



**Gladwin Forest Management Unit
Compartment Review Presentation
Compartment #10 Entry Year: 2013
Compartment Acreage: 4058 County: Clare**

Revision Date: March 2011

Stand Examiner: Steven Nyhoff

Legal Description: T20N, R5W, Sections 18-21, 29-32
T19N, R5W, Sections 5 and 6

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

Management Goals: The Kotar Habitat, for much of the compartment, is PVCd and PArVHa. These habitat types favor pines, mainly jack and red pines. The other main cover type is black/northern pin oak. There are some extensive swamp hardwood types and non-forested wetlands in the southeast end of the compartment. This area is near the Floodwood Swamp Reservoir and the Floodwood Swamp. In addition, the compartment is heavily impacted by the Kirtland's Warbler Management Plan.

Many of the jack pine stands in the compartment are declining and need to be treated. Some of these stands have heavy regeneration of oak in the understory. Convert these stands to oak were possible. Some of them may need to be interplanted to be fully stocked. Other stands will need to be replanted to jack or red pine. In many of the stands the red pine out performs the jack pine. Therefore, favor the planting of red pine when not in conflict with the Kirtland's Warbler Plan. Most of the oak stands that are scheduled for harvest are not expected to regenerate naturally. These stands will need to be interplanted with conifer. Again, favor the planting of red pine when not in conflict with the Kirtland's Warbler Management Plan.

Soil and Topography: The terrain has very little topographic relief except along the flood plain of the Muskegon River and its tributaries. The main soil type, especially in the north and west sides of the compartment, is Grayling sand (75%). This soil type is well to excessively drained. The soils become more diverse in the southeastern portion of the compartment. In this area the soil associations include well drained Rubicon and Croswell; somewhat poorly drained AuGres; poorly drained Roscommon; and saturated Markley and histosols. The other major soil type is under the flood plain of the Muskegon River. This soil type is mainly poorly drained Winterfield-Evart association.

Ownership Patterns, Development, and Land Use in and Around the Compartment: The compartment is mainly a contiguous block of state ownership. There are some private lands in and around the state land. Most of the private land holdings are forested. They contain seasonal cabins that are used mainly for recreational purposes. There is one small sub-division with permanent residences within section 20.

Unique, Natural Features: There are records of secretive locust in section 21 and to the east of the compartment in section 18. Red-legged spittlebugs are located immediately to the north in section 16. Kirtland's Warbler is mapped throughout the compartment. Eastern box turtle have been recorded to the southwest. Elktoe, Slippershell, and Round Pigtoe mussels have historical records within the Muskegon Rivers and its tributaries.

In addition, there are records of wood turtles and blanding's turtles associated with the river. Red-shouldered hawks have been located to the southwest of the compartment. There have also been reports of

hill thistle and ginseng to the northeast. There are several occurrences of high-quality southern floodplain forest existing in the Muskegon River Floodplain. These have been recorded as ERAs.

Archeological, Historical, and Cultural Features: One archaeological site has been located and identified to the north of the compartment.

Special Management Designations or Considerations: This compartment is part of the Kirtland's Warbler Management Area. As such management of the jack pine resource is often subject to the KW plan.

Watershed and Fisheries Considerations: The compartment has several rivers and creeks running through it. The Muskegon River and the Floodwood Creek flow through the northern 1/3 of the compartment. Prestle Creek flows along the eastern side. There are several other drainages present.

The treatments that are scheduled for this YOE are outside of the flood plains of the creeks and rivers. So the impact of the treatments on the watershed will be very limited, if any.

Wildlife Habitat Considerations:

The compartment is a long and narrow compartment and intersects both lowland and upland components dominated by jack pine, red pine and lowland hardwood types. The compartment is easily accessible to hunters via Bringold Road, Long Lake Road and Haskell Lake Road. The combination of older and younger forest age classes provides year-round habitat for many wildlife species that require various conditions throughout the year. Some game species that use this compartment include white-tailed deer, black bear, ruffed grouse, wild turkey, and American woodcock. Many other wildlife species likely use this compartment, including wood turtle, Blanding's turtle, pileated wood pecker, red shouldered hawk, goshawk, wood thrush, northern bat, and woodland vole.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The 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. Gravel pits are located within two miles 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 in secondary recovery operations. The entire compartment is under lease for oil and gas development and some for gas storage operations.

Vehicle Access: The compartment has numerous county roads and forest two-tracks in it so access to the compartment is good.

Survey Needs: There is an extensive survey that was done on the area. No new survey is needed at the current time.

Recreational Facilities and Opportunities: There are numerous dispersed camping sites scattered throughout the compartment. These are mostly associated with traditional deer hunting camps. The Muskegon River is also heavily used for recreation including swimming, fishing and canoeing.

The only established recreational facility is the West Loop of the Fur Farm Snowmobile Trail.

Fire Protection: This compartment is in Zone IV and it 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 some oil and gas activity in the compartment as well, 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: Text

Table 1 – Total Acres by Cover Type and Age Class



| | Age Class | | | | | | | | | | | | | | Total | |
|-----------------------------|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|----------|----------|----------|------------|-------------|
| | Non-Forested | 1-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80-89 | 90-99 | 100-109 | 110-119 | 120 + | | Uneven Age |
| Aspen | 0 | 30 | 0 | 33 | 0 | 97 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 160 |
| Herbaceous Openland | 107 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 107 |
| Jack Pine | 0 | 525 | 221 | 74 | 21 | 15 | 39 | 168 | 136 | 0 | 0 | 0 | 0 | 0 | 0 | 1200 |
| Low-Density Trees | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| Lowland Aspen/Balsam Poplar | 0 | 0 | 0 | 12 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 |
| Lowland Conifers | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 64 | 72 |
| Lowland Deciduous | 0 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 7 | 164 | 22 | 0 | 0 | 0 | 81 | 301 |
| Lowland Mixed Forest | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 39 | 8 | 0 | 0 | 0 | 0 | 23 | 81 |
| Lowland Shrub | 176 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 176 |
| Marsh | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 |
| Mixed Upland Deciduous | 0 | 83 | 56 | 140 | 0 | 28 | 15 | 0 | 6 | 20 | 0 | 0 | 0 | 0 | 20 | 368 |
| Natural Mixed Pines | 0 | 0 | 0 | 0 | 56 | 40 | 26 | 41 | 140 | 142 | 7 | 0 | 0 | 0 | 44 | 495 |
| Oak | 0 | 171 | 48 | 10 | 0 | 0 | 0 | 0 | 80 | 60 | 0 | 0 | 0 | 0 | 0 | 370 |
| Red Pine | 0 | 0 | 0 | 25 | 0 | 0 | 53 | 116 | 72 | 8 | 0 | 0 | 0 | 0 | 0 | 274 |
| Tamarack | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Upland Mixed Forest | 0 | 102 | 49 | 25 | 15 | 0 | 8 | 16 | 0 | 14 | 0 | 0 | 0 | 0 | 16 | 244 |
| Water | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 |
| White Pine | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Total | 445 | 911 | 374 | 319 | 144 | 185 | 142 | 351 | 485 | 416 | 37 | 0 | 0 | 0 | 248 | 4058 |



Table 2 – Proposed Treatment Summaries

Gladwin Mgt. Unit
Year of Entry 2013

Compartment 010
Total Compartment Acres: 4058

Acres by Treatment Type

| | | | | |
|--------------------------|-------------------------|-------------------|---------------------|-----------|
| Commercial Harvest - 632 | Site Prep - 0 | Tree Planting - 0 | Prescribed Burn - 0 | Other - 0 |
| Habitat Cut - 27 | Opening Maintenance - 0 | Tree Seeding - 0 | Pesticide - 0 | |

Cover Type by Harvest Method

| | <i>Clearcut</i> | <i>Selection</i> | <i>Seed Tree</i> | <i>Shelterwood</i> | <i>Thinning</i> | <i>Other - Specify</i> | <i>Total Acres</i> |
|----------------------------|-----------------|------------------|------------------|--------------------|-----------------|------------------------|--------------------|
| Jack Pine | 286 | 0 | 0 | 0 | 0 | 0 | 286 |
| Natural Mixed Pines | 0 | 0 | 142 | 105 | 0 | 0 | 247 |
| Oak | 45 | 0 | 0 | 0 | 0 | 0 | 45 |
| Red Pine | 11 | 0 | 0 | 55 | 0 | 0 | 66 |
| Upland Mixed Forest | 14 | 0 | 0 | 0 | 0 | 0 | 14 |
| Total | 356 | 0 | 142 | 160 | 0 | 0 | 659 |



