



# Compartment Review Presentation

## Grayling Forest Management Unit

Compartment 72271

Entry Year 2020

Acreage: 1,493

County Crawford

Management Area: Kirtland's Warbler

**Revision Date:** 2018-07-11

**Stand Examiner:** Joan Charlebois

### Legal Description:

T28N R1W Sections 7, 8 & 17  
T28N R2W Section 12

### Identified Planning Goals:

To maintain forest health, productivity, sustainability, species diversification, and structural diversity throughout the compartment while providing for multiple use and visual management. In addition, to maintain a healthy habitat for the endangered species *Setophaga kirtlandii* (Kirtland's Warbler), taking into account warbler management plan directives, species diversity, and visual management.

### Soil and topography:

The compartment is dominated by outwash plains on Grayling sands. Organic soils such as Tawas-Leafriver and Kinross mucks underlay the North Branch of the AuSable River floodplain, the swamp on the compartment's southeast edge, and the small non-forested wetlands that dot the jack pine plains.

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

The lands adjacent to the compartment are almost entirely in State ownership except for around Shupac Lake and along the compartment's northeast edge. Shupac Lake is surrounded by a mix of full-time and seasonal residences. The Shupac Lake State Forest Campground is accessed through this compartment. Little Shupac Lake is within the compartment boundary and has an informal water access site. Gas wells and a compressor facility are currently operating within the compartment. The compartment is part of the Lovells Warbler Unit, Management Blocks 49, 50 & 51. Additional Warbler management blocks border the compartment's north side.

### Unique Natural Features:

In addition to dedicated Kirtland's Warbler habitat, two Ecological Reference Areas (ERAs) have been identified within the compartment. These natural communities include a dry sand prairie and a jack pine barrens. Several unique plant and animal species are associated with these ERAs.

### Archeological, Historical, and Cultural Features:

Portions of the compartment's west side were pastured as part of a former sheep ranch. Former railroad grades cross through the area.

### Special Management Designations or Considerations:

The compartment is part of the Lovells Kirtland's Warbler Unit, a High Conservation Value Area (HCVA). Two areas have also been identified as ERAs, the Shupac Prairie and Shupac Barrens, with management plans currently being revised. The North Branch of the AuSable River's Natural Rivers HCVA extends into the compartment south of Campground Road.

### Watershed and Fisheries Considerations:

Little Shupac Lake lies within the compartment. Shupac Lake and the North Branch of the AuSable River are within a quarter mile of the compartment's boundary.

### Wildlife Habitat Considerations:

Ecological Reference Areas within the compartment are being managed in order to maintain and enhance the quality of the habitat they provide for associated unique species. Management per the Kirtland's Warbler plan not only benefits the warbler, but also provides habitat for other opening-dependent songbirds, turkey and white-tailed deer.

### Mineral Resource and Development Concerns and/or Restrictions

Active sand/gravel pits are located approximately one mile to the southwest, and there appears to be good sand & gravel potential within the compartment on the upland areas. A portion of the northern part of the compartment is currently leased and has been developed for Antrim Shale gas. The compartment is at the southern edge of the Antrim play, but there may still be additional Antrim gas potential beneath the compartment. No known metallic mineral potential exists in this part of

the state.

**Vehicle Access:**

County roads include CR 612, Shupac Lake Road, Jackpine Plains Road, Campground Trail and Shupac Trail. A network of pipeline easement roads and the snowmobile trail provide additional access, and many of the former railroad grades have informal two-track roads associated with them.

**Survey Needs:**

None at this time.

**Recreational Facilities and Opportunities:**

A designated snowmobile trail #47 crosses through the east half of the compartment. Most of the forest roads in the compartment are open to ORV's, but not part of a designated trail. Little Shupac Lake has an informal walk-in access site. The rustic Shupac Lake State Forest Campground is accessed through this compartment by way of Campground Road. Several wildlife management areas provide forage for deer and small game attracting users for wildlife viewing, hunting, and recreational use throughout the year.

**Fire Protection:**

The compartment has large blocks of jack pine in rotation for Kirtland's Warbler habitat. Mature stands, including the declining buffer strips along CR 612, are proposed for harvest. Water sources include Little Shupac and Shupac Lake. The North Branch of the AuSable River is just west of the compartment.

**Additional Compartment Information:**

The following reports from the Inventory are attached:

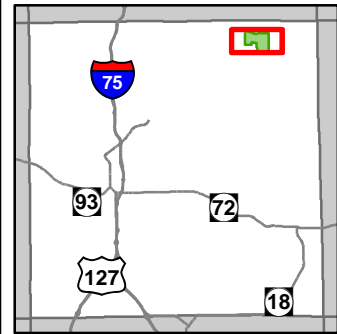
- Total Acres by Cover Type and Age Class
- Cover Type by Harvest Method
- Proposed Treatments – No Limiting Factors
- Proposed Treatments – With Limiting Factors
- Stand Details (Forested and Nonforested)
- Dedicated and Proposed Special Conservation Areas
- Site Condition Details

