



# Compartment Review Presentation

Newberry Forest Management Unit

Compartment 42067

Entry Year 2017

Acreage: 1,709

County Chippewa

Management Area: Whitefish Vermillion Point

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**Revision Date:** 2015-09-04

**Stand Examiner:** Amy Douglass

**Legal Description:**

T50N R06W Sections 21-23, 27, 28, 33 & 34

**Identified Planning Goals:**

To maintain and enhance forest health and diversity while incorporating recreational, wildlife, fire, and any additional special concerns.

**Soil and topography:**

The majority of the compartment is gently rolling to rolling terrain on Deer Park fine sands. The southern portion, from Andrus Lake south, varies from Kinross-AuGres complex to Crowell-AuGres complex to Markey-Kinross-AuGres complex, with some Deer Park fine sand also. Areas of old low beach ridges to high ridges and escarpments within the compartment.

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

Areas immediately adjacent to the east in sections 27 and 34 have been subdivided and developed. Encroachment and illegal activity could easily be present. The Lake Superior shoreline continues to be developed for cabins. Areas to the south and west are in private ownership ranging from 10-80 acres in size, primarily following the Betsy River. The interior private 40 has been subdivided but not developed. State lands abut to the north and northwest. Illegal ORV trails are cropping up, mainly leading from Andrus Lake Campground and adjacent landowners, to county and forest roads.

**Unique Natural Features:**

Threatened and endangered flora have been identified in the area, and the potential exists for other threatened and endangered flora and fauna.

**Archeological, Historical, and Cultural Features:**

Archeology sites have been identified in the area. Old maps indicate the current Andrus Lake State Forest Campground was the site of the Box Car (logging) Camp.

**Special Management Designations or Considerations:**

A Wooded Dune and Swale Complex, extending down from the northern reaches along Lake Superior, has been identified in the northeast corner.

**Watershed and Fisheries Considerations:**

Fisheries Values: Good

Fisheries Concerns: Andrus Lake and the Betsy River are located within this compartment. This section of the Betsy River does receive a very light run of spring Steelhead and fall Salmon. Andrus Lake is managed as a Largemouth Bass and Panfish fishery today following some habitat work involving tree drops in 2005 (2006). With the campground located on Andrus Lake, anglers can easily access this fishery. Any treatments proposed near the lake and river should maintain a 100 ft no clear-cut buffer.

**Wildlife Habitat Considerations:**

Compartment 67 lies in the Grand Marais Sandy End Moraine and Outwash ecological sub-subsection in northern Chippewa County. The compartment lies in the Vermillion Whitefish Point Management Area and has moose, piping plover, spruce grouse and red crossbill as featured species. This compartment is largely jack and red pine with some marshes and greater conifer diversity in the southern portion surrounding Andrus Lake. Current vegetation patterns are similar to what was expected during pre-settlement times. The majority of the compartment consists of wildlife purchased lands.

In pine dominated ecosystems, maintaining a variety of age and size classes and maintaining as much structural diversity as possible in managed stands will be important to achieving wildlife objectives. Retaining soft and hard mast producing species and red and white pine in harvests will provide food sources, nest and den trees, and improve stand diversity.

Wildlife species potentially using this compartment include white-tailed deer, spruce grouse, ruffed grouse, black bear, gray wolves, coyotes and fox.

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

Surface sediments consist of lacustrine sand and gravel. There is insufficient data to determine the glacial drift thickness (~ >50 feet). The Precambrian Jacobsville Sandstone subcrops below the glacial drift. The Jacobsville was used as a building stone in the past. There may be an old gravel pit located in the NW¼ of Section 27, and there may be some additional potential in the compartment. There is no economic oil and gas production in the UP.

### **Vehicle Access:**

Vermillion Road (a county road) bisects the compartment. It was just recently reconstructed with a gravel lift. Interior roads are mainly poor sandy two-tracks. Many also serve as the snowmobile trail in the winter months.

### **Survey Needs:**

Surveys are needed for timber treatments in section 23 and 34. Assistance may be required against platted subdivisions.

### **Recreational Facilities and Opportunities:**

Andrus Lake State Forest Campground and snowmobile trail #452 are within the compartment.

### **Fire Protection:**

This compartment is in the Whitefish Zone Dispatch Area. Generally continuous jack pine fuel type could allow fires to grow large and rapidly, which may put surrounding private properties at risk. Response times to fires in this area are long and may be a factor in fire size.

### **Additional Compartment Information:**

Small acreage has been sold on the east side of Whitefish Point Road due to trespass issues. Stand 61, also located on the east side of Whitefish Point Road, could be disposed of due to access.

### **The following reports from the Inventory are attached:**

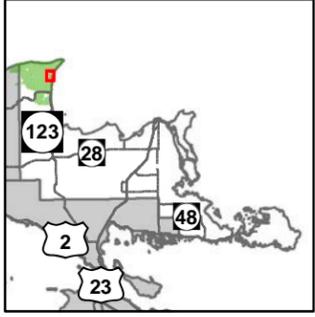
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