| S t a n d | Treatment Name | Acres | Stage1 CoverType | Size Density | Stand Age | Treatment Type | Treatment Method | Cover Type Objective | Approval Status |
|--|-------------------|-------|-------------------------------|-------------------|--------------|-------------------|----------------------------|---|--------------------------|
| 2 | 73010002-Cut | 15.7 | 42210 - Natural Red Pine | High Density Pole | 69 | Harvest | Shelterwood | 4122 - Oak, Pine | Cmpt. Review Proposal |
| <p><u>Prescription:</u> The stand should be harvested by marking the stand down to 70 BA. The stand should be held to 2014</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> The stand was set up for harvest in 1996 and was not cut. Some trees still have orange paint on them. It has been proposed to remove the stand from the KW plan.</p> <p><u>Next Steps:</u> The harvest should promote oak regenerataion. When it become established remove the overstory.</p> | | | | | | | | | |
| 4 | 73010004-Cut | 105.0 | 42290 - Natural Mixed Pine | High Density Log | 75 | Harvest | Shelterwood | 4122 - Oak, Pine | Cmpt. Review Proposal |
| <p><u>Prescription:</u> The stand should be harvested by marking the stand down to 70 BA. The stand should be held to 2014</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> The stand was set up for harvest in 1996 and was not cut. Some trees still have orange paint on them. It has been proposed to remove the stand from the KW plan.</p> <p><u>Next Steps:</u> The harvest should promote oak regenerataion. When it become established remove the overstory.</p> | | | | | | | | | |
| 5 | 73010005-Cut | 39.6 | 42210 - Natural Red Pine | High Density Pole | 73 | Harvest | Shelterwood | 42111 - Planted Red Pine, Mixed Deciduous | Cmpt. Review Proposal |
| <p><u>Prescription:</u> The stand should be harvested by marking the stand down to 70 BA. The stand should be held to 2014</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> The stand was set up for harvest in 1996 and was not cut. Some trees still have orange paint on them. It has been proposed to remove the stand from the KW plan.</p> <p><u>Next Steps:</u> The harvest should promote oak regenerataion. When it become established remove the overstory. stand with red pine.</p> | | | | | | | | | |
| 30 | 73010030-Cut | 37.9 | 42290 - Natural Mixed Pine | High Density Pole | 80 | Harvest | Seed Tree with Reserves | 42211 - Natural Red Pine, Mixed Deciduous | Cmpt. Review Proposal |
| <p><u>Prescription:</u> The stand is to be harvested as a seed tree harvest, retaining 10-30 BA. When marking the stand favoring the retention of red pine but marke some hardwood and jack pines for retention, diversity, and supercanopy trees. Focus the retention along the recreational trail.</p> <p><u>Other Comments:</u> The red pine in the stand gets heavier in the southern end.</p> <p><u>Next Steps:</u> The regeneration in the understory is expected to be heavy to oak. After it is harvested the regeneration will need to be checked, if the regeneration is not sufficient, thin or final harvest the stand, in the next Year of Entry.</p> | | | | | | | | | |
| 36 | 73010036-Cut | 69.0 | 42290 - Natural Mixed Pine | High Density Pole | 80 | Harvest | Seed Tree with Reserves | 42141 - Planted Mixed Pine, Mixed Deciduous | Cmpt. Review Proposal |
| <p><u>Prescription:</u> The stand is to be harvested as a seed tree harvest, retaining 10-30 BA. When marking the stand favoring the retention of red pine but marke some hardwood and jack pines for retention, diversity, and supercanopy trees. Focus the retention along the recreational trail and the edge of the bluff looking over the Muskegon Flood plain.</p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u> After the stand is harvested it is expected to regenerate natural with some to oaks and jack pines. So it will need to be interplanted with red pine to bring it up to full stocking.</p> | | | | | | | | | |



| S t a n d | Treatment Name | Acres | Stage1 CoverType | Size Density | Stand Age | Treatment Type | Treatment Method | Cover Type Objective | Approval Status |
|---|-------------------|-------|---|------------------------|--------------|-------------------|----------------------------|---|--------------------------|
| 41 | 73010041-Cut | 13.8 | 4310 - Pine, Oak Mix | High Density Pole | 80 | Harvest | Clearcut with Reserves | 42121 - Planted Jack Pine, Mixed Deciduous | Cmpt. Review Proposal |
| <u>Prescription</u> Final harvest the stand to 2" DBH with retention. The retention should be placed on the slope that goes down on to the Muskegon River flood plain. | | | | | | | | | |
| <u>Specs:</u> | | | | | | | | | |
| <u>Other</u> | | | | | | | | | |
| <u>Comments:</u> | | | | | | | | | |
| <u>Next</u> The stand will have some natural regeneration of oaks and maples. However, it will need to be interplanted with jack pines to bring it up to a fully stocked stand. | | | | | | | | | |
| <u>Steps:</u> | | | | | | | | | |
| 46 | 73010046-Cut | 35.3 | 42260 - Natural Pine, Mixed Deciduous | High Density Pole | 81 | Harvest | Seed Tree with Reserves | 42111 - Planted Red Pine, Mixed Deciduous | Cmpt. Review Proposal |
| <u>Prescription</u> The stand is to be harvested as a seed tree harvest, retaining 10-30 BA. When marking the stand favoring the retention of red pine but mark some hardwood and jack pines for retention, diversity, and supercanopy trees. Focus the retention along the recreational trail. | | | | | | | | | |
| <u>Specs:</u> | | | | | | | | | |
| <u>Other</u> | | | | | | | | | |
| <u>Comments:</u> | | | | | | | | | |
| <u>Next</u> After harvesting the stand, interplant it to red pine. | | | | | | | | | |
| <u>Steps:</u> | | | | | | | | | |
| 64 | 73010064-Cut | 10.9 | 42210 - Natural Red Pine | High Density Pole | 68 | Harvest | Clearcut with Reserves | 42110 - Planted Red Pine | Cmpt. Review Proposal |
| <u>Prescription</u> The stand should be final harvested to 2" DBH with retention. The retention should be kept in patches and should not exceed 5% of the stand's area. | | | | | | | | | |
| <u>Specs:</u> | | | | | | | | | |
| <u>Other</u> | | | | | | | | | |
| <u>Comments:</u> | | | | | | | | | |
| <u>Next</u> After harvesting the stand, plant it to red pine. | | | | | | | | | |
| <u>Steps:</u> | | | | | | | | | |
| 65 | 73010065-Cut | 19.9 | 42220 - Natural Jack Pine | Medium Density Pole | 75 | Harvest | Clearcut with Reserves | 4122 - Oak, Pine | Cmpt. Review Proposal |
| <u>Prescription</u> The stand needs to be final harvested to 2" DBH. There are some areas of thick advanced regeneration. When the harvesting is being done, try and protect as much of the advance regeneration as possible. | | | | | | | | | |
| <u>Specs:</u> | | | | | | | | | |
| <u>Other</u> Much of the overstory oaks and jack pines are declining. If the snowmobile trail is used for remove forest products it will need to be left in as good as or better shape after harvest. | | | | | | | | | |
| <u>Comments:</u> | | | | | | | | | |
| <u>Next</u> The stand is expected to regenerate naturally to a mixture of oaks and pines, if not interplant with red pine. | | | | | | | | | |
| <u>Steps:</u> | | | | | | | | | |
| 69 | 73010069-Cut | 28.9 | 4125 - Black, N. Pin Oak | High Density Log | 75 | Harvest | Clearcut with Reserves | 42141 - Planted Mixed Pine, Mixed Deciduous | Cmpt. Review Proposal |
| <u>Prescription</u> The stand needs to be harvested to 2" DBH. There are some areas of thick advanced regeneration. When harvesting is being done, try and protect as much of the advance regeneration as possible. | | | | | | | | | |
| <u>Specs:</u> | | | | | | | | | |
| <u>Other</u> Much of the overstory oaks and jack pines are declining. If the snowmobile trail is used for remove forest products it will need to be left in as good as or better shape after harvest. | | | | | | | | | |
| <u>Comments:</u> | | | | | | | | | |
| <u>Next</u> The stand is expected to regenerate naturally to a mixture of oaks and pines, if not interplant with red pine. | | | | | | | | | |
| <u>Steps:</u> | | | | | | | | | |



| S t a n d | Treatment Name | Acres | Stage1 CoverType | Size Density | Stand Age | Treatment Type | Treatment Method | Cover Type Objective | Approval Status |
|-----------------------|-------------------|-------|------------------------------|-------------------|--------------|-------------------|---------------------------|---|--------------------------|
| 72 | 73010072-Cut | 12.2 | 42120 - Planted Jack Pine | High Density Pole | 60 | Harvest | Clearcut with Reserves | 42141 - Planted Mixed Pine, Mixed Deciduous | Cmpt. Review Proposal |

Prescription The stand should be final harvested to 2" DBH with retention. The retention should be in patches, and should not exceed 5% of the stand's area.
Specs:

Other Much of the overstory oaks and jack pines are declining.
Comments:

Next After the stand is harvested plant it to jack pine or red pine, however red pine is preferred.
Steps:

| | | | | | | | | | |
|----|--------------|------|------------------------------|------------------------|----|---------|---------------------------|------------------|--------------------------|
| 76 | 73010076-Cut | 29.2 | 42220 - Natural Jack Pine | Medium Density Pole | 72 | Harvest | Clearcut with Reserves | 4122 - Oak, Pine | Cmpt. Review Proposal |
|----|--------------|------|------------------------------|------------------------|----|---------|---------------------------|------------------|--------------------------|

Prescription The stand should be final harvested to 2" DBH with retention. The retention should be kept in patches and not exceed 5% of the stand's area. In
Specs: addition, there are significant areas of advanced regeneration that should be protected as much as possible.

Other If the snowmobile trail is used for remove forest products it will need to be left in as good as or better shape after harvest.
Comments:

Next The stand is expected to regenerate to oak and jack pine. However, it may not regenerate to a fully stocked stand, if it is not, interplant with red
Steps: pine.

| | | | | | | | | | |
|----|--------------|------|------------------------------|-------------------|----|---------|---------------------------|---|--------------------------|
| 83 | 73010083-Cut | 17.7 | 42220 - Natural Jack Pine | High Density Pole | 60 | Harvest | Clearcut with Reserves | 42141 - Planted Mixed Pine, Mixed Deciduous | Cmpt. Review Proposal |
|----|--------------|------|------------------------------|-------------------|----|---------|---------------------------|---|--------------------------|

Prescription The stand should be harvested as a 2" DBH final harvest with retention. The retention should be in patches and not exceed 5% of the stand's
Specs: area.

Other The overstory is declining fast.
Comments:

Next After the harvest this is to be planted to red pine for production.
Steps:

| | | | | | | | | | |
|----|--------------|------|------------------------------|-------------------|----|---------|---------------------------|-------------------------------|--------------------------|
| 84 | 73010084-Cut | 13.4 | 42120 - Planted Jack Pine | High Density Pole | 60 | Harvest | Clearcut with Reserves | 42140 - Planted Mixed Pine | Cmpt. Review Proposal |
|----|--------------|------|------------------------------|-------------------|----|---------|---------------------------|-------------------------------|--------------------------|

Prescription The stand needs to be final harvested to 2" DBH with retention. The retention should be kept in patches and not exceed 5% of the stand's area.
Specs:

Other
Comments:

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

| | | | | | | | | | |
|----|--------------|------|-----------------------------|------------------------|----|---------|---------------------------|------------------|--------------------------|
| 87 | 73010087-Cut | 16.5 | 4125 - Black, N. Pin Oak | Medium Density Pole | 80 | Harvest | Clearcut with Reserves | 4122 - Oak, Pine | Cmpt. Review Proposal |
|----|--------------|------|-----------------------------|------------------------|----|---------|---------------------------|------------------|--------------------------|

Prescription The stand needs to be final harvested to 2" DBH with retention. The retention could be in patches or individually marked trees. It should not
Specs: exceed 5% of the stand's area or BA.