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

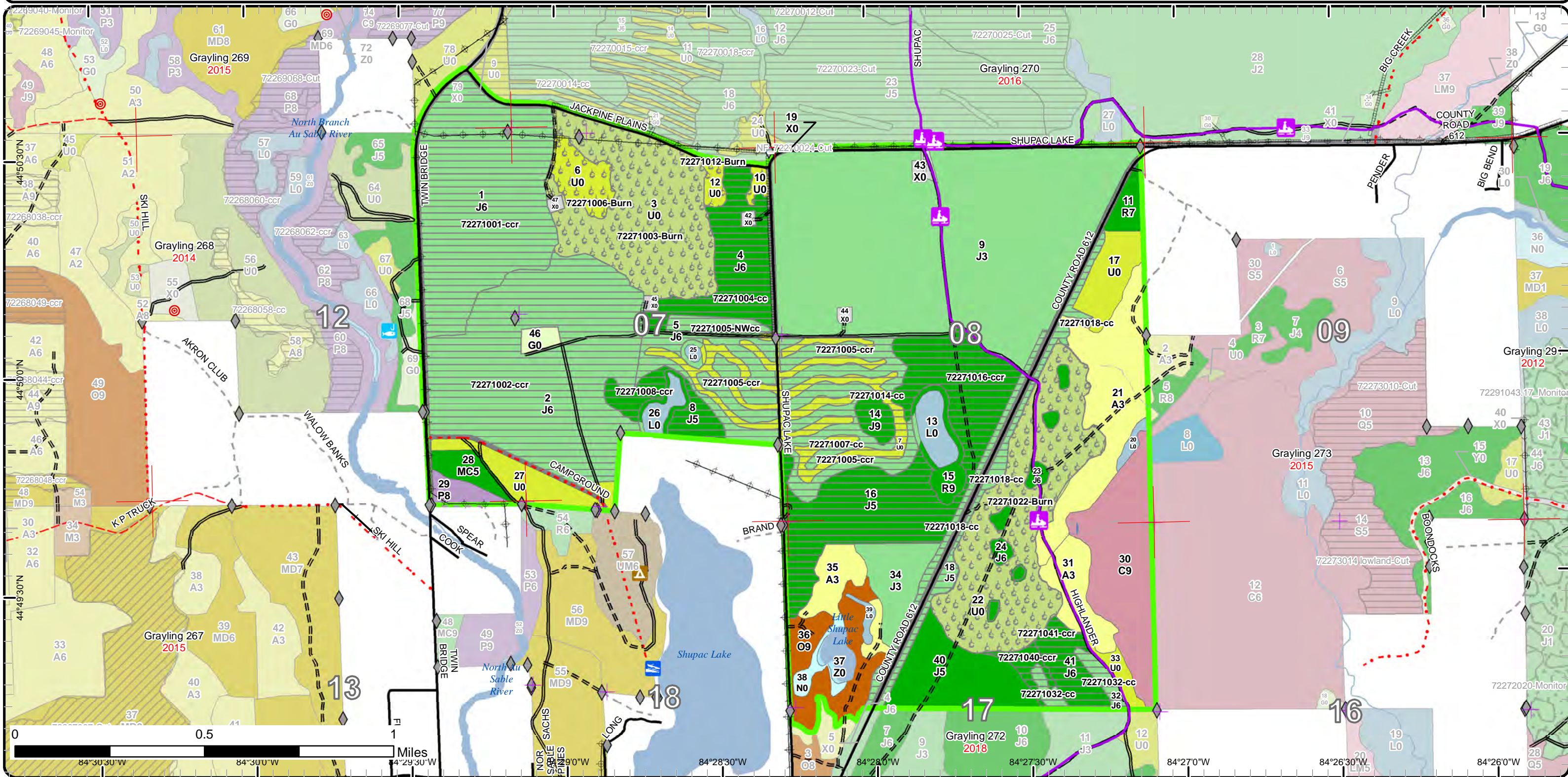


# Cover Type & Treatments Map



Compartment: 271  
 T28N, R02W, Sec. 1, 12  
 T28N, R01W, Sec. 6-8, 17  
 County: Crawford  
 Unit: Grayling  
 Mgmt Area: Kirtland's Warbler  
 YOE: 2020  
 Acres: 1,493 GIS Calculated  
 Examiner: Joan Charlebois  
 Map Revised: 2/1/2019  
 Map Phase: Post-Review

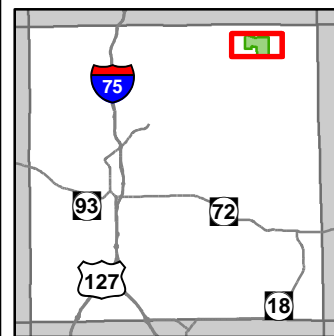
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|--|--|--|
| <ul style="list-style-type: none"> <li>— Miris Corners</li> <li>— Remonumented Section Corners</li> <li>◆ Field Grade Corners</li> <li>▭ Counties</li> <li>— DNR - Secondary Forest Road</li> <li>== DNR - Forest Access Route</li> <li>— Federal / State / County - Paved Road</li> <li>- - Federal / State - Dirt / Gravel Road</li> <li>- . - . County - Gravel Road</li> <li>- - - County - Dirt Road (Seasonal)</li> <li>- - - Private - Dirt / Gravel Road</li> <li>— Snowmobile Trails</li> <li>— Designated Snowmobile Trails</li> </ul> | <ul style="list-style-type: none"> <li>— Boating Access Site</li> <li>— Bridges</li> <li>— Culvert</li> <li>— Campground</li> <li>— Fishing Access Site</li> <li>— Intermittent Stream</li> <li>— Lake/Pond</li> <li>— Perennial River</li> <li>— Lakes and Rivers All</li> <li>— Pipeline</li> <li>— Powerline</li> <li>— Compartment Boundary</li> <li>— Clearcut (w/Reserves)</li> <li>— Prescribed Burn</li> </ul> | <ul style="list-style-type: none"> <li>412 - Oak Types</li> <li>413 - Aspen</li> <li>421 - Planted Pines</li> <li>422 - Natural Pines</li> <li>611 - Lowland Deciduous Forest</li> <li>612 - Lowland Coniferous Forest</li> <li>110 - Low Intensity Urban</li> <li>122 - Roads/Parking Lot</li> <li>310 - Herbaceous Openland</li> <li>320 - Upland Shrub</li> <li>330 - Low Density Trees</li> <li>500 - Water</li> <li>622 - Lowland Shrub</li> <li>623 - Emergent Wetland</li> <li>Lakes</li> </ul> |
|--|--|--|



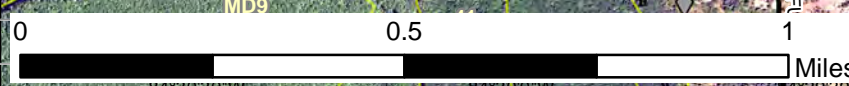
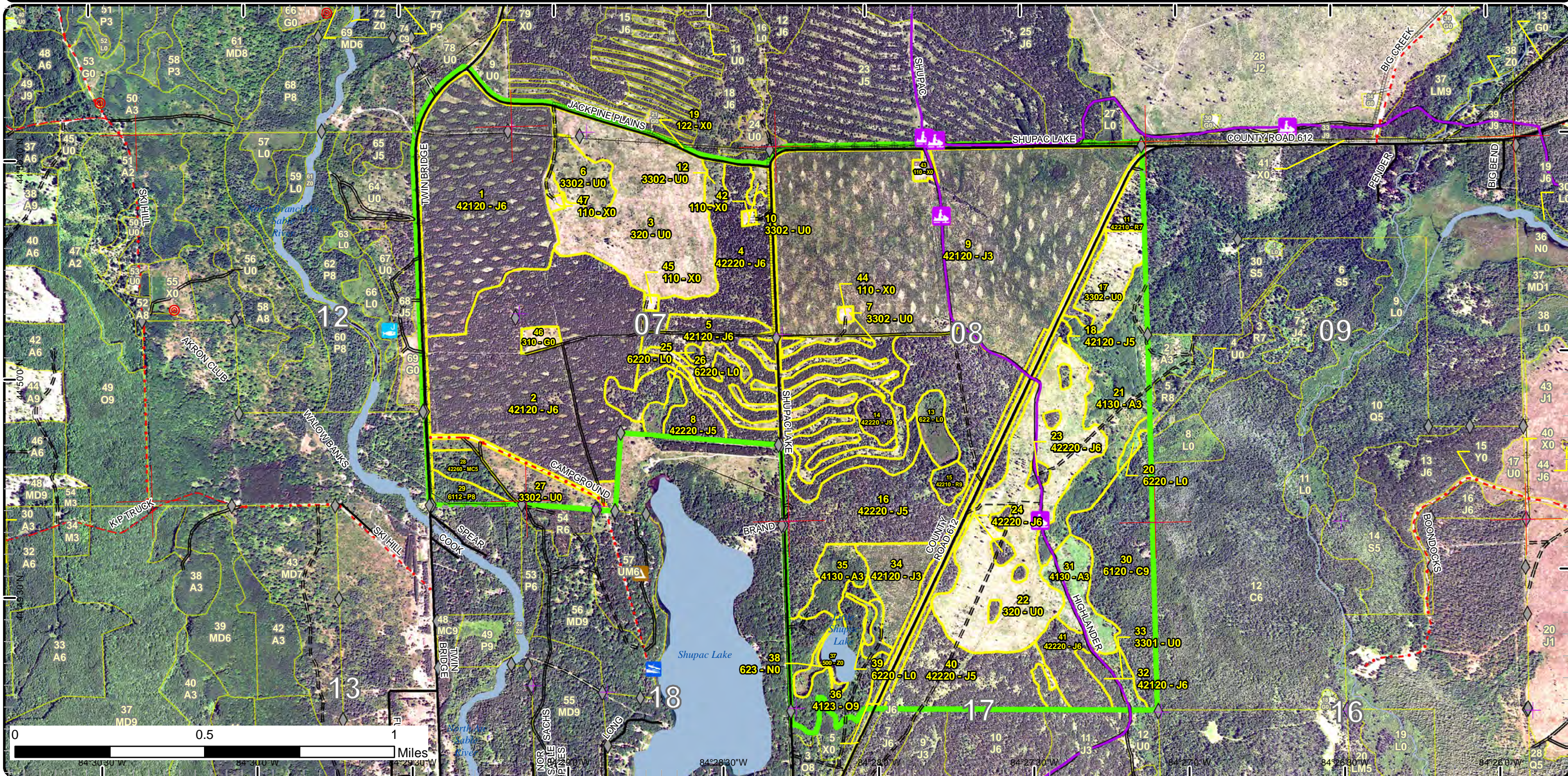