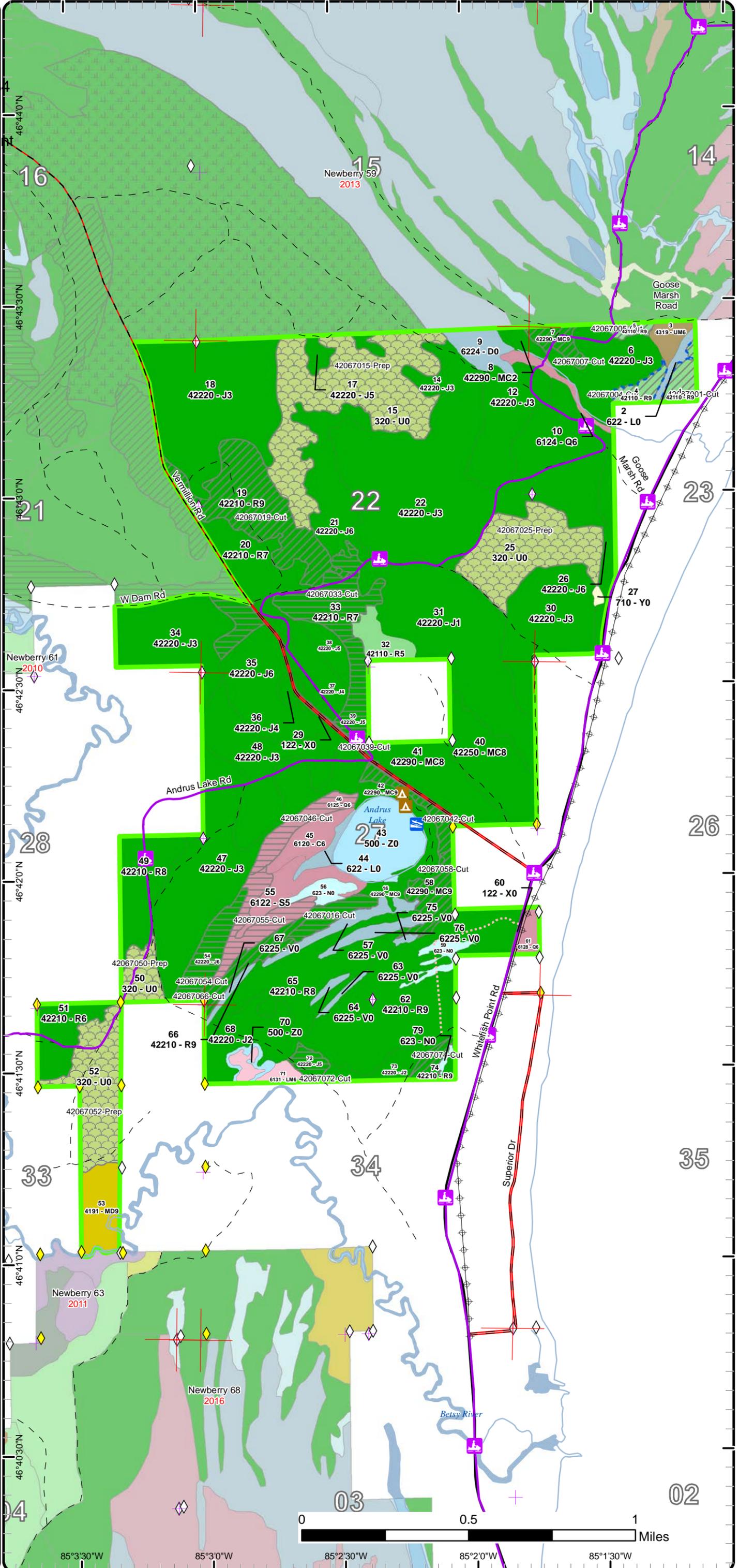
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

# Cover Type & Treatments Map

Compartment: 67  
 T50N R06W Sec. 21-23, 27,28,33,34  
 County: Chippewa  
 Unit: Newberry  
 Mgmt Area: Whitefish Vermillion Point  
 YOE: 2017  
 Acres: 1709 GIS Calculated  
 Examiner: Amy Douglass  
 Map Revised: 3/31/2016  
 Map Phase: Post-Review

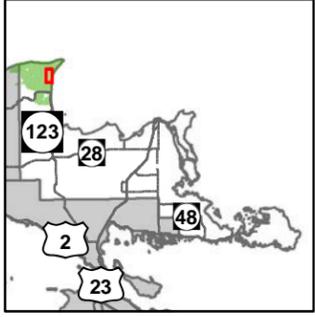


- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◆ Field Grade GPS Corners
- Snowmobile Trails
- Designated Snowmobile Trails
- Boating Access Site
- ▲ Campground
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Closed Roads
- Rivers
- Powerline
- Compartment Boundary
- Treatments with Site Conditions (pd)
- Treatments with Site Conditions
- ▨ Site Prep
- ▨ Clearcut (w/Reserves)
- ▨ Thinning (Crown, Low, Systematic)
- Forest Covertype**
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Fores
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- Non-Forest Covertype**
- 122 - Roads/Parking Lot
- 320 - Upland Shrub
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand/Soil
- Lakes