Other
Comments:

Next The stand is expected to regenerate to a mixture of oak and pine. However, it may not become a fully stocked stand, if not; interplant it with red
Steps: pine.



| S t a n d | Treatment Name | Acres | Stage1 CoverType | Size Density | Stand Age | Treatment Type | Treatment Method | Cover Type Objective | Approval Status |
|-----------------------|-------------------|-------|------------------------------|-------------------|--------------|-------------------|---------------------------|--|--------------------------|
| 93 | 73010093-Cut | 10.3 | 42220 - Natural Jack Pine | High Density Pole | 60 | Harvest | Clearcut with Reserves | 42121 - Planted Jack Pine, Mixed Deciduous | Cmpt. Review Proposal |

Prescription The stand should be harvested to 2" DBH with retention. The retention should be kept in patches and do not exceed 5% of the stand's area.

Specs:

Other

Comments:

Next after harvest replant to red pine

Steps:

| | | | | | | | | | |
|----|--------------|------|------------------------------|-------------------|----|---------|---------------------------|-----------------------------|--------------------------|
| 94 | 73010094-Cut | 20.6 | 42120 - Planted Jack Pine | High Density Pole | 58 | Harvest | Clearcut with Reserves | 42110 - Planted Red Pine | Cmpt. Review Proposal |
|----|--------------|------|------------------------------|-------------------|----|---------|---------------------------|-----------------------------|--------------------------|

Prescription The stand needs to be final harvested to 2" DBH with retention. The retention should be kept in patches, do not exceed 5% of the stand's area.

Specs:

Other

Comments:

Next The stand will need to be trenched and planted to red pine after it is harvested. This stand is to be treated for production red pine.

Steps:

| | | | | | | | | | |
|----|--------------|------|------------------------------|-------------------|----|---------|---------------------------|-------------------------------|--------------------------|
| 95 | 73010095-Cut | 11.2 | 42120 - Planted Jack Pine | High Density Pole | 60 | Harvest | Clearcut with Reserves | 42140 - Planted Mixed Pine | Cmpt. Review Proposal |
|----|--------------|------|------------------------------|-------------------|----|---------|---------------------------|-------------------------------|--------------------------|

Prescription The stand needs to be final harvested to 2" DBH with retention. The retention should be kept in patches, do not exceed 5% of the stand's area.

Specs:

Other

Comments:

Next The stand will need to be trenched and planted to red pine after it is harvested.

Steps:

| | | | | | | | | | |
|----|--------------|------|--|-------------------|----|---------|---------------------------|--|--------------------------|
| 99 | 73010099-Cut | 26.9 | 42221 - Natural Jack Pine, Mixed Deciduous | High Density Pole | 60 | Harvest | Clearcut with Reserves | 4191 - Mixed Upland Deciduous with Conifer | Cmpt. Review Proposal |
|----|--------------|------|--|-------------------|----|---------|---------------------------|--|--------------------------|

Prescription The stand needs to be final harvested to 2" DBH with retention. The retention should be kept in patches, do not exceed 5% of the stand's area.

Specs:

Other

Comments:

Next After the harvest replant to red pine

Steps:

| | | | | | | | | | |
|-----|--------------|------|------------------------------|-------------------|----|---------|---------------------------|--|--------------------------|
| 103 | 73010103-Cut | 24.2 | 42220 - Natural Jack Pine | High Density Pole | 76 | Harvest | Clearcut with Reserves | 4191 - Mixed Upland Deciduous with Conifer | Cmpt. Review Proposal |
|-----|--------------|------|------------------------------|-------------------|----|---------|---------------------------|--|--------------------------|

Prescription The stand needs to be final harvested to 2" DBH with retention. The retention should be kept in patches, do not exceed 5% of the stand's area.

Specs:

Other

Comments:

Next After the harvest this stand is to be planted to red pine for production.

Steps:

**Table 3 -- Treatments Prescribed
with No Limiting Factor**



| S t a n d | Treatment Name | Acres | Stage1 CoverType | Size Density | Stand Age | Treatment Type | Treatment Method | Cover Type Objective | Approval |
|-----------------------|-------------------|-------|------------------------------|-------------------|--------------|-------------------|---------------------------|--|--------------------------|
| | | | | | | | | | Status |
| 120 | 73010120-Cut | 57.8 | 42220 - Natural Jack Pine | High Density Pole | 78 | Harvest | Clearcut with Reserves | 4191 - Mixed Upland Deciduous with Conifer | Cmpt. Review Proposal |

Prescription The stand needs to be final harvested to 2" DBH with retention. The retention should be trees make individually or in groups. The tops should be left on site to be a seed source.

Other
Comments:

Next
Steps: The stand will need to be scarified to facilitate cone/seed release and dispersal. The stand is expected to regenerate naturally to a mixture of pine and hardwoods.

| | | | | | | | | | |
|-----|--------------|------|------------------------------|-------------------|----|---------|---------------------------|------------------------------|--------------------------|
| 158 | 73010158-Cut | 42.9 | 42220 - Natural Jack Pine | High Density Pole | 60 | Harvest | Clearcut with Reserves | 42120 - Planted Jack Pine | Cmpt. Review Proposal |
|-----|--------------|------|------------------------------|-------------------|----|---------|---------------------------|------------------------------|--------------------------|

Prescription The stand needs to be final harvested to 2" DBH with retention. The retention should be trees make individually or in groups. The tops should be left on site to be a seed source.

Other
Comments:

Next
Steps: The stand will need to be scarified to facilitate cone/seed release and dispersal. The stand is expected to regenerate naturally to a mixture of pine and hardwoods.

**Total Treatment
Acreage Proposed: 658.7**

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



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| Treatment Name | Acres | Stage1 CoverType | Size Density | Stand Age | Treatment Type | Treatment Method | Cover Type Objective | Approval Status |
|----------------|-------|------------------|--------------|-----------|----------------|------------------|----------------------|-----------------|
|----------------|-------|------------------|--------------|-----------|----------------|------------------|----------------------|-----------------|

#Error

Prescription
Specs:

Other
Comment:

Next
Steps:

Limiting Factor and No
Treatment Reason

**Total Treatment
Acreage Proposed: 0**

Out of YOE -- Treatments
Prescribed with No Limiting Factor

Year of Entry: 2013



| Treatment Name | Acres | Stage1 CoverType | Size Density | Stand Age | Treatment Type | Treatment Method | Cover Type Objective | Approval Status |
|----------------|-------|------------------|--------------|-----------|----------------|------------------|----------------------|-----------------|
|----------------|-------|------------------|--------------|-----------|----------------|------------------|----------------------|-----------------|

Prescription
Specs:

Other
Comments:

Next
Steps:

**Total Treatment
Acreage Proposed: 0**



| Stand | Gladwin Mgt. Unit | | | 5 – Forested Stands | | Compartment: 010 Year of Entry: 2013 | |
|-------|--|----------------------|-------|---------------------|-------------|---|--|
| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: | |
| 1 | 42120 - Planted Jack Pine | High Density Sapling | 114.2 | 17 | | The stand was harvested in 1995. It was later planted for Kirtland's warbler using an opposing weave pattern. The amount of galling is low as well as weevil attacks. The oak stump sprouts are scattered through out the stand. | |
| 2 | 42210 - Natural Red Pine | High Density Pole | 15.7 | 69 | 111-140 | The stand was set up for harvest in 1996 but it was not cut. The jack pine is declining. | |
| 4 | 42290 - Natural Mixed Pine | High Density Log | 105.0 | 75 | 141-170 | The stand was set up for harvest in 1996 but it was not cut. The overstory is declining, especially the jack pine. The stand appears to have a more diverse age class distribution then pre-inventory stand 2 | |
| 5 | 42210 - Natural Red Pine | High Density Pole | 39.5 | 73 | 141-170 | The stand was set up for harvest in 1996 but it was not cut. The stand is denser in the northern 2/3. This area is heavier to red pine and oak. The southern 1/3 has more oak; jack, red, and white pines in it. | |
| 6 | 6119 - Mixed Lowland Deciduous Forest | High Density Log | 14.9 | Uneven Age | 111-140 | The stand is undulating. It is on the flood plain of the Muskegon River and as such has many wet areas including several vernal ponds. Many of the wet areas are the old river channels of the Muskegon River. | |
| 8 | 42110 - Planted Red Pine | High Density Log | 15.9 | 74 | 141-170 | The terrain is fairly level, but starts to slope going east. There is a significant drop just before the L-type to the east. | |
| 10 | 4191 - Mixed Upland Deciduous with Conifer | High Density Sapling | 15.3 | 54 | 81-110 | The stand has had a couple of cuts in the past (16 or 26 years). In both harvest the white pine in the stand was left to a certain DBH. Currently the stand is mainly white pine sapling/pole stand with pockets of oak and smaller aspen. The terrain is undulating and has a several low wet areas are old river channels. Much of this stand is on a slightly higher terrace of the Muskegon River Flood Plain. | |
| 11 | 6115 - Lowland Ash | High Density Pole | 25.7 | 81 | 111-140 | 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. | |
| 12 | 6127 - Lowland Pine | High Density Pole | 20.1 | Uneven Age | 111-140 | 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 quickly and it is not expected to last another 10 years. | |
| 13 | 6115 - Lowland Ash | High Density Pole | 11.3 | 81 | 51-80 | The stand is in the flood plain of the Muskegon River. There are inclusion of L-type in the stand. | |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|--|-------------------------|-------|--------------|-------------|--|
| 15 | 42290 - Natural Mixed Pine | High Density Pole | 16.8 | Uneven Age | 141-170 | The stand is on one of the higher terraces in the flood plain of the Muskegon River. It is a mixture of upland and lowland with the upland being the majority. There are distinct areas in the stand that are closer to lowland shrub. These areas are old oxbows. The trees, in the stand, range in size from seedlings to extra large sawlogs. |
| 16 | 4310 - Pine, Oak Mix | High Density Pole | 15.2 | 35 | 51-80 | The stand is a matrix of upland and lowland with the lowland being about 30%. The lowlands in the stand are old oxbows. |
| 17 | 6117 - Lowland Deciduous, Mixed Coniferous | High Density Pole | 11.4 | 81 | 1-50 | The stand is a matrix of upland and lowland with the lowland 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 | High Density Pole | 5.2 | 81 | 51-80 | The stand is variable. It goes from well stocked swamp hardwoods of ash and oak, to areas of lowland shrub. The wettest lowlands are old oxbows |
| 20 | 6112 - Lowland Aspen | High Density Sapling | 12.5 | 20 | 1-50 | The stand is moving toward poles. It has inclusions of lowland shrubs. The shrub types are in old oxbow. In addition, the stand has some beaver activity, especially closer to the Muskegon River. |
| 21 | 42250 - Pine, Oak | High Density Log | 27.5 | Uneven Age | 141-170 | The stand is mainly red pine with pockets of white pine. There are also scattered oaks and jack pines. The overstory oak and jack pine is declining. This stand is out of the flood plain of the Muskegon River. |
| 24 | 6119 - Mixed Lowland Deciduous Forest | High Density Log | 31.6 | Uneven Age | 81-110 | The stand is a matrix of upland and lowland with the lowland being about 80%. It is also on the flood plain proper 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 taken out the regeneration in the stand. |
| 25 | 6119 - Mixed Lowland Deciduous Forest | High Density Pole | 10.9 | 81 | 51-80 | The stand is variable going from well stocked swamp hardwoods to lowland shrub. Much of the lowland shrubs are located in the old river channels of the Muskegon River. |
| 26 | 6117 - Lowland Deciduous, Mixed Coniferous | High Density Sapling | 17.4 | 35 | | The stand is moving toward poles. It has inclusions of lowland shrubs. The shrub types are in old oxbow. In addition, the stand has some beaver activity, especially closer to the Muskegon River. |
| 28 | 6127 - Lowland Pine | High Density Log | 19.5 | Uneven Age | 111-140 | This is a mature white pine stand with many over sized log trees. There is a thick layer of advanced regeneration. The regeneration is white pine and balsam fir. The stand is in a depression. |
| 29 | 6119 - Mixed Lowland Deciduous Forest | High Density Log | 22.2 | 90 | 81-110 | The stand is on the flood plain of the Muskegon River. It appears to be low and wet and has the same characteristics as pre-inventory stand 21. |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|--|----------------------|-------|--------------|-------------|--|
| 30 | 42290 - Natural Mixed Pine | High Density Pole | 37.9 | 80 | 111-140 | The stand is a mixture of red pines, jack pines, and oaks. The distribution of tree species is patchy with areas that are heavier to oak or jack pine, or red pine. Overall, the jack pines and oaks in the stand are declining. The terrain is also undulating. It appears to be dry for the most part but there could be areas that could be wet in the spring. |
| 31 | 6117 - Lowland Deciduous, Mixed Coniferous | High Density Pole | 6.7 | Uneven Age | | The stand is on the flood plain of the Muskegon River, though on a slightly higher terrace. The stand is a mainly lowland with some upland inclusions. The balsam fir in the stand is located through out the stand but it is thickest along the Muskegon River. |
| 32 | 6117 - Lowland Deciduous, Mixed Coniferous | High Density Pole | 10.5 | 81 | 81-110 | The stand goes from a well stocked swamp hardwoods pole/log to poorly stock lowland shrubs. The lowland shrubs are mainly located in the old river channels. |
| 34 | 42210 - Natural Red Pine | High Density Log | 7.7 | 80 | 81-110 | This area was heavier to red pine. The jack pines and oaks were harvested in 2007. The stand looks good and very park like. At the current time there is very little regeneration present. |
| 35 | 6112 - Lowland Aspen | High Density Sapling | 13.3 | 35 | 1-50 | The stand is variable and goes from lowland shrub to well stocked aspen. It is a matrix of upland and lowland with the lowland being about 60%. Much of the lowland are is low depression cause by past river activity. |
| 36 | 42290 - Natural Mixed Pine | High Density Pole | 69.0 | 80 | 81-110 | The stand is variable going from red pine sawlogs to jack pine pulp. There are areas along the north side of the stand that have low density. In these areas there is good natural regeneration of oak and pine. |
| 37 | 4191 - Mixed Upland Deciduous with Conifer | Low Density Sapling | 21.5 | 3 | | New stand added. This stand has regenerated naturally with some oak, red pine, white pine, and jack pine seedlings. The overall stocking was fairly low so the stand was also trenched and planted with red pine. Now with the addition of planted red pine the stand is fully stocked. |
| 38 | 4191 - Mixed Upland Deciduous with Conifer | High Density Pole | 19.7 | Uneven Age | 51-80 | The stand is undulating to hilly. It contains multiple terraces climbing out of the Muskegon River flood plain. The highest terraces are heavy to oak. Many of these areas have significant wind throw or die off and the down woody material is heavy. The lower terraces are heavier to conifers. Overall the stand is upland but it has inclusions of lowland. Some of the inclusions are very wet. |
| 39 | 4122 - Oak, Pine | Low Density Sapling | 63.5 | 5 | | The stand was harvested in 2007 as a 2 inch spec harvest. The stand has some natural regeneration of oak and choke 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. |
| 40 | 42260 - Natural Pine, Mixed Deciduous | High Density Sapling | 39.9 | 32 | 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 and oak. |
| 41 | 4310 - Pine, Oak Mix | High Density Pole | 13.8 | 80 | 81-110 | The stand is upland and a fairly even mix of oak and pine. |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|--|----------------------|-------|--------------|-------------|--|
| 42 | 42290 - Natural Mixed Pine | High Density Pole | 18.5 | 55 | 51-80 | The stand is variable in species mix, density and size class. |
| 43 | 4131 - Aspen, Oak | High Density Sapling | 14.1 | 5 | | Stand swapped from Non-Forested to Forested. This stand has regenerated naturally to a mixture of aspen and oak with some jack pine and red pine present. The crown closure is around 80%. Most of the area is fairly dense but there are areas that are open. |
| 44 | 4191 - Mixed Upland Deciduous with Conifer | Medium Density | 13.2 | 5 | | New stand added. The stand has regenerated naturally to a mixture of oak and aspen. The natural regeneration would have made the stand medium stocked. However in addition to the natural regeneration it was also planted with jack pines. The stand is now fully stocked. |
| 45 | 4125 - Black, N. Pin Oak | Low Density Sapling | 36.1 | 5 | | The stand was harvested in 2007 as a 2 inch spec final harvest. The stand has some natural regeneration of oak and choke cherry. In addition to the natural regeneration it was trenced and planted to red pine. 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. |
| 46 | 42260 - Natural Pine, Mixed Deciduous | High Density Pole | 35.3 | 81 | 111-140 | The stand has a lot of wind throw in it. Most of the downed trees are oak and jack pine. There is some advanced regeneration of oak and even pine in the areas that are more open. The stand had a salvage harvest in 1994 leaving red and white pine. The sale unit did not include the entire stand. |
| 47 | 42210 - Natural Red Pine | High Density Log | 13.6 | 68 | 81-110 | The red pine BA on the three plots was 60, 80, and 50 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. |
| 48 | 42290 - Natural Mixed Pine | High Density Log | 20.7 | 68 | 111-140 | The overstory jack pine is declining. There is also significant mortality occurring in the oaks. The oak and jack pine BA averages around 40 to 50 Sq Ft. |
| 49 | 4191 - Mixed Upland Deciduous with Conifer | Medium Density | 7.2 | 5 | 1-50 | The stand was harvested in 2006 as a 4 inch spec final harvest of all species, except the red pine. The oak is regenerated and much of it is greater than 3' in height. There is some red, white, and jack pines also seeding in. |
| 50 | 42110 - Planted Red Pine | High Density Log | 16.1 | 76 | 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 of the stand. |
| 53 | 4310 - Pine, Oak Mix | High Density Log | 8.2 | 53 | 141-170 | This stand is a mixture of pine and oak. The oak in the stand is declining as well as the jack pine. |
| 54 | 42290 - Natural Mixed Pine | High Density Pole | 39.6 | 45 | 81-110 | The red pine BA in the stand at the three plots is 10, 90, and 0. The hardwoods increase in the NW corner. There are several aspen clones scattered in the stand. |