# Stand Boundary Map

Compartment: 271  
 T28N, R02W, Sec. 1, 12  
 T28N, R01W, Sec. 6-8, 17  
 County: Crawford  
 Unit: Grayling  
 Mgmt Area: Kirtland's Warbler  
 YOE: 2020  
 Acres: 1,493 GIS Calculated  
 Examiner: Joan Charlebois  
 Map Revised: 2/1/2019  
 Map Phase: Post-Review



- Miris Corners
- Remonumented Section Corners
- Field Grade Corners
- Counties
- DNR - Secondary Forest Road
- DNR - Forest Access Route
- Federal / State / County - Paved Road
- Federal / State - Dirt / Gravel Road
- County - Gravel Road
- County - Dirt Road (Seasonal)
- Private - Dirt / Gravel Road
- Snowmobile Trails
- Designated Snowmobile Trails
- Boating Access Site
- Bridges
- Culvert
- Campground
- Fishing Access Site
- Intermittent Stream
- Lake/Pond
- Perennial River
- Lakes and Rivers All
- Pipeline
- Powerline
- Compartment Boundary
- Stand Boundaries
- 412 - Oak Types
- 413 - Aspen
- 421 - Planted Pines
- 422 - Natural Pines
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 110 - Low Intensity Urban
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland

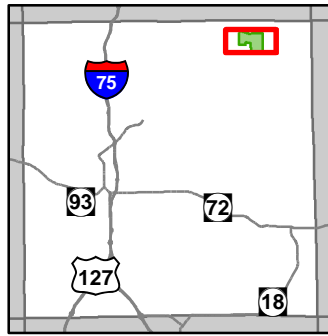


84°30'30" W 84°30'00" W 84°29'30" W 84°29'00" W 84°28'30" W 84°28'00" W 84°27'30" W 84°27'00" W 84°26'30" W 84°26'00" W

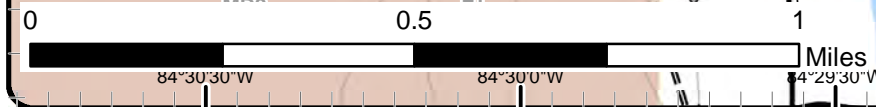
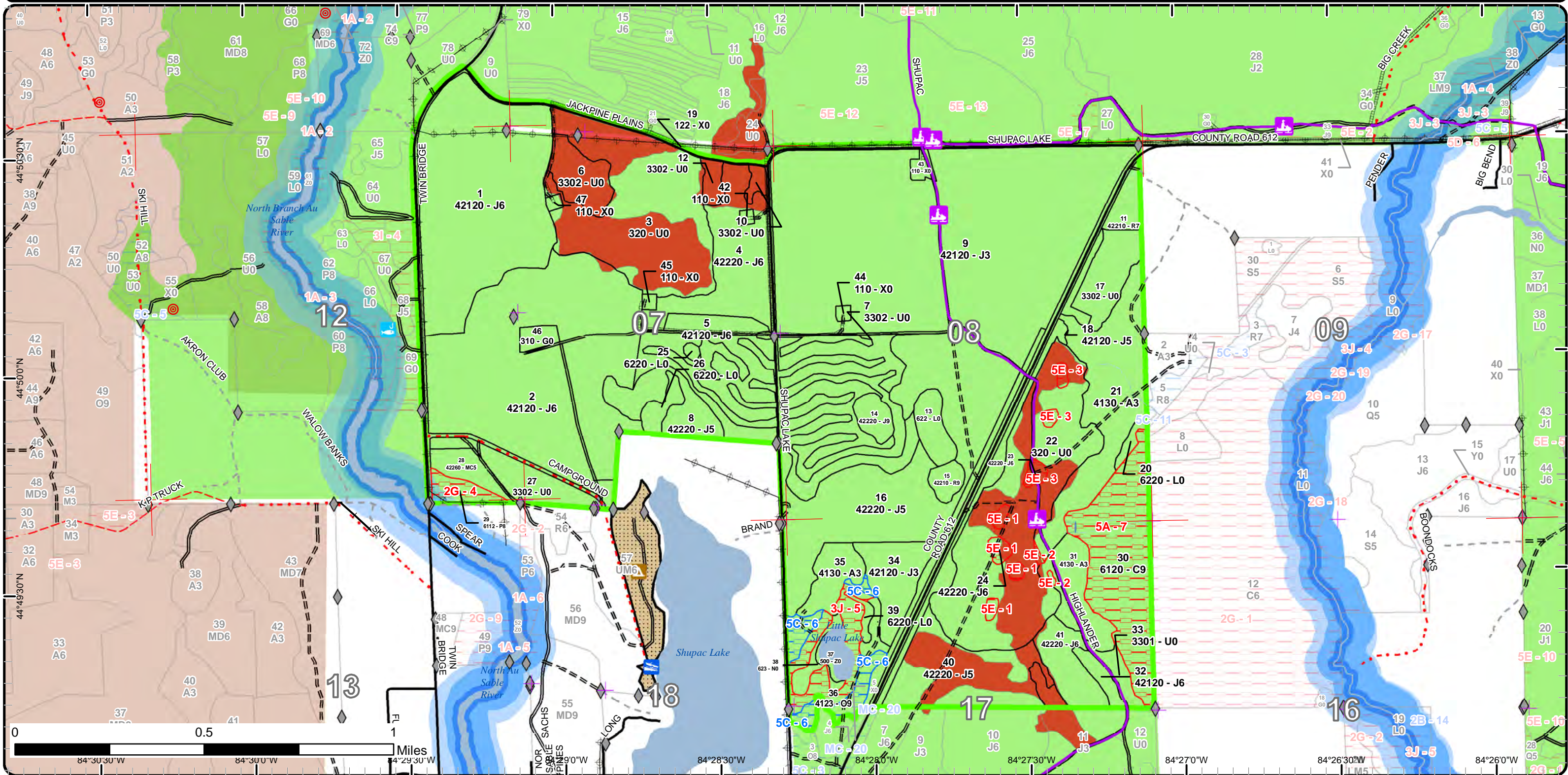