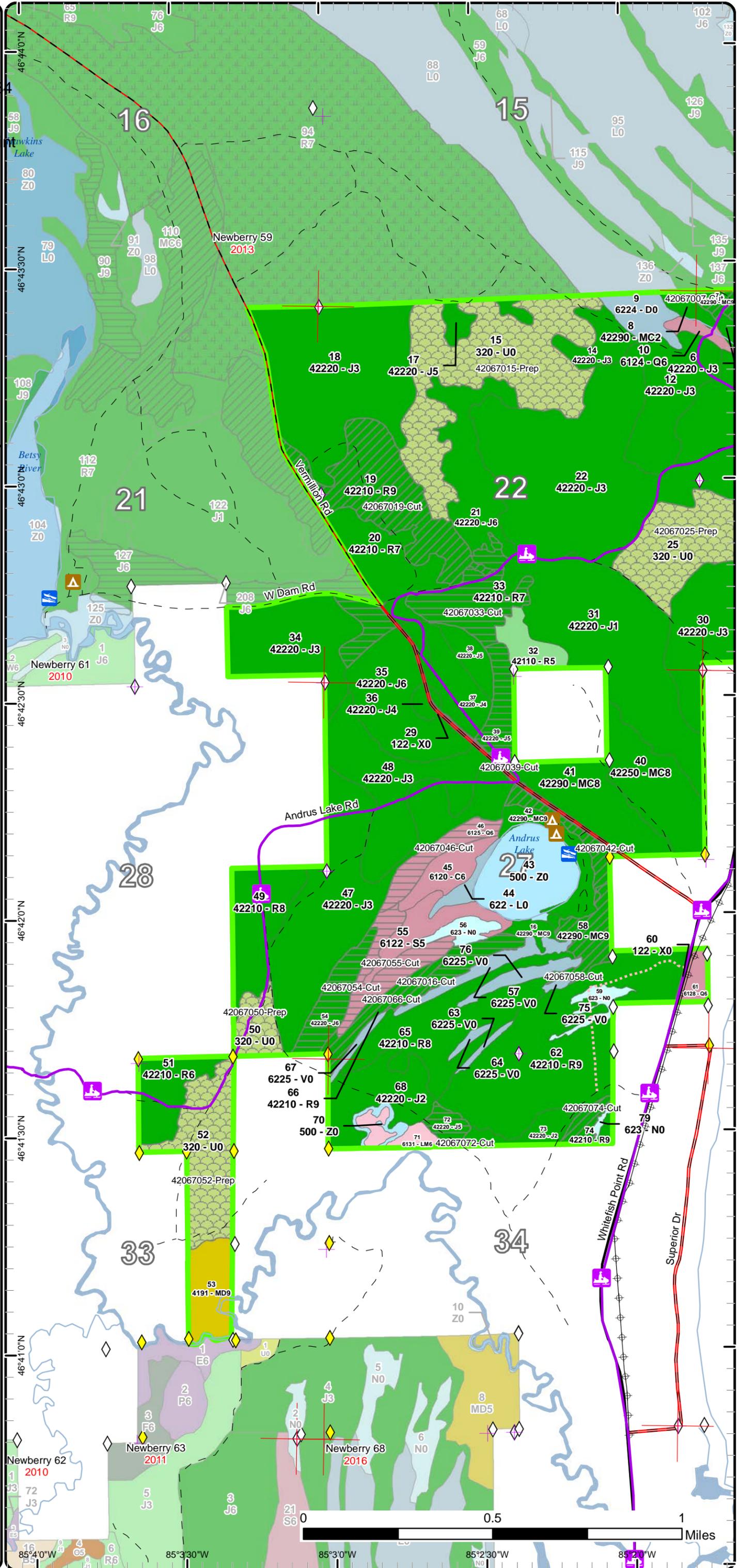


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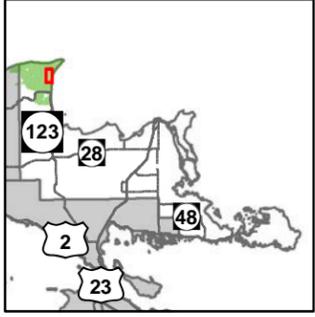
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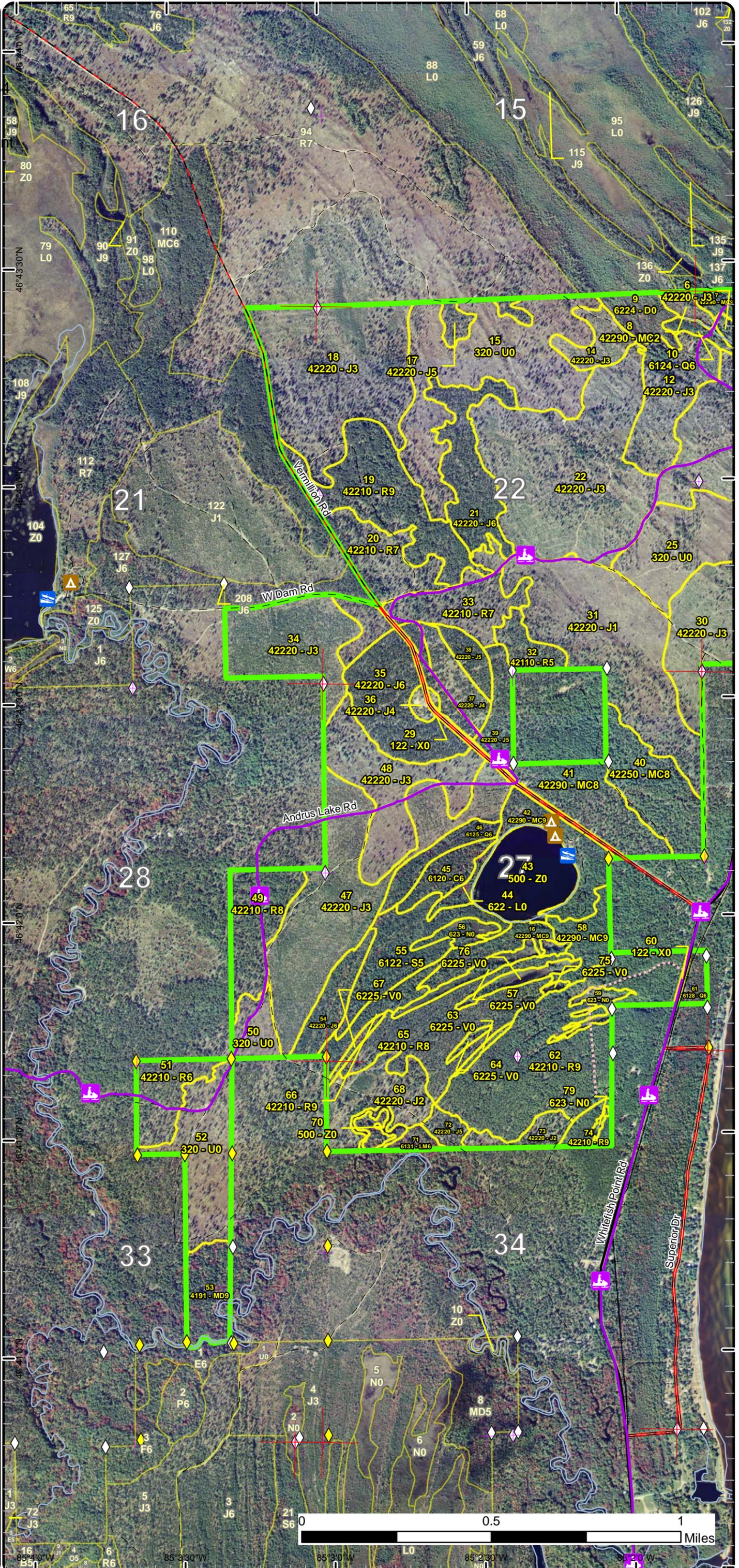


# Stand Boundary Map

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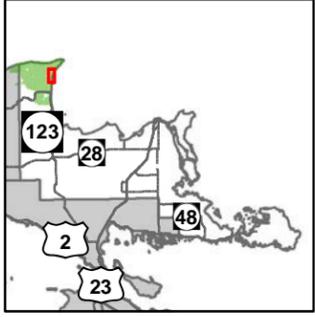