| Stand | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-------|--|----------------------|-------|-----------|----------|---|
| 55 | 42121 - Planted Jack Pine, Mixed Deciduous | High Density Sapling | 179.0 | 5 | | The stand was final harvested in 1995 and 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 also present. There are scattered aspen clones and oak sprouts in the southeast portion of the stand. |
| 56 | 4191 - Mixed Upland Deciduous with Conifer | Medium Density | 34.2 | 29 | 1-50 | The stand was final harvested to 4" DBH in 1984. There is significant choke cherry present so some areas appear to be more of an upland brush type. |
| 57 | 42250 - Pine, Oak | Medium Density Log | 7.2 | 53 | 81-110 | The overstory is declining, especially in the oaks. There is good advanced regeneration of oak and pine present. |
| 58 | 42210 - Natural Red Pine | High Density Log | 76.1 | 68 | 51-80 | The stand had all the hardwoods and jack pines harvested in 2006. The oak in the stand is regenerating well, but much of it is less than 4' in height, so it is not established. There sparse areas in the stand are along the south edge. In these areas there is red and jack pine regeneration. In addition there are some scattered aspen clones. |
| 59 | 4122 - Oak, Pine | Low Density Sapling | 13.0 | 5 | 1-50 | 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. |
| 60 | 42290 - Natural Mixed Pine | High Density Pole | 23.6 | 77 | 81-110 | The overstory oaks are declining. The trees are heavier to white and red pines in the western portion of the stand. The eastern portion is heavier to jack and red pine. The elevation increases going east. |
| 61 | 42290 - Natural Mixed Pine | High Density Pole | 7.0 | 90 | 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. |
| 62 | 42250 - Pine, Oak | High Density Pole | 7.9 | 68 | 1-50 | The stand was harvested retaining the red pine. The oak, jack pine and choke cherry are regenerating. This has left a stand that is two-aged. |
| 63 | 4125 - Black, N. Pin Oak | Low Density Sapling | 23.1 | 1 | | The stand was final harvested in 2009 under the red pine project. The stand was harvested and trench but not planted yet. Oak regeneration is good and it is uniformly scattered. |
| 64 | 42210 - Natural Red Pine | High Density Pole | 10.9 | 68 | 111-140 | This is a mature red and jack pine stand. There is some advance regeneration of oak and choke cherry. |
| 65 | 42220 - Natural Jack Pine | Medium Density Pole | 19.9 | 75 | 51-80 | The over story oaks and jack pines are declining. Many of these trees are dead or dying. Under the over story there is significant oak regeneration that can be released. |
| 66 | 4310 - Pine, Oak Mix | Medium Density | 7.6 | 2 | 1-50 | 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. |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|----|---|-------------------------|-------|--------------|-------------|---|
| 67 | 42260 - Natural Pine, Mixed Deciduous | High Density Pole | 15.9 | 35 | 1-50 | The stand was harvested in 1995 as a 2" final harvest. The red pine was harvested to 6" DBH. It has since regenerated with some oak and jack pines. |
| 68 | 4125 - Black, N. Pin Oak | High Density Sapling | 7.4 | 5 | 1-50 | The stand was harvested in 2006 removing all dead oak and jack pine to 4" DBH. The retention is declining, and much is on the ground. The regeneration in the stand is good. |
| 69 | 4125 - Black, N. Pin Oak | High Density Log | 39.1 | 75 | 1-50 | The overstory is declining, especially the oaks. There are areas where most of the overstory has come down. |
| 70 | 4310 - Pine, Oak Mix | Medium Density | 61.3 | 5 | | The stand was final harvested in 2006 and scheduled to be replanted. It has choke cherry and oak scattered throughout the stand. The aspen regeneration is in 2 or 3 clones. The red pine appears to be a mixture of seed source and planted. |
| 71 | 4191 - Mixed Upland Deciduous with Conifer | High Density Sapling | 75.5 | 26 | 1-50 | The stand was final harvested to 4" DBH in 1984. It is now a two-aged stand. The crown closure is around 75%. In addition there were several rows of jack pine planted along Bringold Rd. |
| 72 | 42120 - Planted Jack Pine | High Density Pole | 12.2 | 60 | 81-110 | The stand is a mature jack pine plantation with scattered log size red pine in it. The overstory is declining; especially the jack pine. The oak regeneration is heavy on the western side of the stand. |
| 74 | 42121 - Planted Jack Pine, Mixed Deciduous | High Density Sapling | 41.2 | 24 | 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. It should be a pole stand in 10 years. |
| 75 | 4191 - Mixed Upland Deciduous with Conifer | Medium Density | 6.9 | 18 | | The stand is regenerating fairly well. There are some open areas present. The aspen regeneration is heaviest in the east end of the stand. The regeneration of oak and jack pine is fairly evenly distributed. |
| 76 | 42220 - Natural Jack Pine | Medium Density Pole | 29.2 | 72 | 51-80 | The overstory is declining, especially the oaks. Jack pine is snapping off between 3 and 10'. There is a significant amount of advanced regeneration. |
| 77 | 42111 - Planted Red Pine, Mixed Deciduous | High Density Pole | 25.2 | 24 | 111-140 | The stand was final harvested to 4" DBH in 1984. Then it was planted to red pine. The red pine is now 24 years old. There is scattered oak and choke cherry in the stand as well. There are two large aspen clones in the stand. |
| 78 | 42110 - Planted Red Pine | High Density Pole | 23.9 | 54 | 141-170 | The stand was thinned in 1995 and 2007. |
| 79 | 4125 - Black, N. Pin Oak | Low Density Sapling | 18.8 | 5 | 1-50 | The stand was harvested to 4" DBH leaving red pine in 2006; then it was interplanted with red pine. The red pine appears to have been planted last spring. There is good oak regeneration scattered around the stand. In addition, there is a small L-type inclusion but it is less than a half acre in size. |



| Stand | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-------|--|----------------------|-------|-----------|----------|---|
| 80 | 42121 - Planted Jack Pine, Mixed Deciduous | High Density Sapling | 32.9 | 25 | 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 choke cherry and oak in them. The stand should be a pole stand in 10 years. |
| 82 | 42220 - Natural Jack Pine | Medium Density | 16.5 | 15 | 1-50 | This stand was harvested in 1995 removing all jack pine. The oak regeneration in the stand is less than 4' so it was not counted. The overstory oaks are declining and falling down. |
| 83 | 42220 - Natural Jack Pine | High Density Pole | 17.6 | 60 | 51-80 | The over story jack pine and oak is declining; much of the oak is dead or dying. The dying trees have made a natural shelter wood situation. This has led to the stand starting to regenerate. The regeneration is heavy to hybrid oak. |
| 84 | 42120 - Planted Jack Pine | High Density Pole | 13.4 | 60 | 81-110 | In the stand the overstory is declining |
| 85 | 4191 - Mixed Upland Deciduous with Conifer | Medium Density | 12.8 | 17 | | 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. |
| 86 | 42121 - Planted Jack Pine, Mixed Deciduous | Medium Density | 195.1 | 5 | | The stand was harvested in 2003 and then planted in 2005 to jack pine. It has regenerated as a mix of planted pine, hybrid oak, and choke cherry. There is some scattered natural red and jack pine also present in the stand. There are aspen clones in the central portion of the stand. The oak regeneration is in the eastern portion of the stand. |
| 87 | 4125 - Black, N. Pin Oak | Medium Density Pole | 16.5 | 80 | 1-50 | The overstory is declining especially oak. There is a good layer of advanced regeneration of oak. |
| 88 | 4199 - Other Mixed Upland Deciduous | High Density Sapling | 5.7 | 20 | 1-50 | The stand was harvested in 1994 to 2" DBH. However, all the red and white pine was retained. The stump sprouting chokecherry is sheltering the oak in many places. The pines that were retained are in pockets. |
| 89 | 4131 - Aspen, Oak | High Density Pole | 32.6 | 27 | 51-80 | The stand was final harvested to 4" DBH in 1984. The aspen clones in the stand are in patches, the oak regeneration, however, is evenly distributed. There are also pockets of pine and spruce. |
| 91 | 42110 - Planted Red Pine | High Density Pole | 10.8 | 54 | 111-140 | The stand was thinned in 1995 and 2007. |
| 92 | 42220 - Natural Jack Pine | Medium Density Pole | 9.9 | 53 | 51-80 | The over story oak and jack pine are declining |
| 93 | 42220 - Natural Jack Pine | High Density Pole | 10.3 | 60 | 51-80 | The stand has many small openings in it. The crown closure is around 75%. The size is variable going from seedlings to sawlogs. |
| 94 | 42120 - Planted Jack Pine | High Density Pole | 20.6 | 58 | 81-110 | The jack pine is declining fast. There is now a significant amount that is dead or dying. |



| Stand | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-------|--|----------------------|-------|------------|----------|--|
| 95 | 42120 - Planted Jack Pine | High Density Pole | 11.2 | 60 | 81-110 | The overstory in the stand is declining. |
| 96 | 42110 - Planted Red Pine | High Density Log | 18.8 | 55 | 171-200 | This pine plantation was thinned in 1995 and 2007. It could be held for 10 years, thinned now down to 90 BA, or final harvested now and replanted to red pine. |
| 97 | 4125 - Black, N. Pin Oak | High Density Sapling | 10.2 | 20 | | The stand is undulating and thick. It was harvested in 1993 as a 4" final harvest |
| 98 | 4191 - Mixed Upland Deciduous with Conifer | Medium Density | 12.3 | 5 | 1-50 | The stand was harvested to 4" DBH in 2005. The terrain is undulating with some lowlands. A portion of the stand was planted to jack pine. Another portion that was not planted is heavy to aspen, chokecherry, and oak. |
| 99 | 42221 - Natural Jack Pine, Mixed Deciduous | High Density Pole | 26.9 | 60 | 81-110 | The stand has some mature areas with larger diameter trees. Therefore there is variability in size and density in the stand. The aspen is located in the western 1/3 of the stand. It is in one good clone. |
| 100 | 4199 - Other Mixed Upland Deciduous | High Density Sapling | 17.4 | 18 | | The stand was harvested as a 4" final harvest in 1993. The terrain is undulating. There are some planted Norway spruces present. |
| 101 | 4310 - Pine, Oak Mix | High Density Pole | 16.2 | Uneven Age | | The stand is on a ridge. There is an area of pine and one of aspen. |
| 102 | 4310 - Pine, Oak Mix | Medium Density | 21.2 | 5 | | The stand was final harvested in 2005. It was trenched and planted to jack pine. The terrain is undulating |
| 103 | 42220 - Natural Jack Pine | High Density Pole | 24.2 | 76 | 1-50 | The stand is variable. It goes from well stocked jack pine poles, to areas of advanced regeneration. The overstory is declining and there are many trees dead or down. |
| 104 | 42220 - Natural Jack Pine | High Density Pole | 8.9 | 53 | 51-80 | The overstory oaks and jack pines are declining. There are areas with low stocking because much of the overstory is on the ground. There are also areas that have high stocking where the overstory is still somewhat healthy. |
| 105 | 4310 - Pine, Oak Mix | High Density Sapling | 34.7 | 16 | 1-50 | The stand was harvested in 1994 to 6" DBH. |
| 106 | 4310 - Pine, Oak Mix | Medium Density | 14.0 | 16 | 1-50 | The stand is on a ridge and was harvested in 1994 to 2" DBH. However, all red and white pines were retained. |
| 107 | 4125 - Black, N. Pin Oak | Low Density Log | 25.7 | 75 | 1-50 | The stand was harvested in 2006, removing all dead oak and jack pine to 4" DBH. It is regenerating but the oak seedlings are less than 4' tall so they are not considered established. The stand is expected to regenerate to a fully stocked stand. |
| 108 | 42220 - Natural Jack Pine | High Density Pole | 14.6 | 40 | 51-80 | The stand's overstory oaks are declining. The stand has a higher density in the eastern portion. |