# Special Conservation Areas & Site Conditions Map

Compartment: 271  
 T28N, R02W, Sec. 1, 12  
 T28N, R01W, Sec. 6-8, 17  
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 Acres: 1,493 GIS Calculated  
 Examiner: Joan Charlebois  
 Map Revised: 2/1/2019  
 Map Phase: Post-Review



- |  |   |   |  |
|--|---|---|--|
| <ul style="list-style-type: none"> <li>— Miris Corners</li> <li>✦ Remonumented Section Corners</li> <li>◆ Field Grade Corners</li> <li>▭ Counties</li> <li>— DNR - Secondary Forest Road</li> <li>== DNR - Forest Access Route</li> <li>— Federal / State / County - Paved Road</li> <li>- - Federal / State - Dirt / Gravel Road</li> <li>- . - . County - Gravel Road</li> <li>- - - County - Dirt Road (Seasonal)</li> <li>- - - Private - Dirt / Gravel Road</li> <li>⚡ Snowmobile Trails</li> <li>— Designated Snowmobile Trails</li> </ul> | <ul style="list-style-type: none"> <li>🚤 Boating Access Site</li> <li>🌉 Bridges</li> <li>🚧 Culvert</li> <li>🏕 Campground</li> <li>🎣 Fishing Access Site</li> <li>— Intermittent Stream</li> <li>— Lake/Pond</li> <li>— Perennial River</li> <li>🌊 Lakes and Rivers All</li> <li>— Pipeline</li> <li>⚡ Powerline</li> <li>🌿 Compartment Boundary</li> <li>📏 Available w/ Constraints</li> <li>🚫 Unavailable</li> </ul> | <ul style="list-style-type: none"> <li>5C: Delay treatment for age/size class diversity or exceptional site quality</li> <li>2G: Too wet (sensitive soils, does not include access issues)</li> <li>3J: Water quality / BMPs (stream, river, or lake)</li> <li>5A: Not able to obtain desirable regeneration</li> <li>5E: Long-Term Retention</li> <li>📏 Stand Boundaries</li> <li>📏 SCA</li> <li>🔴 Ecological Reference Areas</li> <li>🌿 Natural Rivers Vegetative Buffer</li> <li>🌿 Natural Rivers Zoning District</li> <li>🌿 Kirtland Warbler Habitat</li> </ul> | <ul style="list-style-type: none"> <li>🌊 Cold Water Streams</li> <li>🌊 Cold Water Lakes</li> <li>🌊 High Priority Trout Stream Buffer</li> <li>🏢 Research, Development, and Military Lands</li> <li>🎣 Fishing Access Site</li> <li>🏕 State Forest Campground</li> </ul> |
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# Report 1 – Total Acres by Cover Type and Age Class

Grayling Mgt. Unit

Compartment 271 Year of Entry 2020

Joan Charlebois : 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	18	54	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88
Cedar	0	0	0	0	0	0	0	0	0	0	0	56	0	0	0	0	0	0	56
Herbaceous Openland	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Jack Pine	0	0	283	0	282	132	19	61	140	0	0	0	0	0	0	0	0	0	917
Low-Density Trees	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104
Lowland Aspen/Balsam Poplar	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7
Lowland Shrub	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
Marsh	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Natural Mixed Pines	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
Oak	0	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	31
Red Pine	0	0	0	0	0	0	7	0	5	0	0	0	0	0	0	0	0	0	12
Upland Shrub	184	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	184
Urban	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
Water	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
<b>Total</b>	<b>376</b>	<b>18</b>	<b>337</b>	<b>16</b>	<b>282</b>	<b>141</b>	<b>33</b>	<b>61</b>	<b>145</b>	<b>0</b>	<b>31</b>	<b>56</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1495</b>



## Report 2 – Treatment Summary

Grayling Mgt. Unit

Year of Entry: 2020

Acres of Harvest

Compartment 271

Total Compartment Acres: 1,493

Commercial Harvest - 619  
 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
Jack Pine	577	0	0	0	0	0	0	0	0	577
Low-Density Trees	42	0	0	0	0	0	0	0	0	42
<b>Total</b>	<b>619</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>619</b>

### Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	619	0	0	0	205	0	0	0	0	824
Next Step	0	514	514	0	77	0	1338	0	0	2443
<b>Total</b>	<b>619</b>	<b>514</b>	<b>514</b>	<b>0</b>	<b>282</b>	<b>0</b>	<b>1338</b>	<b>0</b>	<b>0</b>	<b>3267</b>



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
1	72271001-ccr	116.9	42120 - Planted Jack Pine	Poletimber Well	35	51-80	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary

**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest 2"+ DBH except leave the RP and island retention. Protect survey corner witness trees.

Specs:

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

Acceptable suitable KW habitat  
Regen:

Other Lovells KW Unit, Block 49. 2027 planting entry.  
Comment:

Proposed Start Date: 10/1 /2021

2	72271002-ccr	156.0	42120 - Planted Jack Pine	Poletimber Well	38	51-80	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest 2"+ DBH except leave the RP and island retention. Protect survey corner witness trees.

Specs:

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

Acceptable suitable KW habitat  
Regen:

Other Lovells KW Unit, Block 49. 2027 planting entry.  
Comment:

Proposed Start Date: 10/1 /2021

3	72271003-Burn	87.2	320 - Upland Shrub	Nonstocked		Unspecified	Burn	Opening	310 - Herbaceous Openland		Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription burn periodically for ecosystem restoration and maintenance

Specs:

Next Step Monitoring, Prescribed Burn  
Treatments:

Acceptable dry sand prairie natural community characteristics  
Regen:

Other  
Comment:

Proposed Start Date: 10/1 /2018

4	72271004-cc	40.2	42220 - Natural Jack Pine	Poletimber Well	63	81-110	Harvest	Clearcut	310 - Herbaceous Openland		Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest except leave the RP. The harvest is designed to expand the Shupac Prairie ERA and facilitate maintenance burns, so no additional retention is prescribed.