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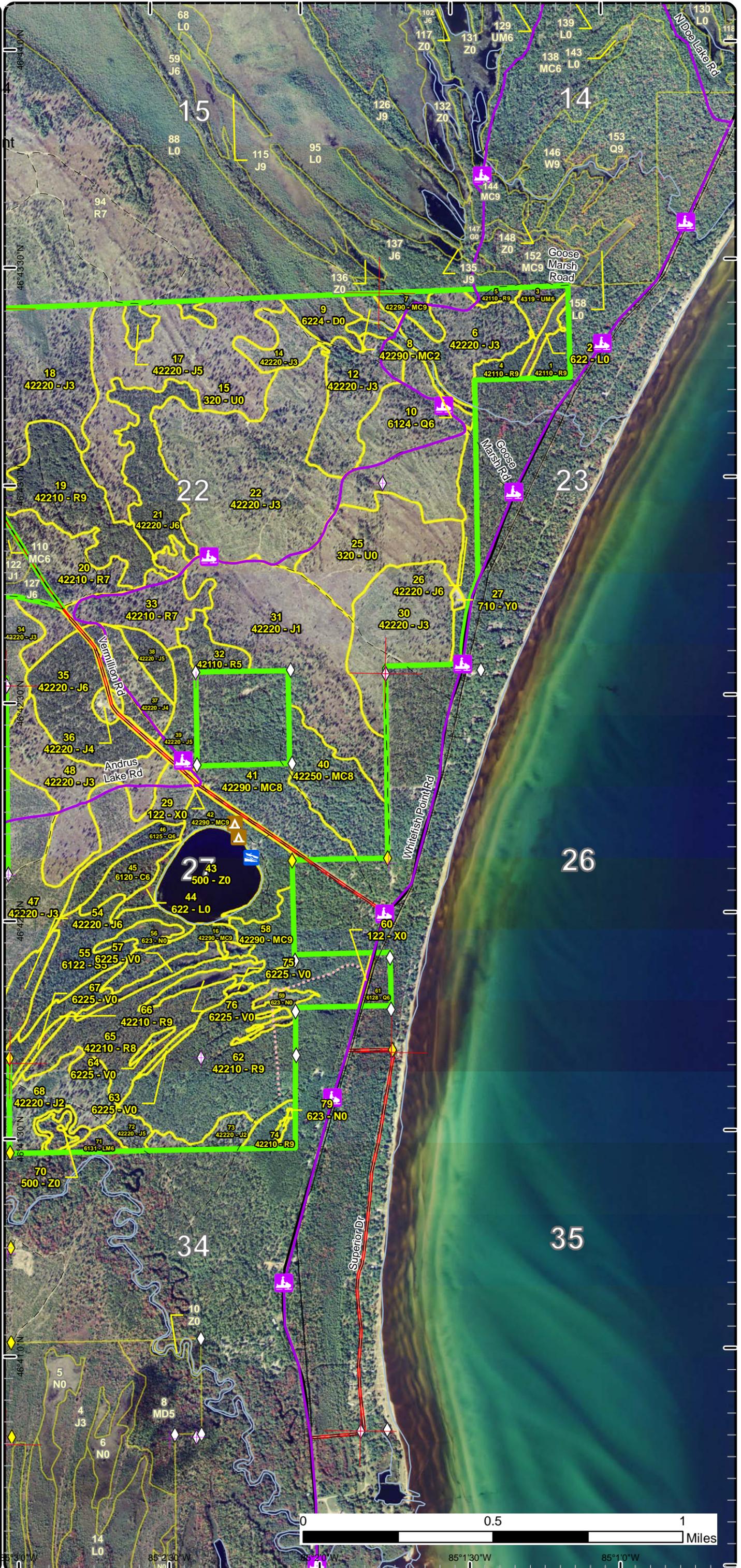


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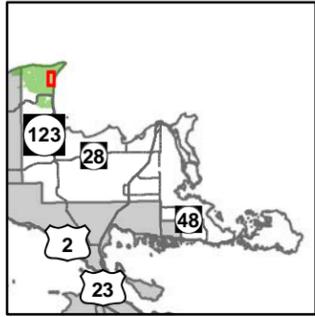


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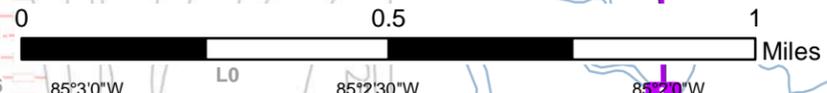
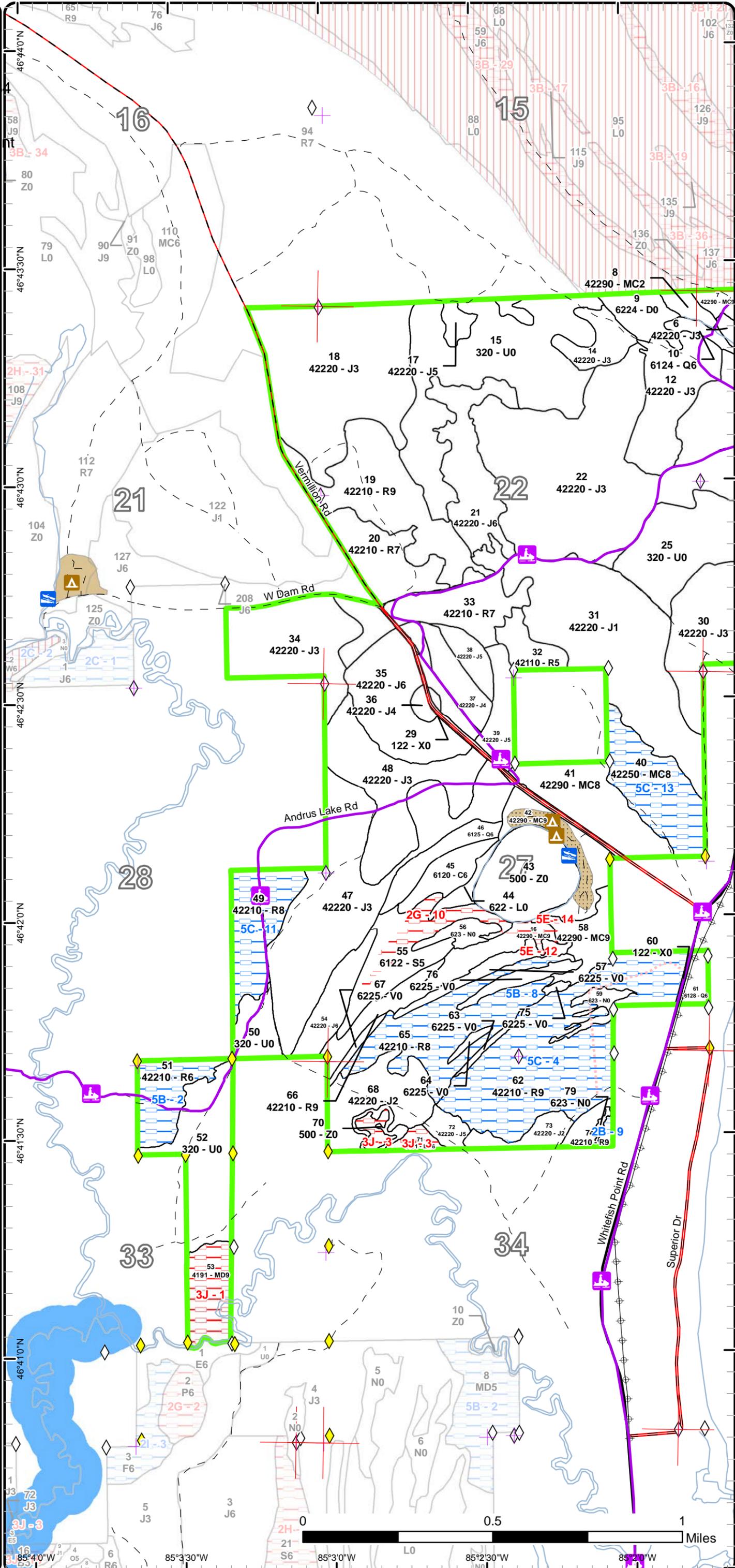