| Stand | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-------|--|---------------------|-------|-----------|----------|--|
| 112 | 4191 - Mixed Upland Deciduous with Conifer | Medium Density Log | 20.1 | 89 | 1-50 | The stand is heavy to choke cherry with very little regeneration of oaks or pines. The jack pine in the stand was harvested in 1995. |
| 113 | 6126 - Lowland Jack Pine | High Density Pole | 10.3 | 60 | 51-80 | 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 | 42220 - Natural Jack Pine | High Density Pole | 22.9 | 67 | 111-140 | The stand has some down jack pines and oaks. Overall it does not look too bad. It could be harvested now as a final harvest to 2" DBH or held for 10 years. |
| 118 | 6115 - Lowland Ash | Low Density Pole | 21.0 | 80 | 1-50 | The stand density decreases going east. The species composition changes going east. It goes from red maple/green ash to black ash/cedar. The soil is very wet; the ground cover is marsh grass and cattails. |
| 119 | 4310 - Pine, Oak Mix | High Density Pole | 25.2 | 25 | 1-50 | The stand is rolling. In it, the ridges are heavy to oaks; and the draws are heavy to jack pine. The stand was final harvested in 1985 to 4" DBH. |
| 120 | 42220 - Natural Jack Pine | High Density Pole | 57.7 | 78 | 111-140 | The stand is undulating and has inclusions of lowlands. It could be harvested as a final harvest to 2" DBH. |
| 121 | 4199 - Other Mixed Upland Deciduous | Medium Density Pole | 5.8 | 70 | 51-80 | The stand is a ridge with steep sides. The overstory is declining, especially the oaks. There is some natural regenerating oak and pine coming up under it. The access is not feasible for the amount of timber in the stand. |
| 123 | 4125 - Black, N. Pin Oak | Medium Density Log | 38.7 | 80 | 1-50 | The stand was harvested in 2005 by removing jack pine and aspen. 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 oak and pines. In the north end of the stand there is a large aspen clone. |
| 124 | 4310 - Pine, Oak Mix | High Density Pole | 15.6 | 60 | 51-80 | This stand is doing okay. There is not much decline in the overstory, so hold the stand for 10 years. |
| 125 | 6139 - Mixed Lowland Forest | Medium Density Pole | 39.2 | 70 | 51-80 | The stand is rolling. There are large areas of lowland as well as dry ridges. The overstory is declining but there's significant regeneration. |
| 127 | 42220 - Natural Jack Pine | High Density Pole | 5.2 | 70 | 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. |
| 130 | 4125 - Black, N. Pin Oak | Medium Density Log | 5.2 | 80 | 1-50 | The stand looks like it was set up and harvested for firewood. The regeneration is scattered but is coming in. |
| 132 | 42260 - Natural Pine, Mixed Deciduous | High Density Pole | 12.2 | 60 | 51-80 | The stand has a small area in it that was harvested. This portion is close to 1 acre and it has regenerated. It is wet along the north edge of the stand. In addition there are scattered wet pockets in it. |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-----|---|------------------------|-------|--------------|-------------|--|
| 133 | 6115 - Lowland Ash | Medium Density Pole | 10.5 | 30 | 1-50 | This area is wet. The aspen becomes scattered and ashes and red maples become more common. There is also a significant amount of tag alder in the understory. |
| 135 | 4131 - Aspen, Oak | Low Density Sapling | 16.2 | 5 | | The stand is undulating. The aspen clones are more centrally located. The edges are heavier to oak and the jack pine is scattered. There is also a low pocket in the northwestern portion of the stand. This pocket cannot be delineated using imagery at the current time. |
| 136 | 42250 - Pine, Oak | High Density Log | 11.1 | 70 | 81-110 | The oak and the slash are heavier in the north end of the stand. The red pines are heavier in the south end. The jack pines are evenly distributed. |
| 137 | 42121 - Planted Jack Pine, Mixed Deciduous | Low Density Sapling | 4.6 | 3 | | The stand was harvested and then planted to jack pine and it is doing well. The oak regeneration is scattered. There is some natural jack pine regeneration, but it is not extensive. |
| 139 | 42121 - Planted Jack Pine, Mixed Deciduous | Medium Density | 29.3 | 5 | 1-50 | The stand was final harvested in 2005. The north end was planted to red pine. Beside the planted red pine there is natural oak and chokecherry regeneration as well. The central area was planted to jack pine. This area has some red maple, oak and chokecherry regeneration in it mixed with natural jack pine regeneration. The south end of the stand was not planted. However, it has good regeneration of jack pine mixed with oak. Lastly in the north end of the stand the red pine was retained. |
| 140 | 6115 - Lowland Ash | High Density Pole | 6.7 | 70 | 51-80 | New stand added. This is a pole size swamp hardwood stand. There is a drainage going through a portion of it. |
| 141 | 6112 - Lowland Aspen | High Density Pole | 10.2 | 30 | 1-50 | There is beaver activity in the stand. Therefore, there are some areas of dense aspen and other areas that are open. The stand is a mixture of uplands and lowlands. |
| 142 | 4125 - Black, N. Pin Oak | Medium Density | 9.6 | 5 | 1-50 | The stand was final harvested to 4" DBH in 2006 with some trees marked with green paint for retention. The regeneration is good. In many areas the oak regeneration is about 4' tall. |
| 145 | 42121 - Planted Jack Pine, Mixed Deciduous | Medium Density | 35.0 | 3 | | 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. |
| 146 | 6139 - Mixed Lowland Forest | Medium Density Pole | 11.1 | 60 | 51-80 | There is a drainage going through the stand. In addition, there is an area of open water in the southern portion. The overstory is declining but there is some regeneration coming up under it. |
| 147 | 4199 - Other Mixed Upland Deciduous | Low Density Sapling | 17.1 | 5 | | The stand was trenched and planted to jack pine. However, the natural regeneration of oak, aspen, and choke cherry is the majority at the current time. The terrain is undulating. |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-----|---|-------------------------|-------|--------------|-------------|--|
| 148 | 6121 - Tamarack | Medium Density Pole | 5.3 | 78 | 1-50 | The stand is in a depression that is filling in with tamarack, white pine, and red maple. The trees are heaviest along the edges, but some is scattered throughout the stand. |
| 151 | 6119 - Mixed Lowland Deciduous Forest | High Density Pole | 12.2 | Uneven Age | 81-110 | The terrain is hummocky to rolling. There are areas of Q-types in it, and areas of swamp hardwoods. There is a ridge along the south side of the stand. |
| 152 | 6139 - Mixed Lowland Forest | High Density Pole | 8.0 | 83 | 51-80 | The stand is low and wet. |
| 153 | 6127 - Lowland Pine | High Density Pole | 8.0 | 99 | 81-110 | The terrain is undulating to rolling. The stand is a matrix of uplands and lowlands with the lowlands being about 70%. There are inclusions of L and V-type as well as upland knobs. |
| 154 | 4125 - Black, N. Pin Oak | Medium Density Log | 15.3 | 70 | 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. Regeneration in the rest of the stand is low. The oak regeneration is not established. The jack pines are seeding in. The aspen regeneration is along the south side of the stand. |
| 155 | 4191 - Mixed Upland Deciduous with Conifer | High Density Sapling | 16.9 | 20 | 1-50 | It appears that the stand was harvested and the 4" DBH pine was retained. The regeneration is thick. The terrain is undulating. |
| 156 | 42121 - Planted Jack Pine, Mixed Deciduous | Medium Density | 18.4 | 3 | | The stand was final harvested in 2005 to 2" DBH. It was then trenched and planted with jack pine. There is some natural jack, red and white pine regeneration as well as the oak. There are inclusions of leather leaf depressions. |
| 157 | 6113 - Lowland Maple | Medium Density Pole | 29.8 | 83 | 1-50 | The stand is very low and wet. The balsam fir regeneration is coming in thick. |
| 158 | 42220 - Natural Jack Pine | High Density Pole | 42.9 | 60 | 51-80 | The jack pine looks good, however there is some mortality. The oak in the stand is declining. This decline is not as bad as seen in other areas. There are a couple of low wet pockets present. |
| 159 | 42220 - Natural Jack Pine | High Density Sapling | 90.5 | 16 | | The stand was final harvested to 2" DBH in 1994. Then it was planted to jack pine. The stand is doing well. |
| 161 | 6131 - Hemlock, White Pine, Maple, Birch | High Density Pole | 22.8 | Uneven Age | 51-80 | The stand is undulating. It is a matrix of uplands and lowlands with the lowlands being about 70%. There is a thick layer of advance regeneration of balsam fir and white pine. In addition, there is a pocket of black spruce in the north east corner of the stand. |
| 162 | 4199 - Other Mixed Upland Deciduous | High Density Pole | 19.7 | 43 | 51-80 | The species composition is patchy. There are areas heavy to aspen, areas heavy to oak, areas heavy to jack pine, and areas heavy to red maple. |



| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-----|--|-------------------------|-------|--------------|-------------|--|
| 165 | 42220 - Natural Jack Pine | High Density Pole | 21.5 | 30 | 51-80 | This stand was planted with jack pine in 1973. The amount of hardwoods in the stand is minimal. |
| 166 | 6117 - Lowland Deciduous, Mixed Coniferous | High Density Log | 15.2 | Uneven Age | 51-80 | The terrain is hummocky. The soils get wetter going to the north east. In addition, the trees diameters get larger as well. There is a lot of wind throw along the south edge of the stand. |
| 167 | 6117 - Lowland Deciduous, Mixed Coniferous | High Density Pole | 38.3 | 83 | 81-110 | The stand is undulating. It is a matrix of uplands and lowlands with the lowlands being the majority. There are also inclusions of L-type. |
| 168 | 4130 - Aspen | High Density Pole | 97.3 | 43 | 111-140 | The stand is doing well. The understory shrubs are heavy to witch hazel, with some juneberry and blueberry present. |
| 169 | 4125 - Black, N. Pin Oak | Medium Density | 48.0 | 18 | 1-50 | The stand was final harvested to 4" DBH in 1985. The regeneration is patchy so there are many areas of open ground. The cherry in the stand appears to be struggling. There is significant mortality in the cherry. |
| 170 | 4191 - Mixed Upland Deciduous with Conifer | Low Density Sapling | 11.7 | 5 | | Stand swapped from Non-Forested to Forested. 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. |
| 171 | 4191 - Mixed Upland Deciduous with Conifer | High Density Sapling | 18.6 | 19 | | The stand was harvested as a 2 inch final harvest in 1994. It is coming along well. There are some open areas present in the stand. |
| 172 | 42121 - Planted Jack Pine, Mixed Deciduous | Medium Density | 5.2 | 5 | | Stand swapped from Non-Forested to Forested. It was planted to jack pine. There is some good natural regeneration of oak and white, red and jack pines. |
| 173 | 42120 - Planted Jack Pine | Medium Density | 24.1 | 3 | | The stand was final harvested to 2" DBH in 2006. It was trenched and planted to jack pine. However, it's hard to find the rows because of the natural regeneration. There are also inclusions of leather leaf in the stand. |
| 174 | 6127 - Lowland Pine | Medium Density | 24.5 | Uneven Age | 51-80 | The stand was thinned in 2007. The areas that were thinned went around a younger lowland pine stand. The stand was heavily rutted when it was harvested. The red pines that had greater than a 33% disturbance to there roots are now dead or dying. The stand has some inclusions of uplands but it is only around 20%. |
| 175 | 4191 - Mixed Upland Deciduous with Conifer | High Density Sapling | 7.2 | 28 | 1-50 | The stand was final harvested to 2" DBH in 1994. The terrain is undulating to rolling. The regeneration in the stand is mainly by stump sprouts. The stand should be a pole stand in 10 years. |
| 176 | 4191 - Mixed Upland Deciduous with Conifer | High Density Pole | 8.8 | 43 | 51-80 | The terrain is undulating. When the stand was harvested some of the larger oaks were left. These are starting to decline but they are not worth harvesting. |