Specs:

Next Step Burn, Opening; Monitoring, Prescribed Burn  
Treatments:

Acceptable dry sand prairie natural community characteristics  
Regen:

Other Protect survey corner witness trees. Follow up with prescribed burns to restore and maintain the dry sand prairie.  
Comment:

Proposed Start Date: 10/1 /2019





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
5	72271005-ccr	74.3	42120 - Planted Jack Pine	Poletimber Well	40	51-80	Harvest	Clearcut with Retention	42120 - Planted Jack Pine	Even-Aged	Draft Field Boundary

**Habitat Cut: No**                      **Site Condition:**

Prescription Final harvest 2"+ DBH except island retention. Place some of the retention around the wetland stands. Protect survey corner witness trees.  
Specs:

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

Acceptable suitable KW habitat  
Regen:

Other Lovells KW Unit, Blocks 49 & 50. 2027 planting entry.  
Comment:

Proposed Start Date: 10/1 /2021

5	72271005-NWcc	7.1	42120 - Planted Jack Pine	Poletimber Well	40	51-80	Harvest	Clearcut	310 - Herbaceous Openland		Draft Field Boundary
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**Habitat Cut: No**                      **Site Condition:**

Prescription Final harvest except leave the RP. The harvest is designed to expand the Shupac Prairie ERA and facilitate maintenance burns, so no additional retention is prescribed.  
Specs:

Next Step Burn, Opening; Monitoring, Prescribed Burn  
Treatments:

Acceptable dry sand prairie natural community characteristics  
Regen:

Other Follow up with prescribed burns to restore and maintain the dry sand prairie.  
Comment:

Proposed Start Date: 10/1 /2019

6	72271006-Burn	14.5	3302 - Low Density Conifer Trees	Nonstocked		Unspecified	Burn	Opening	310 - Herbaceous Openland		Draft Field Boundary
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**Habitat Cut: No**                      **Site Condition:**

Prescription burn periodically for ecosystem restoration and maintenance  
Specs:

Next Step Monitoring, Prescribed Burn  
Treatments:

Acceptable dry sand prairie natural community characteristics  
Regen:

Other  
Comment:

Proposed Start Date: 10/1 /2018

7	72271007-cc	41.7	3302 - Low Density Conifer Trees	Nonstocked		Unspecified	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**                      **Site Condition:**

Prescription Final harvest the scattered trees in preparation for planting. No retention due to sparse cover.  
Specs:

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

Acceptable suitable KW habitat  
Regen:

Other Protect survey corner witness trees. Lovells KW Unit, Blocks 49 & 50. 2027 planting entry.  
Comment:

Proposed Start Date: 10/1 /2021





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
8	72271008-ccr	15.9	42220 - Natural Jack Pine	Poletimber Medium	55	51-80	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary

**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest 2"+ DBH except leave the RP and retention around the adjacent wetland stand.

Specs:

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

Acceptable suitable KW habitat  
Regen:

Other Lovells KW Unit, Block 49. 2027 planting entry.  
Comment:

Proposed Start Date: 10/1 /2021

10	72271010-Burn	2.5	3302 - Low Density Conifer Trees	Nonstocked			Burn	Opening	310 - Herbaceous Openland		Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription burn periodically for ecosystem restoration and maintenance

Specs:

Next Step Monitoring, Prescribed Burn  
Treatments:

Acceptable dry sand prairie natural community characteristics  
Regen:

Other  
Comment:

Proposed Start Date: 10/1 /2019

12	72271012-Burn	4.0	3302 - Low Density Conifer Trees	Nonstocked			Burn	Opening	310 - Herbaceous Openland		Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription burn periodically for ecosystem restoration and maintenance

Specs:

Next Step Monitoring, Prescribed Burn  
Treatments:

Acceptable dry sand prairie natural community characteristics  
Regen:

Other  
Comment:

Proposed Start Date: 10/1 /2019

14	72271014-cc	6.3	42220 - Natural Jack Pine	Sawtimber Well	73	81-110	Harvest	Clearcut	42120 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest 2"+ DBH. No retention due to small stand acreage.

Specs:

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

Acceptable suitable KW habitat  
Regen:

Other Lovells KW Unit, Block 50. 2027 planting entry.  
Comment:

Proposed Start Date: 10/1 /2021





Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
16	72271016-ccr	102.7	42220 - Natural Jack Pine	Poletimber Medium	73	51-80	Harvest	Clearcut with Retention	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary

**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest 2"+ DBH except leave the RP-WP and island retention around the wetland stand.

Specs:

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

Acceptable Suitable KW habitat, except exclude from the planting area the stand's southwest where oak-aspen competition and residual RP-WP will impede planting.  
Regen:

Other Add snowmobile trail protection specs. Protect survey corner witness trees. Lovells KW Unit, Block 50. 2027 planting entry.

Comment:

Proposed Start Date: 10/1 /2021

18	72271018-cc	27.9	42120 - Planted Jack Pine	Poletimber Medium	71	81-110	Harvest	Clearcut	4122 - Oak, Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest the JP, SP & aspen. Evaluate the naturally-established JP health in the salients east of the highway; consider boundary-excluding

Specs: portions of them if not declining.

Next Step Monitoring, Natural Regen (Intermediate)  
Treatments:

Acceptable A moderately stocked mix of oak and pine.  
Regen:

Other Add snowmobile trail protection specs.

Comment:

Proposed Start Date: 10/1 /2019

22	72271022-Burn	96.7	320 - Upland Shrub	Nonstocked	Unspecified		Burn	Opening	3302 - Low Density Conifer Trees		Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Burn periodically for ecosystem restoration and maintenance.

Specs:

Next Step Monitoring, Prescribed Burn  
Treatments:

Acceptable Pine barrens natural community characteristics  
Regen:

Other Add snowmobile trail protection specs.

Comment:

Proposed Start Date: 10/1 /2018

32	72271032-cc	8.4	42120 - Planted Jack Pine	Poletimber Well	35	51-80	Harvest	Clearcut	3302 - Low Density Conifer Trees		Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest except the RP. No retention due to small stand acreage.

Specs:

Next Step Burn, Opening; Monitoring, Prescribed Burn  
Treatments:

Acceptable pine barrens natural community characteristics  
Regen:

Other Add snowmobile trail protection specs. Follow up with prescribed burns to restore and maintain the pine barrens.

Comment:

Proposed Start Date: 10/1 /2019





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
40	72271040-ccr	5.5	42220 - Natural Jack Pine	Poletimber Medium	49	51-80	Harvest	Clearcut with Retention	3302 - Low Density Conifer Trees		Draft Field Boundary

**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest except leave JP island retention and the RP.  
Specs:

Next Step Treatments: Burn, Opening; Monitoring, Prescribed Burn

Acceptable Regen: pine barrens natural community characteristics

Other Comment: Follow up with prescribed burns to restore and maintain the pine barrens.

