.
219	500 - Water	8.8	No	Muskegon River and its back waters.
230	3102 - Grass	1.5	No	Pipeline
237	500 - Water	7.0	No	Muskegon River
250	500 - Water	2.6	No	Muskegon River
253	629 - Mixed non-forested wetland	22.7	No	This is an open marsh that is filling in with lowland shrubs around the perimeter; especially in the eastern leg. It is also in a well-defined depression that is part of a larger wetlands complex.
260	500 - Water	3.0	No	Muskegon River
261	6225 - Bog	8.7	No	This area is low and wet and looks to be a lowland shrub type over leather leaf. The stand has some scattered spruce, fir, and tamarack.
264	6225 - Bog	3.7	No	This stand is made up of 3 wet depressions. They are mainly leather leaf with some scattered jack pines, tamarack, spruce and fir.
274	330 - Low-Density Trees	26.5		In 2002 the stand had a dead oak salvage. Then a final harvested done on 5/27/2014. The sale was the Otter Pines sale #73-001-09-01. It was then trenched and planted with red pine with FTP #C73-869 which was completed in the spring of 2015. Natural Gas Storage Injection Site #342 is located in this stand along with some related pipelines. An overhead power line easement bisects this stand.
275	629 - Mixed non-forested wetland	22.9	No	The stand is a large non-forested wetland. It goes from shrubs to marsh to open water. Green Creek flows through it.
282	3102 - Grass	1.4	No	The stand is an old well and slurry pit. There are some scattered red and jack pines that have seeded into the stand.
285	500 - Water	8.5	No	This stand is a portion of the Muskegon River.
287	629 - Mixed non-forested wetland	22.4	No	This stand is a large non-forested wetland. The area goes from a beaver meadow to lowland shrubs. Green Creek makes up the southern border. The east end is more of an N-Type and the west end more of an L-Type.
291	3102 - Grass	1.8	No	This stand is a petroleum pipeline.



Stand	Cover Type	Acres	Managed Site	General Comments:
295	3102 - Grass	27.9		All the log size red pines are located in the southern ½ of the stand. This was done to lessen the visual impact of the harvest along the snowmobile trail. The red pine is very sparse in the northern ½ of the stand. The pine that shows up on the imagery is pole size white pine. The harvest was called the Otter Pines sale #73-001-09-01. This was completed on 5/27/2014. The stand was interplanted in the spring of 2015 with FTP #C73-95.
296	320 - Upland Shrub	41.6		The harvest of the stand was completed on 5/27/2014. The sale was the Otter Pines sale #73-001-09-01. It was then trenched and planted with red pine with FTP #C73-869 which was completed in the spring of 2015. The planted pine is doing well with some mortality but not bad. There are a lot of volunteer oak and jack pine coming in.
299	3102 - Grass	15.5		The harvest of the stand left all the scattered red pines and some marked oaks. This was completed on 5/27/2014 with the Otter Pines sale #73-001-09-01. The stand was then trenched in the fall of 2014 and planted with red pine in the spring of 2015 with FTP #C73-951. The interplanted red pine seedlings survival looks to be mediocre being around 50-60%. However the oak regeneration is high but currently it is < 5 feet tall therefore it is not established. There is also a significant amount of red and jack pine seeding in from the surrounding stands.
308	3102 - Grass	21.7		The stand was clearcut in May of 2012 and planted to red pine in the spring of 2013 (FTP C73-871). The planted pine has a good survival. Also scattered in the stand are stump sprout oak. The terrain is undulating and there is a long term retention pocket at the NE corner of the stand along the township property. Regen was survived in May of 2016 and the stand averaged 1122 stems/ac.
310	330 - Low-Density Trees	6.8	No	The stand was clearcut in May of 2012 and planted to red pine in the spring of 2013 (FTP C73-871). The planted pine has a good survival. There is also a fair amount of stump sprout oak. Regen was survived in May of 2016 and the stand averaged 1122 stems/ac.
314	320 - Upland Shrub	5.5		There is a slight hill on the east end of the stand. It was harvested in the Otter Pines sale #73-001-09-01. It was completed 5/27/2014. There is a fair amount of slash left in the stand after it was harvested. Red pines were planted 4/28/2015 with FTP C73-869. A portion of the SE corner was left for retention.
318	500 - Water	15.0	No	This is the Muskegon River
320	500 - Water	4.5	No	This is one of the existing oxbows of the Muskegon River.
321	629 - Mixed non-forested wetland	2.8	No	This is an island surrounded by an oxbow of the Muskegon River. The soil appears to be very wet on the 2010 imagery. The hardwoods are dead and have come down or are now standing dead. The only live trees are a patch of spruce/fir in the center.
327	330 - Low-Density Trees	1.5		This is an upland ridge that goes to the Muskegon River flood plain. There are some pines in the stand but the crown closure is between 15% and 25%. The stand is seeding in from the edges.
332	629 - Mixed non-forested wetland	20.5	No	This stand is a drainage and much of it is non-forested. Also in the past there was beaver activity that flooded out a portion of the stand, killing it. Since then the beaver pond has drained and some trees are starting to seed in, especially in the northern 1/2 of the stand. Much of what is coming in is jack, red, and white pine with some spruce and tamarack. The jack pine has heavy galls and some leader kill.



Stand	Cover Type	Acres	Managed Site	General Comments:
334	310 - Herbaceous Openland	7.3		The stand was clearcut in the spring of 2015. There is currently some maple stump sprouts but it is sparse. There are a lot of branches left on the site and many cones, most are still closed.
336	330 - Low-Density Trees	39.0		The stand was clearcut in the spring and summer of 2015. The retention consisted of white pines < 4" DBH and marked white and northern pin oaks.
337	629 - Mixed non-forested wetland	7.0	No	The stand is in a swale. The cover is a mix of marsh grass and alder. There are some scattered white pines.
340	500 - Water	3.0	No	This is one of the existing oxbows of the Muskegon River.
344	310 - Herbaceous Openland	21.2		In October of 2014 the stand was harvested as a clearcut with reserves. The harvest left the white and red pines. In addition some oaks were marked for retain. The stand is just starting to regenerate. The regeneration is heaviest along the road. The south and eastern portion of the stand looks to be a little wetter.
346	3303 - Mixed Low Density Trees	9.5	No	A portion of this stand was a barrow pit for gravel. Much of the stand is vegetated with some pine starting to seed in.
351	6229 - Mixed lowland shrub	2.7	No	This is a low depression that has some open water at the northwest end. Overall it is heavy to lowland shrubs with a large portion of the shrubs being red osier dogwood.
355	6225 - Bog	2.4	No	This stand is in a depression that contains leather leaf. There are pines on the site and the crown closure is approaching 15%.
405	3302 - Low Density Conifer Trees	4.6	No	The stand is filling in with jack pine. There is significant ORV activity that is disturbing the stand. Spotted knapweed is very common.
410	623 - Emergent Wetland	2.0	No	This is a large area of emergent wetland made up of marsh grass and cattails. The northern edge and the perimeter have some conifer cover but not much.
420	3105 - Mixed Upland Herbaceous	19.7		The stand was harvested as a clearcut with retention in May of 2012. It was trenched in the fall of 2012 and planted with jack pine in the spring of 2013 with FTP C73-907. The jack pine appears to have a good survival rate. There is also a lot of oak and pin cherry regeneration in the stand. The oak seedlings are throughout the stand and the cherry seedlings are concentrated in the south east corner. The retention pocket looks good but there are some stem breakage and with throw around the edges. The regeneration was check in May 2016 and the stand had on avg 1300 stems/ac.