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Gladwin Mgt. Unit

5 – Forested Stands

Compartment: 010
Year of Entry: 2013

| | Level 4 Cover Type | Size Density | Acres | Stand Age | BA Range | General Comments: |
|-----|---|------------------------|-------|--------------|-------------|--|
| 177 | 42121 - Planted Jack Pine, Mixed Deciduous | Low Density Sapling | 21.7 | 3 | | This stand was harvested to 2" DBH in 2006. The upland areas of the stand were trenched and planted to jack pine. Overall there is a significant amount of natural regeneration in the stand. This regeneration is mainly jack pine and oak. The stand is a matrix of uplands and lowlands with the uplands being the majority. The lowlands are pockets of L-type and V-type. |
| 178 | 42121 - Planted Jack Pine, Mixed Deciduous | Medium Density | 12.9 | 5 | | Stand swapped from Non-Forested to Forested. The terrain is undulating with some lower pockets that have a trace of willow shrubs and red maple. |
| 179 | 4310 - Pine, Oak Mix | Medium Density | 11.4 | 5 | | Stand swapped from Non-Forested to Forested. The terrain is undulating. There is good advanced regeneration of oak and aspen. It was also planted to jack pine. |
| 180 | 42100 - Planted White Pine | Medium Density Pole | 5.1 | 40 | 1-50 | The stand was harvested leaving white pines. Then it was interplanted with jack pine. There's some oak regeneration. The terrain is undulating. |



| Stand | Cover Type | Acres | Managed Site | Management Priority (Objective) | General Comments: |
|-------|----------------------------------|-------|--------------|---------------------------------|--|
| 3 | 3105 - Mixed Upland Herbaceous | 3.0 | No | Low (NonForested) | This stand is a well site. |
| 7 | 3105 - Mixed Upland Herbaceous | 3.6 | No | Low (NonForested) | This stand has high pressure gas pipelines under it. |
| 9 | 6220 - Alder/willow | 2.5 | No | Low (NonForested) | Flood plain of the Cranberry creek. |
| 14 | 50 - Water | 12.7 | No | Unspecified | This stand is an oxbow of the Muskegon River. It also has beaver activity that has raised the level of the water in the stand and has started flooding out parts of pre-inventory stand 11. |
| 19 | 3102 - Grass | 0.6 | No | Unspecified | 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 | 50 - Water | 17.8 | No | Unspecified | This is a portion of the Muskegon River |
| 23 | 629 - Mixed non-forested wetland | 1.8 | No | Unspecified | This stand is a mixture of water and lowland shrubs. |
| 27 | 3105 - Mixed Upland Herbaceous | 45.4 | Planted | Jack Pine | This stand has some scattered natural regeneration of oak and pine. It has also been trenched but at the current time it has not been planted. It was harvested in 2009 under the red pine project. |
| 33 | 50 - Water | 1.2 | No | Low (NonForested) | This is a portion of the Muskegon River |
| 51 | 3302 - Low Density Conifer Trees | 2.9 | No | Low (NonForested) | The stand is filling in with Jack pine along the edges. |
| 52 | 6229 - Mixed lowland shrub | 5.3 | No | Low (NonForested) | This is the flood plain of the Floodwood Creek. It is heavy to tag alder and marsh grass. |
| 73 | 3102 - Grass | 48.7 | No | Low (NonForested) | 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. |
| 81 | 6229 - Mixed lowland shrub | 9.9 | No | Unspecified | This is down stream from the control structure for Floodwood Swamp Reservoir. It is an L-Type mixed with some swamp hardwoods. |
| 90 | 310 - Herbaceous Openland | 2.9 | No | Low (NonForested) | The stand is mainly upland herbaceous with some scattered oak and jack pine. |



| Stand | Cover Type | Acres | Managed Site | Management Priority (Objective) | General Comments: |
|-------|-----------------------------------|-------|--------------|---------------------------------|--|
| 109 | 50 - Water | 5.0 | No | Low (NonForested) | The stand is flooded by beaver activity. The overstory is dying in some of the areas in the stand. |
| 110 | 6239 - Mixed Emergent Wetland | 65.2 | Yes | Low (NonForested) | This is the Floodwood Swamp Reservoir. It is a mixture of open water and cattails. |
| 111 | 6229 - Mixed lowland shrub | 5.9 | No | Low (NonForested) | The stand has some open water in it. The edges have shrubs. |
| 114 | 6229 - Mixed lowland shrub | 9.6 | No | Low (NonForested) | The stand is mainly lowland shrubs with one slight ridge crossing it. |
| 116 | 629 - Mixed non-forested wetland | 44.3 | No | Low (NonForested) | The stand appears to have had some beaver activity. |
| 117 | 629 - Mixed non-forested wetland | 11.9 | No | Unspecified | The stand is a mixture of lowland shrub and emergent wetlands. |
| 122 | 6239 - Mixed Emergent Wetland | 18.0 | No | Low (NonForested) | The stand is a large area of wetlands being heavy to marsh grasses with some lowland shrub along the edges. |
| 126 | 6239 - Mixed Emergent Wetland | 21.3 | No | Low (NonForested) | This is an old beaver pond that looks to have recently drained. It now appears to be a wet beaver meadow. |
| 128 | 3303 - Mixed Low Density Trees | 11.2 | No | Low (NonForested) | The stand is a sparse stand of ash over tag alder |
| 129 | 6220 - Alder/willow | 36.9 | No | Low (NonForested) | The stand is an old beaver flooding. |
| 131 | 6229 - Mixed lowland shrub | 4.8 | No | Unspecified | The stand is in a depression and has standing water in it. There is some beaver activity around the depression. |
| 134 | 3301 - Low Density Deciduous Tree | 1.9 | No | Low (NonForested) | This stand is heavy to tag alder and willow mainly. It has some swamp hardwoods in the overstory. |
| 138 | 6229 - Mixed lowland shrub | 5.5 | No | Unspecified | The central portion of the stand is heavy to lowland shrubs. There are trees around the edges of the stand. These trees are mainly red maple, tamarack, and jack pine. |
| 143 | 6220 - Alder/willow | 7.2 | No | Unspecified | The stand is heavy to tag alder and willow. There are some scattered trees. These are mainly ash and maple. |
| 144 | 3301 - Low Density Deciduous Tree | 1.7 | No | Low (NonForested) | This stand is heavy to tag alder and willow mainly. It has some swamp hardwoods in the overstory. |



| Stand | Cover Type | Acres | Managed Site | Management Priority (Objective) | General Comments: |
|-------|--------------------------------|-------|--------------|---------------------------------|--|
| 149 | 6233 - Wet Meadow | 3.7 | No | Low (NonForested) | The edges of the stand are an L-Type. The rest of the stand is marsh grass. |
| 150 | 6229 - Mixed lowland shrub | 8.7 | No | Unspecified | The central portion of the stand is heavy to lowland shrubs. There are trees around the edges of the stand. These trees are mainly red maple, tamarack, and jack pine. |
| 160 | 3105 - Mixed Upland Herbaceous | 2.5 | No | Unspecified | This is a grassy opening with some choke cherry and jack pine. The ground cover has sweet fern in it as well as spotted knapweed. |
| 163 | 6229 - Mixed lowland shrub | 14.3 | No | Unspecified | This is mainly a lowland shrub type. However, there is an area of leather leaf in it. |
| 164 | 6229 - Mixed lowland shrub | 7.2 | No | Unspecified | This is mainly a lowland shrub type. However, there are some trees in it. These trees have less than 15% crown closure. |



7 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

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

| Stand | SCA Type | SCA Name | Acres | Comments |
|-------|----------|----------|-------|----------|
| | | | | |