# Special Conservation Areas & Site Conditions Map

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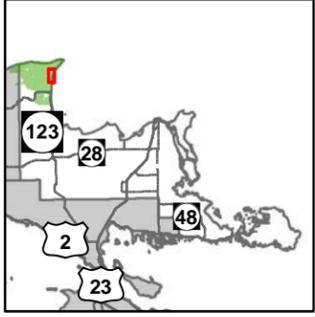
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- SCA
- Available w/ Constraints
- Unavailable
- 2B: Unknown if access through adjacent landowner(s) is possible
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Special Conservation Areas
- Cold Water Streams
- High Priority Trout Stream Buffer
- State Forest Campground
- Other SCA (No Category Assigned)



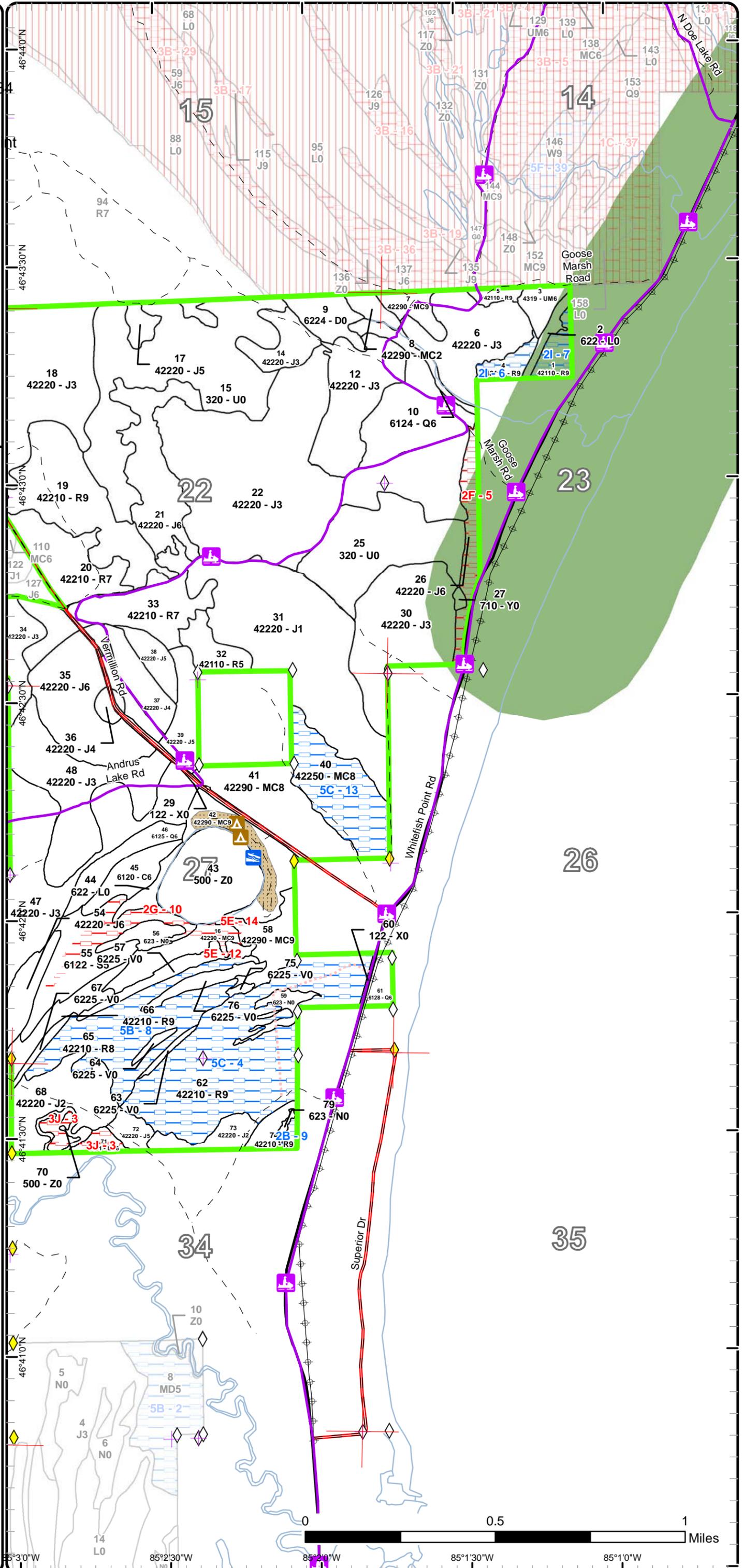
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 102 J6 126 J9 135 J9 136 Z0 137 J6 115 J9 110 MC6 98 L0 91 Z0 90 J9 79 L0 80 Z0 94 R7 88 L0 59 J6 3B-29 3B-17 3B-19 3B-36 3B-34 2H-31 108 J9 2C-2 2C-1 127 J6 122 J1 19 42210-R9 21 42220-J6 22 42220-J3 25 320-U0 30 42220-J3 31 42220-J1 32 42110-R5 33 42210-R7 34 42220-J3 35 42220-J6 36 42220-J4 37 42220-J4 38 42220-J5 39 42220-J5 40 42250-MC8 41 42290-MC8 42 42290-MC9 43 500-Z0 44 622-L0 45 6120-C6 46 6125-Q6 47 42220-J3 48 42220-J3 49 42210-R8 50 320-U0 51 42210-R6 52 320-U0 53 4191-MD9 54 42220-J6 55 6122-S5 56 623-N0 57 6225-V0 58 42290-MC9 59 623-N0 60 122-X0 61 6128-Q6 62 42210-R9 63 6225-V0 64 6225-V0 65 42210-R8 66 42210-R9 67 6225-V0 68 42220-J2 69 42210-R9 70 500-Z0 71 42220-J5 72 42220-J2 73 42220-J2 74 42210-R9 75 6225-V0 76 6225-V0 77 6225-V0 78 623-N0 79 623-N0 8 42290-MC2 9 6224-D0 10 42220-J3 11 6124-Q6 12 42220-J3 13 42220-J3 14 42220-J3 15 320-U0 16 42220-J3 17 42220-J5 18 42220-J3 20 42210-R7 21 42220-J6 22 42220-J3 23 42220-J3 24 42220-J3 26 42220-J3 27 500-Z0 28 42220-J3 29 122-X0 30 42220-J3 31 42220-J1 32 42110-R5 33 42210-R7 34 42220-J3 35 42220-J6 36 42220-J4 37 42220-J4 38 42220-J5 39 42220-J5 40 42250-MC8 41 42290-MC8 42 42290-MC9 43 500-Z0 44 622-L0 45 6120-C6 46 6125-Q6 47 42220-J3 48 42220-J3 49 42210-R8 50 320-U0 51 42210-R6 52 320-U0 53 4191-MD9 54 42220-J6 55 6122-S5 56 623-N0 57 6225-V0 58 42290-MC9 59 623-N0 60 122-X0 61 6128-Q6 62 42210-R9 63 6225-V0 64 6225-V0 65 42210-R8 66 42210-R9 67 6225-V0 68 42220-J2 69 42210-R9 70 500-Z0 71 42220-J5 72 42220-J2 73 42220-J2 74 42210-R9 75 6225-V0 76 6225-V0 77 6225-V0 78 623-N0 79 623-N0 1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