Proposed Start Date: 10/1 /2019

41	72271041-ccr	16.1	42220 - Natural Jack Pine	Poletimber Well	61	81-110	Harvest	Clearcut with Retention	3302 - Low Density Conifer Trees		Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Final harvest except leave JP island retention and the RP.  
Specs:

Next Step Treatments: Burn, Opening; Monitoring, Prescribed Burn

Acceptable Regen: pine barrens natural community characteristics

Other Comment: Add snowmobile trail protection specs. Follow up with prescribed burns to restore and maintain the pine barrens.

Proposed Start Date: 10/1 /2019

**Total Treatment Acreage Proposed: 823.9**



## Report 4 – Site Conditions

Grayling Mgt. Unit  
Joan Charlebois : Examiner

Compartment: 271  
Year of Entry: 2020

### Availability for Management

Total Acres	Acres Available	Acres Avail		Acres Not Available		Dominant Site Conditions						
		With Condition				5C	MC	2G	3I	3J	5A	5E
88	87	0		1	Aspen	0				0	0	1
56	0	0		56	Cedar	0		0			56	
4	4	0		0	Herbaceous Openland							
916	906	0		10	Jack Pine		0					10
104	104	0		0	Low-Density Trees							
7	0	0		7	Lowland Aspen/Balsam Poplar			7				
19	19	0		0	Lowland Shrub	0				0		
5	5	0		0	Marsh					0		
9	9	0		0	Natural Mixed Pines			0				
31	0	14		17	Oak	14	0			17		
12	12	0		0	Red Pine							
184	184	0		0	Upland Shrub							
54	52	0		2	Urban			0	2			0
5	5	0		0	Water					0		
1,493	1,387	14		92	Total Forested Acres	14	0	7	2	17	56	11
	93%	1%		6%	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
1	Unavailable	5E: Long-Term Retention	6	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Designated retention islands for 2016 harvest #019-10. The south two islands were increased by a tenth or two beyond the harvest boundary in order to meet minimum mapping standards.							
2	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Designated retention when stand 31 was clearcut in 2016 (#019-10)							



## Report 4 – Site Conditions

Grayling Mgt. Unit  
Joan Charlebois : Examiner

Compartment: 271  
Year of Entry: 2020

3	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	4	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Designated retention from 2016 harvest #019-10							
4	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	7	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Small stand on AuSable floodplain, Tawas-Leafriver muck soils. May be operable during a prolonged drought, but similar ground was problematic to the south.							
5	<b>Unavailable</b>	<b>3J: Water quality / BMPs (stream, river, or lake)</b>	17	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Riparian buffer around lake and associated wetlands, all with steep side-slopes.							
6	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	14	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Remainder of stand 36 outside of the riparian buffer. Oak is of good quality and health for this area.							
7	<b>Unavailable</b>	<b>5A: Not able to obtain desirable regeneration</b>	56	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<b>Comments:</b> This compartment's portion of the large cedar swamp is dryer than the adjacent compartment's, but there is active groundwater flow, with seeps and an intermittent stream flowing east. The main concern is cutting the NWC and converting to spruce-fir.							



Mgt. Unit

Compartment: #Type!

Year of Entry:



### 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
<b>Comments</b>				



**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	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
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.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.
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	42120 - Planted Jack Pine	Poletimber Well	116.9	35	51-80	Lovells KW Unit, Management Block #49. Was final harvested in 1973 (#018-73 & #019-73), cutting merch JP. W-71-10 was submitted in 1978 to site-prep burn, with no record of completion. JP planted in opposing wave pattern in 1984 (W-0709-264). About half of stems transitioned into the pole class; persistent dead branches common. Traces of RP saw & aspen saplings.
2	42120 - Planted Jack Pine	Poletimber Well	156.3	38	51-80	Lovells KW Unit, Management Block #49. Was part of a sheep ranch pasture before state acquisition in 1944. Subsequent use permits included maintenance of a landing strip in the 1960's. JP was planted in the opposing wave pattern in the early 1980's. FTP records not available, so a tree was cut down for age: factoring-off the 2-0 planting stock points to 1981 as the planting year. The planted JP is not entirely transitioned into the pole class; heavy dead limbs common. Traces of RP saw & SP poles. Portions of the stand's northeast edge are within a dry sand prairie natural community ERA (Shupac Prairie).
4	42220 - Natural Jack Pine	Poletimber Well	40.2	63	81-110	Lovells KW Unit, block #49. Merch JP was removed over most of the stand under 3 sales in 1973. Variable stocking in JP poles, with minor saw & sapling components. Canopy gaps opening up as the older JP drops out. Small clumps of poor-quality QA saplings. Traces of RP saw.
5	42120 - Planted Jack Pine	Poletimber Well	83.2	40	51-80	Lovells KW Unit, Block #49 (west of the county road) and #50 (east of the road). Merch JP was harvested in 1973 (#016-73 & #042-73). Old notes indicate that it was planted in 1979 in what was then the "KW pattern", parallel wavy bands of JP 2-3 chains wide, alternating with non-stocked bands ~2 chains wide. The unplanted bands were separated out as stand 7. There are small pockets of residual JP poles that were planted around, and aspen. Planted JP not entirely transitioned into the pole class, limby.
8	42220 - Natural Jack Pine	Poletimber Medium	18.7	55	51-80	Lovells KW Unit, Block #49. JP stand wrapping around L3 stand 26. Stand established from low-density JP seed trees left in the 1930's. Variable stocking, older JP dying out. The aspen, oak & RP are concentrated on the sideslope down to the wetland. Combined oak understory reaches medium coverage.
9	42120 - Planted Jack Pine	Sapling Well	263.6	17	Immature	Lovells KW Unit, Management Block #50. Was final harvested in 2001 (#016-00), cutting stems 2"+ DBH except island (vortex) retention, a sub-acre patch in the northeast corner, and a patch on the south-center edge. JP was furrow-seeded in 2002 (W72-460). Forty acres in the stand's NE failed and were planted in 2003. The east vortex island was bulldozed by WLD prior to planting. Planted JP saplings with a minor amount of gall rust. The seeded JP has more variability within rows, ranging from excessive- to under-stocking; has more of a natural pine barrens structure. Scattered NPO stump sprouts and small clumps of QA regen from the cut. The stand has three small lowland inclusions in the northeast on organic soils.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
11	42210 - Natural Red Pine	Sawtimber Poor	7.0	57	1-50	Most of the original stand 11 was final harvested in 2016 (#019-10), cutting merch JP-A except for some green-marked JP (near the north end), all RP-WP-NPO (ave cruised residual 10 RP, 3 oak) & a quarter-acre boundary-excluded triangle north of the driveway. The sparser south end was split off as non-forested stand 17. Most of the residual RP & oak was concentrated in this remaining north end of stand 11, also traces of RM & QA. There is oak and traces of pine regen; the oak seedlings are heavily browsed. Failed regen check for M.O. of mixed pine, aspen and oak. Proposal to accept the current coverytype was approved through the Compartment Review in Nov 2018. Cultivation work was not recommended due to the potential for rare species associated with the nearby barrens.
14	42220 - Natural Jack Pine	Sawtimber Well	6.3	73	81-110	Lovells KW Unit, Management Block #50. Mature JP with RP saw scattered and in pockets. JP breaking up.
15	42210 - Natural Red Pine	Sawtimber Well	4.8	73	81-110	Lovells KW Unit, Management Block #50. A handful of fire-scarred supercanopy RP were the start of the majority cover of small-to-medium RP saw, with RP and JP poles mixed in. QA and gray dogwood in north end of stand.
16	42220 - Natural Jack Pine	Poletimber Medium	106.2	73	51-80	Lovells KW Unit, Block #50. Merch JP were removed over parts of the stand in 1973 (#42-73). JP poles with minor saw & sapling components. Mortality in the mature JP has dropped the canopy into the 50-75% category. Oak understory reaches medium stocking in the stand's southwest; JP cover broke up faster there, with more RP, oak & aspen.
18	42120 - Planted Jack Pine	Poletimber Medium	27.9	71	81-110	Lovells KW Unit, Blocks 50 & 51. Narrow windbreak along the CR 612 corridor. Planted JP and SP (minor amount) and naturally-established RP & JP (inclusions beyond the linear strips). The JP is breaking up, with increased windthrow on the west side. The understory has advanced oak saplings, locally high cover in RM (SW) & SP (on cleared 612 corridor edge). These aging roadside buffers are losing their ability to perform the intended windbreak & visual functions.
21	4130 - Aspen	Sapling Well	53.7	15	Immature	The stand's north 40 acres were final harvested in 2003 (#048-00), cutting stems 2"+ DBH except RP. The producer went out of business, so the remainder was cut in 2004 (#001-04). Stand regenerated to dense aspen clones separated by U/G. Supercanopy RP scattered above. There is low ground along most of the stand's southeast edge and in a swale cutting northwest almost to CR 612. That swale's most saturated ground has tag alder and uncut mature QA. Aspen along the swamp edge is sparser, in process of filling back in after being cut by beaver. New alder-willow stand 20 was separated out where beaver nearly eliminated the aspen. Uncut sub-acre patch of mature aspen on the southwest edge is designated retention from when stand 31 was harvested in 2016.
23	42220 - Natural Jack Pine	Poletimber Well	4.3	66	81-110	Designated retention islands left when stand 22 was clearcut in 2016 (#019-10). Part of the Shupac Barrens ERA. Mostly mature JP poles-saw with open-grown younger poles.





	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
24	42220 - Natural Jack Pine	Poletimber Well	5.5	47	81-110	Designated retention islands left when stand 22 was clearcut in 2016 (#019-10). Part of the Shupac Barrens ERA. Dense younger JP pole cover with some open-grown margins. The stand boundaries of the south two islands were bumped out a tenth or two beyond the actual harvest boundary so that they could be mapped.
28	42260 - Natural Pine, Mixed Deciduous	Poletimber Medium	8.8	41	51-80	Upland area between the former pasture and the river floodplain. The original savannah with open-grown xlog BRO, cull RM stump clumps & RP has been filling in with WP & some aspen. Canopy closure & stocking vary widely. WP branch flagging has killed scattered sap-pole stems. Norway spruce seeding in on the sideslope down to the floodplain.
29	6112 - Lowland Aspen	Sawtimber Medium	6.6	55	81-110	Aspen stand growing on the river floodplain, on Tawas-Leafriver muck. Heartrot common, slowly breaking up. Norway spruce to the south is seeding into the subcanopy here. Trace of SP. Canopy closure drifts off either end of 50-75% cover. Cleared powerline corridor cuts through the stand.
30	6120 - Lowland Cedar	Sawtimber Well	55.6	108	141-170	Dense cedar cover alternates with sparser areas of black spruce & balsam fir. Stand picks up patches of QA on the west & north edge's slightly higher ground. An intermittent stream crosses through. Robust NWC growing on the well-drained gradient; extensive cedar dieback where the ground levels out on the saturated flats (NE edge, extending into adjacent compartment). Pockets of windthrow in the NWC on the east-center edge. Root-tip common in the spruce. Traces of supercanopy WP. The dense NWC cover had BA's in the 171-200 range and 100% crown closure. The spruce and aspen areas drifted off either end of 50-75% closure & 81-100 BA.
31	4130 - Aspen	Sapling Well	18.3	3	Immature	Was final harvested early 2016 (#019-10), cutting stems 3"+ DBH except RP-WP-Oak-NWC, an interior retention island and a boundary-excluded island to the north. Two small polys were excluded to the south (now stand 33) but are not designated retention. Regenerated well to aspen on the upland ground. The stand's lower ground has sparser aspen cover with tag alder & woolgrass. A few SCRP near the swamp. Minor amount of cicada egg laying damage on the aspen. Passes regen check to aspen with upland and lowland shrub cover.
32	42120 - Planted Jack Pine	Poletimber Well	8.4	35	51-80	Lovells KW Unit, Management Block #51. Two strips of JP were planted in natural openings that had small pockets of encroaching JP. Traces of QA, RP saw & WO. Planted JP in the pole class overall by DBH but not form (limby).
34	42120 - Planted Jack Pine	Sapling Well	19.6	16	Immature	Lovells KW Unit, Management Block #51. Was final harvested in 2001 (#016-00), cutting stems 2"+ DBH. JP was planted in straight rows in 2003 (C72-461). JP with minor gall rust.
35	4130 - Aspen	Sapling Well	15.9	28	Immature	Was final harvested by early 1991, (#001-90), cutting stems 2"+ DBH. Regenerated to aspen, red maple and a minor but vigorous oak sapling component. Band of Tawas-Leafriver muck up the middle of the main polygon has lowland brush with sparser aspen above and some ash (getting to size where EAB hitting it). Hypoxylon & black canker are keeping most clones in the sapling class.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
<b>36</b>	4123 - Red Oak	Sawtimber Well	31.1	99	111-140	Mixed oak-pine-aspen stand surrounding Little Shupac Lake. Three acres of the stand had aspen 2"+ DBH cut in early 1991 (#001-90), encompassing the far southwest peninsula and a sub-acre patch along the county road west of the lake. Large stump-origin RO with supercanopy RP & WP, overmature aspen & JP, and intermediate RM stump clumps. WP regen heavier in the SW, full RM understory in the NE.
<b>40</b>	42220 - Natural Jack Pine	Poletimber Medium	42.7	49	51-80	Lovells KW Unit, Block #51. Variable stocking JP stand still in process of filling in what was originally a large grassy opening. Mosaic of dense JP pole cover grading into LDT, U & G. Drifts off either end of 50-75% & 50-80 BA. Traces of QA poles & RP saw. A few planted larch along old RR grade.
<b>41</b>	42220 - Natural Jack Pine	Poletimber Well	16.1	61	81-110	Lovells KW Unit, Block #51. Dense JP pole cover with poorly-stocked areas in between. Canopy gaps increasing as the mature JP breaks up; close to dropping into 50-75% closure category. Picks up patches of mature QA in the north end. The stand is adjacent to an MNFI-identified pine barrens natural community ERA) that has been shrinking over time due to fire suppression and colonizing jack pine.





Stand	Cover Type	Acres	Managed Site	General Comments:
3	320 - Upland Shrub	87.2	Yes	Was final harvested early 2016 (#016-10), cutting trees 3"+ DBH except oak, RP and survey corner witness trees. Snags & JP >4' tall were also cut along the future burn perimeter & within the powerline corridor. Stand is now a large grassy opening with BC, serviceberry and scattered JP & NPO saplings. Single clump of residual RP saw. C72-636 was submitted with the timbersale proposal for prescribed burning. The stand's southwest is part of a dry sand prairie natural community ERA (Shupac Prairie ERA). The harvest was prescribed to facilitate subsequent burning for ecosystem restoration.
6	3302 - Low Density Conifer Trees	14.5	Yes	The stand is within a dry sand prairie natural community ERA (Shupac Prairie) that has been shrinking over time due to fire suppression and colonizing jack pine. This stand has patches of brushy sap-pole JP and upland shrub cover. MNFI and Nature Conservancy recommendations last YOE were that this stand did not have enough encroaching JP to necessitate harvesting in order to safely apply prescribed fire. FTP W72-636 was submitted for burning this stand along with the adjacent harvested stand 3.
7	3302 - Low Density Conifer Trees	42.0	No	Lovells KW Unit, Block #49 (west of the county road) and #50 (east of the road). Merch JP was harvested in 1973 (#016-73 & #042-73). Old notes indicate that stand 5 was planted in 1979 in what was then the "KW pattern", parallel wavy bands of JP 2-3 chains wide, alternating with non-stocked bands ~2 chains wide. The unplanted bands were separated out as this stand, which has brushy JP and some QA scattered across.
10	3302 - Low Density Conifer Trees	2.5	No	Lovells KW Unit, Management Block #49. Remnant of a large opening that grades into the adjacent encroaching JP stand 4. Has been filling in with brushy JP; also small patches of poor-health QA saplings.
12	3302 - Low Density Conifer Trees	4.0	No	Lovell KW Unit, Management Block #49. Remnant of a large opening that grades into the adjacent JP stand 4. Has been filling in with brushy JP; also small patches of poor-health QA saplings.
13	622 - Lowland Shrub	9.1	No	Swamp birch, salix & spiraea with JP & QA scattered above.
17	3302 - Low Density Conifer Trees	16.9	No	Lovells KW Unit, Management Block #50, but not regenerated with the rest of the block in 2001. Most of the stand was final harvested in 2016 (#019-10), cutting merch JP-A except for some green-marked JP (near the north end), all RP-WP-NPO (ave cruised residual 10 RP, 3 oak), a quarter-acre boundary-excluded triangle north of the driveway, and ~3 acres of U-LDT in the southwest. Portions of two grassy opening stands were included in the harvest boundary. The RP tends to be concentrated in the north half of the harvest area (reduced stand 11). South half (split off as this stand 17) has scattered RP saw and JP poles in the boundary-excluded merged LDT stand. Minor amount of browsed oak regen. Failed regen check for M.O. of mixed pine, aspen and oak, although the Rx allowed for areas of U-LDT where cover was sparse pre-harvest. Proposal to accept the current covertype was approved through the Compartment Review in Nov 2018. Cultivation work was not recommended due to the potential for rare species associated with the nearby barrens.
19	122 - Road/Parking Lot	47.7	No	Cleared county road & utility corridor.
20	6220 - Alder/willow	2.4	No	Was part of the larger aspen stand 21, cut in 2004 (#001-04). This edge on Tawas-Leafriver muck regenerated to mainly tag alder and salix, with aspen. Beaver cutting reduced the aspen component to scattered stems. Beaver dam within the stand hasn't seen recent maintenance.



Stand	Cover Type	Acres	Managed Site	General Comments:
22	320 - Upland Shrub	96.9	Yes	Was final harvested by early 2016 (#019-10), cutting stems 3"+ DBH except RP-WP-Oak and retention islands (split off as stand 24). In addition, smaller JP and snags were spec'd to be cut along the future burn perimeter. Within an area identified as a pine barrens natural community ERA (Shupac Barrens). C72-637 was submitted to burn for ecosystem restoration. In addition to the retained JP, there are scattered RP saw, patches of oak regen, and increasing cherry brush.
25	6220 - Alder/willow	1.0	No	Small wetland with salix, red-osier dogwood. Perimeter QA & JP.
26	6220 - Alder/willow	5.2	No	Lowland shrub, primarily salix, with tag alder, spiraea, grey & red-osier dogwood. QA along the margins, a few JP interior.
27	3302 - Low Density Conifer Trees	19.4	No	Part of a former sheep pasture area with BC, serviceberry, hawthorn shrub cover and encroaching SP, JP & WP. A few large oak saw along the south edge, two of them witness trees for section 7's SW corner. Heaviest SP concentration is on the south perimeter. A few short rows of RP were planted along Campground Road as a nursery for future Shupac Lake SFCG transplanting. Knapweed & St. Johnswort common.
33	3301 - Low Density Deciduous Tree	5.0	No	U-type between the snowmobile trail and swamp. Mostly cherry & serviceberry, with prairie willow, hawthorn, clumps of QA, brushy JP, and black spruce and supercanopy RP along the swamp edge.
37	500 - Water	4.6	No	Little Shupac Lake. Informal trail-end boat launch at SE end, accessed from CR 612.
38	623 - Emergent Wetland	4.9	No	Lowland shrub (salix, tag alder, spiraea, red-osier dogwood) and marsh wetland associated with Little Shupac Lake. QA, RM, PB scattered along the margins.
39	6220 - Alder/willow	1.9	No	Narrow swale with tag alder, salix, spiraea & red-osier dogwood. Scattered aspen. The flooded NW spur has little shrub cover.
42	110 - Low Intensity Urban	0.9	No	Muskegon Development State Lovell A 4-7 well site with mowed grass and knapweed cover.
43	110 - Low Intensity Urban	2.5	No	Muskegon Development's Shupac Lake gas facility (fenced) with storage tanks & well site. Mowed grass & knapweed cover.
44	110 - Low Intensity Urban	1.0	No	Muskegon Development State Lovells B 1-8 well site with mowed grass & knapweed.
45	110 - Low Intensity Urban	1.0	No	Muskegon Development State Lovells B 3-7 well site with mowed grass & knapweed.
46	310 - Herbaceous Openland	3.9	No	Grassy opening with hawthorn clumps and brushy JP. Part of the west end of what used to be an emergency landing airstrip. The rest of the airstrip was planted to JP (stand 2).
47	110 - Low Intensity Urban	1.0	No	Muskegon Development State Lovells A 2-7 mowed well site with grass and knapweed.