8 – DEDICATED CONSERVATION AREA DETAILS

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

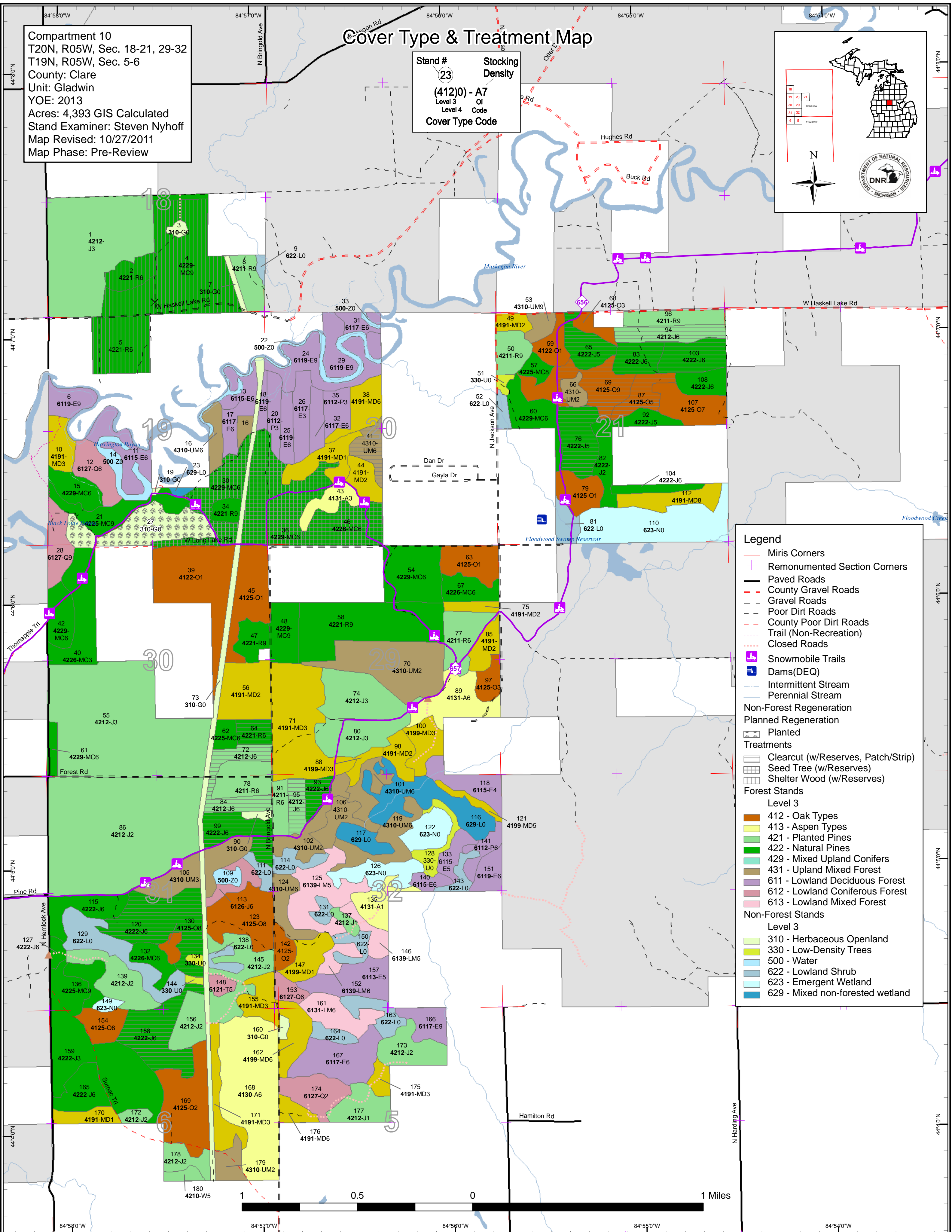
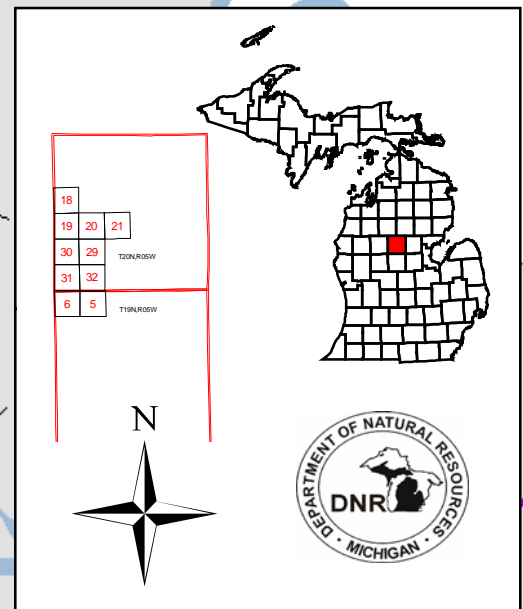
ERA = Ecological Reference Area
HCVA = High Conservation Value Area
SCA = Special Conservation Area

| Conservation Area | Type | Description |
|-------------------|-----------------------------|---|
| SCA | Cold Water Stream | A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210. |
| HCVA | 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. |
| SCA | Habitat Area | An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies. |

Cover Type & Treatment Map

Compartment 10
 T20N, R05W, Sec. 18-21, 29-32
 T19N, R05W, Sec. 5-6
 County: Clare
 Unit: Gladwin
 YO: 2013
 Acres: 4,393 GIS Calculated
 Stand Examiner: Steven Nyhoff
 Map Revised: 10/27/2011
 Map Phase: Pre-Review

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



Legend

- Miris Corners
- Remonumented Section Corners
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Snowmobile Trails
- Dams(DEQ)
- Intermittent Stream
- Perennial Stream

Non-Forest Regeneration

Planned Regeneration

- Planted

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)

Forest Stands

Level 3

- 412 - Oak Types
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

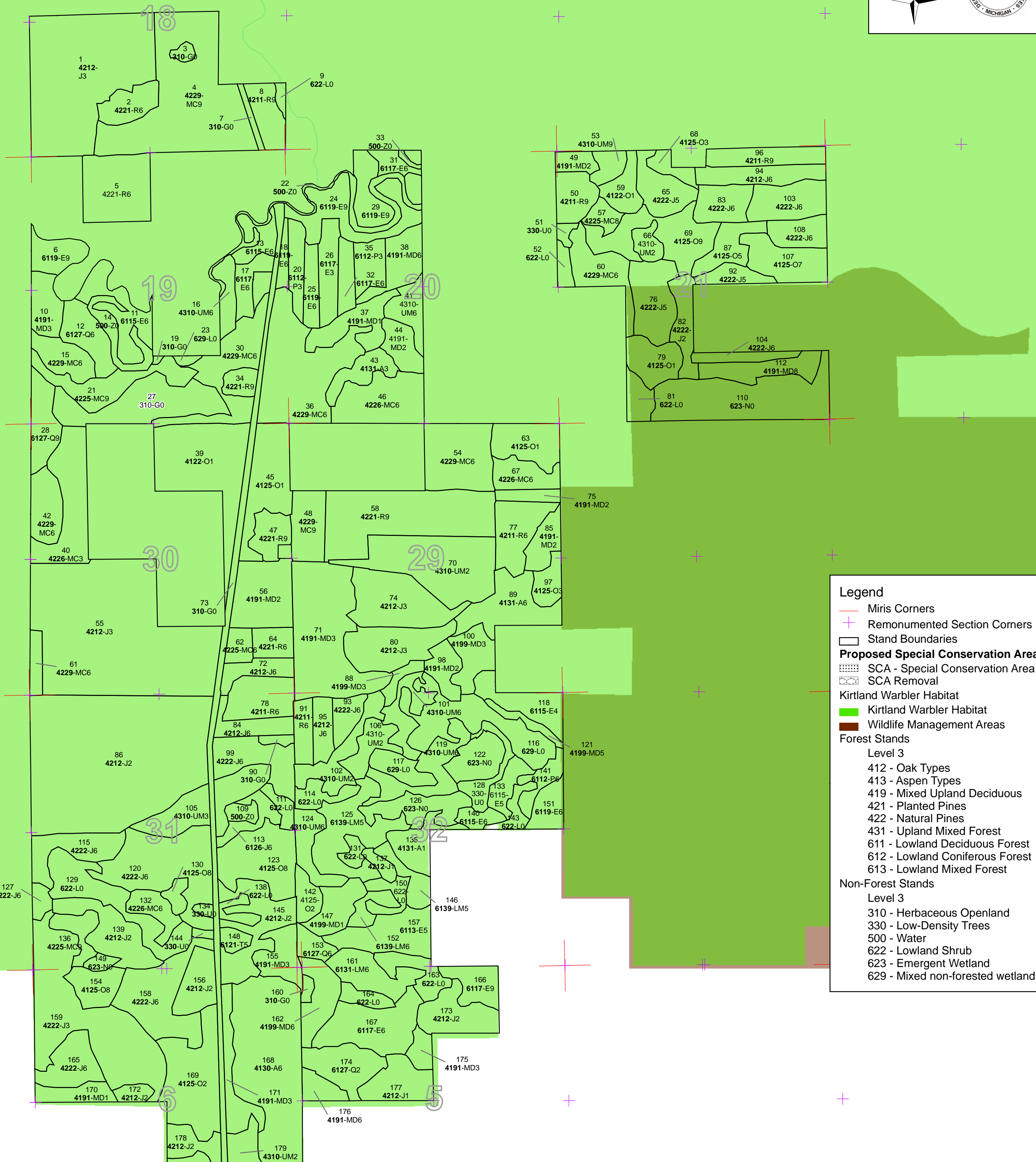
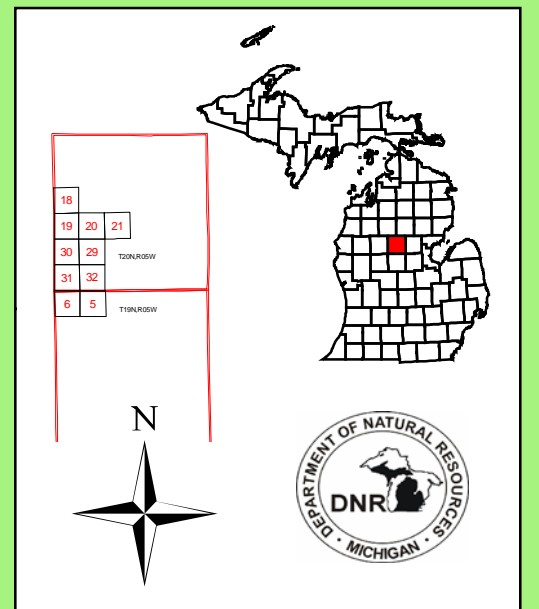
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland



Dedicated & Proposed Special Conservation Area Map

Compartment 10
 T20N, R05W, Sec. 18-21, 29-32
 T19N, R05W, Sec. 5-6
 County: Clare
 Unit: Gladwin
 YOE: 2013
 Acres: 4,393 GIS Calculated
 Stand Examiner: Steven Nyhoff
 Map Revised: 10/27/2011
 Map Phase: Pre-Review

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



Legend

- Miris Corners
- + Remonumented Section Corners
- Stand Boundaries
- Proposed Special Conservation Areas**
- ▨ SCA - Special Conservation Area
- ▩ SCA Removal
- Kirtland Warbler Habitat
- Kirtland Warbler Habitat
- Wildlife Management Areas
- Forest Stands**
- Level 3**
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- Non-Forest Stands**
- Level 3**
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland