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- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2F: Too steep
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Special Conservation Areas
- Critical Coastal Habitat (Piping Plover)
- State Forest Campground
- Other SCA (No Category Assigned)



Report 1 – Total Acres by Cover Type and Age Class



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
Bog	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Cedar	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12
Jack Pine	0	135	381	180	3	53	54	19	0	30	0	0	0	0	0	0	0	0	855
Lowland Conifers	0	0	0	0	0	0	0	0	12	12	0	0	0	0	0	0	0	0	24
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	8
Lowland Shrub	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	31
Marsh	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	19
Natural Mixed Pines	0	0	0	5	0	0	0	0	70	52	0	0	0	0	0	0	0	0	127
Red Pine	0	0	0	0	0	0	0	0	146	139	58	0	0	0	0	0	0	0	343
Sand, Soil	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Treed Bog	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Upland Mixed Forest	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7
Upland Shrub	184	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	184
Urban	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Water	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36
<b>Total</b>	<b>284</b>	<b>135</b>	<b>381</b>	<b>185</b>	<b>3</b>	<b>53</b>	<b>54</b>	<b>19</b>	<b>235</b>	<b>272</b>	<b>77</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1710</b>



## Report 2 – Treatment Summary

Newberry Mgt. Unit

Compartment 67

Year of Entry:

Acres of Harvest

Total Compartment Acres: 1,709

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

### Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Jack Pine	34	0	0	0	0	0	0	0	0	34
Lowland Conifers	12	0	0	0	0	0	0	0	0	12
Lowland Spruce/Fir	17	0	0	0	0	0	0	0	0	17
Natural Mixed Pines	9	0	0	0	30	0	0	0	0	38
Red Pine	34	0	0	0	84	0	0	0	0	118
<b>Total</b>	<b>106</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>113</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>219</b>

### Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	219	184	0	0	0	0	0	0	0	403
Next Step	0	89	226	0	0	508	0	0	0	823
<b>Total</b>	<b>219</b>	<b>273</b>	<b>226</b>	<b>0</b>	<b>0</b>	<b>508</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1227</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	42067001-Cut	7.3	42110 - Planted Red Pine	Sawtimber Well	78	111- 140	Harvest	Low Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

**Habitat Cut: No Site Condition: Survey Needed**

Prescription Remove all jack pine. Thin red and white pine where needed for spacing or maneuverability. Leave oak and other non-pine where feasible.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/01/2016

4	42067004-Cut	6.0	42110 - Planted Red Pine	Sawtimber Well	78	111- 140	Harvest	Low Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No Site Condition: Survey Needed**

Prescription Remove all jack pine. Thin red and white pine if needed for spacing or maneuverability. Residual BA around 90. Leave oak and other non-pine

Specs: where feasible.

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/01/2016

5	42067005-Cut	3.3	42110 - Planted Red Pine	Sawtimber Well	78	111- 140	Harvest	Low Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No Site Condition:**

Prescription Remove all jack pine. Thin red and white pine where needed for spacing or maneuverability. Residual pine BA around 90. Leave oak and other

Specs: non-pine where feasible.

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/01/2016

7	42067007-Cut	7.5	42290 - Natural Mixed Pine	Sawtimber Well	81	111- 140	Harvest	Low Thinning	429 - Mixed Upland Conifers	Even-Aged	Draft Field Boundary
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**Habitat Cut: No Site Condition:**

Prescription Remove all jack pine. Thin red and white pine if needed for spacing or maneuverability. Leave oak and some large diameter white pine for bear

Specs: refuge trees.

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/01/2016



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
15 42067015-Prep	86.5	320 - Upland Shrub	Nonstocked	0	Unspecified	SitePrep	Trenching	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary

**Habitat Cut: No**

**Site Condition:**

Prescription Trench failed scarification. Avoid trenching in areas of diverse regeneration where possible to increase species diversity in stand for red crossbill.  
Specs:

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

Acceptable Regen: Jack pine, red pine, white pine, oak

Other Comment: Jack pine planted at a higher stocking level will be beneficial for potential Kirtland's warbler. Old next step comments:

Proposed Start Date: 10/28/2015

16 42067016-Cut	9.0	42290 - Natural Mixed Pine	Sawtimber Well	88	Unspecified	Harvest	Clearcut with Retention	429 - Mixed Upland Conifers	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Cut all trees, leaving a component of red and white pine (30-40 BA) for red crossbill. Retention pocket will be along Andrus Lake, as shown on map, to buffer low, wet areas for wildlife benefit.  
Specs:

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

Acceptable Regen: Jack pine, spruce, white pine, red pine, aspen, birch

Other Comment: Old next step comments:

Proposed Start Date: 10/01/2016

19 42067019-Cut	50.5	42210 - Natural Red Pine	Sawtimber Well	78	111-140	Harvest	Crown Thinning	42210 - Natural Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Thin pine to 90 BA (taking roughly 1/3 of stand). Maintain species diversity, and understory red maple (where it exists) for structural diversity.  
Specs:

Next Step  
Treatments:

Acceptable Regen:

Other Comment: Some areas will just be a walk through. Old next step comments:

Proposed Start Date: 10/01/2016

25 42067025-Prep	47.4	320 - Upland Shrub	Nonstocked	0	Unspecified	SitePrep	Trenching	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Trench failed scarification.  
Specs:

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

Acceptable Regen: Jack pine, red pine, white pine, oak

Other Comment: Old next step comments:

Proposed Start Date: 10/28/2015



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
33	42067033-Cut	34.0	42210 - Natural Red Pine	Sawtimber Poor	77	51-80	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary

**Habitat Cut: No**

**Site Condition:**

Prescription Cut residual red and white pine left from previous cut. Two patches. No retention due to only residual pine left. Leave untouched strip along snowmobile trail. Leave oak (if exists) and one red or white pine per acre for red crossbill.

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

Acceptable Regen: Jack pine, red pine, white pine, oak

Other Comment: Jack pine planted at a higher stocking will be beneficial for potential Kirtland's warbler. Old next step comments:

Proposed Start Date: 10/01/2016

39	42067039-Cut	13.4	42220 - Natural Jack Pine	Poletimber Medium	66	Unspecified	Harvest	Clearcut with Retention	4222 - Natural Jack Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Cut all trees leaving red pine, white pine, oak and white birch for diversity for wildlife benefit. Leave small patch (3%) for retention.

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

Acceptable Regen: Jack pine, red pine, white pine, oak

Other Comment: Old next step comments:

Proposed Start Date: 10/01/2016

42	42067042-Cut	8.2	42290 - Natural Mixed Pine	Sawtimber Well	77	81-110	Harvest	Low Thinning	429 - Mixed Upland Conifers	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Remove jack pine along backside of campsites. Stay out of campsites. Also remove scotch pine planted along Vermillion Road.

Next Step Treatments:

Acceptable Regen:

Other Comment: May need to close campground for a few days while harvesting occurs. Harvest during early spring or late fall/early winter to avoid campers. Berm or brush illegal ORV trails from campsites to Vermillion Road with timber sale. Try to chip wood or minimize slash against campsites. Post information and map of proposed activity on campground kiosk to alert campers. Old next step comments:

Proposed Start Date: 10/01/2016

46	42067046-Cut	11.5	6125 - Lowland Black Spruce, Jack Pine	Poletimber Well	81	Unspecified	Harvest	Clearcut with Retention	6125 - Lowland Black Spruce, Jack Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Cut all trees leaving a component of red pine and white pine for red crossbill. Choose more upland pine to leave. Leave some oak if it exists and avoid understory spruce and maple for structural diversity. Retention patch to be left (3%).

Next Step Treatments: SitePrep, Scarification; Monitoring, Natural Regen (Intermediate)

Acceptable Regen: Spruce, jack pine, red pine, white pine, aspen

Other Comment: Old next step comments:

Proposed Start Date: 10/01/2016



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
50	42067050- Prep	11.5	320 - Upland Shrub	Nonstocked	0	Unspec ified	SitePrep	Trenching	42120 - Planted Jack Pine	Even-Aged	Draft Field Boundary

**Habitat Cut: No**

**Site Condition:**

Prescription Trench failed scarification. Avoid diverse regeneration and residual to increase diversity for red crossbill.

Specs:

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

Treatments:

Acceptable Jack pine, red pine, white pine, oak

Regen:

Other Jack pine planted at a higher stocking level will be beneficial for potential Kirtland's warbler. Old next step comments:

Comment:

Proposed Start Date: 10/28/2015

52	42067052- Prep	38.8	320 - Upland Shrub	Nonstocked	0	Unspec ified	SitePrep	Trenching	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Trench failed scarification. Avoid diverse regeneration and residual to increase diversity for red crossbill.

Specs:

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

Treatments:

Acceptable Jack pine, red pine, white pine, oak

Regen:

Other Jack pine planted at a higher stocking level will be beneficial for potential Kirtland's warbler. Old next step comments:

Comment:

Proposed Start Date: 10/28/2015

54	42067054-Cut	15.2	42220 - Natural Jack Pine	Poletimber Well	87	Unspec ified	Harvest	Clearcut with Retention	4222 - Natural Jack Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Cut all species, leaving a component of red and white pine (no more than 10-20 BA) for red crossbill. Leave oak if it exists and avoid understory

Specs: spruce and maple for structural diversity. Leave a small pocket (3%) for retention.

Next Step SitePrep, Scarification; Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable Jack pine, red pine, white pine, oak, aspen, spruce

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/01/2016

55	42067055-Cut	17.3	6122 - Black Spruce	Poletimber Medium	88	Unspec ified	Harvest	Clearcut with Retention	6122 - Black Spruce	Even-Aged	Draft Field Boundary
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**Habitat Cut: No**

**Site Condition:**

Prescription Cut areas easily accessed from adjacent stands recommended for harvest. Leave some large diameter red pine and white pine in harvested

Specs: areas for red crossbill. Leave smaller diameter and wetter ground areas.

Next Step

Treatments:

Acceptable spruce, jack pine, red pine, white pine, aspen

Regen:

Other Much discretion will be needed running lines. Old next step comments:

Comment:

Proposed Start Date: 10/01/2016



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
58	42067058-Cut	13.8	42290 - Natural Mixed Pine	Sawtimber Well	77	111-140	Harvest	Crown Thinning	429 - Mixed Upland Conifers	Even-Aged	Draft Field Boundary

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

Prescription Cut all jack pine, leaving red pine, white pine, oak and white birch with a residual BA of 70-90 BA. Buffer low areas.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Adjustments to treatment line may need to be made for lower ground and proximity to campground. Old next step comments:

Comment:

Proposed Start Date: 10/01/2016

66	42067066-Cut	11.8	42210 - Natural Red Pine	Sawtimber Well	94	171-200	Harvest	Low Thinning	42210 - Natural Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Thin to around 120 - 140 BA (taking roughly 1/3 of stand). Maintain species diversity of all species present. In general, leave understory spruce

Specs: for wildlife structural diversity.

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/01/2016

72	42067072-Cut	5.5	42220 - Natural Jack Pine	Poletimber Medium	61	Unspecified	Harvest	Clearcut	4222 - Natural Jack Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Cut all trees, leaving large red pine and white pine for red crossbill. Leave some oak if it exists. No retention due to small size of stand.

Specs:

Next Step SitePrep, Scarification; Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Jack pine, red pine, white pine, oak, aspen

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/01/2016

74	42067074-Cut	4.9	42210 - Natural Red Pine	Sawtimber Well	78	201+	Harvest	Low Thinning	42210 - Natural Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Thin to around 130 (taking roughly 1/3 of the stand). Leave any oak if it exists.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Removed portion east of the bog swale due to apparent access and for moose. Old next step comments:

Comment:

Proposed Start Date: 10/01/2016

**Total Treatment  
Acreage Proposed: 403.4**

## Report 5 – Site Conditions

Newberry Mgt. Unit  
Amy Douglass : Examiner

Compartment: 67  
Year of Entry: 2017

### Availability for Management

Total Acres	Acres Available	Acres Avail		Acres Not Available		Dominant Site Conditions									
		With Condition				2B	2I	5B	5C	2F	2G	3J	5E		
22	22	0	0	0	Bog				0						
12	12	0	0	0	Cedar										
855	841	0	14	14	Jack Pine					14					
23	23	0	0	0	Lowland Conifers										
8	0	0	8	8	Lowland Mixed Forest								8		
8	8	0	0	0	Lowland Shrub										
31	17	0	14	14	Lowland Spruce/Fir						14				
13	13	0	0	0	Marsh										
19	0	0	19	19	Mixed Upland Deciduous								19		
127	89	34	5	5	Natural Mixed Pines				34						5
343	143	200	0	0	Red Pine	2	13	66	119						
1	1	0	0	0	Sand, Soil										
12	12	0	0	0	Treed Bog										
7	7	0	0	0	Upland Mixed Forest										
184	184	0	0	0	Upland Shrub										
8	8	0	0	0	Urban										
36	36	0	0	0	Water										
1,709	1,416	234	60	60	Total Forested Acres	2	13	66	153	14	14	27	5		
	83%	14%	3%	3%	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	3J: Water quality / BMPs (stream, river, or lake)	19	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	5F: Evaluated for Forest Health Considerations	Unspecified	Unspecified
<b>Comments:</b> Contains many old river oxbows. Steep banks in places. Evaluated for SBW.							
2	Available	5B: Maintain for regeneration purposes	20	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

## Report 5 – Site Conditions

Newberry Mgt. Unit  
Amy Douglass : Examiner

Compartment: 67  
Year of Entry: 2017

3	<b>Unavailable</b>	<b>3J: Water quality / BMPs (stream, river, or lake)</b>	8	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Low ground alongside old river oxbows.							
4	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	90	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
5	<b>Unavailable</b>	<b>2F: Too steep</b>	14	2I: Survey needed	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
6	<b>Available</b>	<b>2I: Survey needed</b>	6	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
7	<b>Available</b>	<b>2I: Survey needed</b>	7	2B: Unknown if access through adjacent landowner(s) is possible	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
8	<b>Available</b>	<b>5B: Maintain for regeneration purposes</b>	46	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

## Report 5 – Site Conditions

Newberry Mgt. Unit  
Amy Douglass : Examiner

Compartment: 67  
Year of Entry: 2017

9	<b>Available</b>	<b>2B: Unknown if access through adjacent landowner(s) is possible</b>	2	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
10	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	14	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
11	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	29	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
12	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	4	3G: Other Influence zones - See comments	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Retention pocket for stand 16. Buffers low areas along Andrus Lake and other wetlands.							
13	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	34	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
14	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	1	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							



**Report 6 – 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>Andrus Lake Campground</b>	Concentrated Recreation Area	State Forest Campground	<b>Proposed SCA</b>	9
<b>Comments</b>				
beach, picnic area, boat launch				



**Report 7 – 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 Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42110 - Planted Red Pine	Sawtimber Well	7.3	78	111-140	Most of stand planted in F 1938 (red pine and jack pine, with 3-0 stock). Questionable as to access for harvest, with marsh type bordering to the west and private lands, with no existing roads present, to the east. The stand type does change within this stand, also, with the north end being more paper birch, large aspen, maple, softwoods and some cedar and moving towards planted red and jack pine area with old WP stumps scattered throughout.
3	4319 - Mixed Upland Forest	Poletimber Well	6.5	78	Unspecified	Thick balsam regeneration in between patches of larger timber, such as they are. Variable stand; contains many fingers of low, wet ground which will create difficult harvesting without impacting site condition. Some of this stand is from plantings in the fall of 1938. Manage for mixed diversity.
4	42110 - Planted Red Pine	Sawtimber Well	6.0	78	111-140	Stand was left from when adjacent cutting was done due to the need for survey against private lands. Stand was planted in F, 1938 with 3-0 J,R and management should allow for a mixed stand in the future whenever harvest occurs. Some budworm damage. Some paper birch noted, which can be left for diversity.
5	42110 - Planted Red Pine	Sawtimber Well	3.3	78	111-140	Small stand left as snowmobile trail buffer. Some oak, paper birch present, which can be left for diversity when stand is harvested. Original planting of stand with 3-0 J,R in the fall, 1938.
6	42220 - Natural Jack Pine	Sapling Well	34.0	15	Immature	"Hidden Corner" sale #048-97-01. Cut March, 2000. FTP #42-492: scarification completed in 6/00 - 38.4 acres. Patches of red pine pole/log left within cut, as well as isolated trees. Majority of red pine left is on the east half and was planted in F-1938. Regeneration check = 753 t/ac (685 t/ac J, 34W, 17R, 17B) completed May, 2002. Some residual red pine may be cut with adjacent red pine stands.
7	42290 - Natural Mixed Pine	Sawtimber Well	7.5	81	111-140	Jack pine dead and dying. Snowmobile trail runs through the stand. Ridge of timber.
8	42290 - Natural Mixed Pine	Sapling Medium	4.5	24	Immature	Jack pine 20'-30' tall. Sparse on east end and thicker towards west. "South Goose Marsh" sale #35-89-1. Area was cut Su, 1990, although contract notes that scattered timber was left standing. FTP 42-273: scarification completed 6/91. Regeneration counts done in 1996, and 1998 - '98 count was 657 t/ac. Some red maple and paper birch clumps.
10	6124 - Lowland Spruce-Fir	Poletimber Well	6.2	78	Unspecified	Stand contains an intermittent drainage; west end contains more spruce and white pine, while further to the east, the stand falls within steep sidehill with red pine and paper birch predominate.
12	42220 - Natural Jack Pine	Sapling Well	34.1	24	Immature	Scattered residual red pine and white pine. Patch of RP/WP/JP inclusion in NW corner (on a partial side slope and wet along road). "South Goose Marsh" sale # 35-89-1 harvested Su, 1990. FTP 42-273: scarification completed 6/91. Some residual R,W,O present. Regeneration count in 1998 = 657 t/ac (mixed spp).



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
14	42220 - Natural Jack Pine	Sapling Well	12.3	24	Immature	"South Goose Marsh" sale #35-89-1; cut Su, 1990 - 1991. FTP 42-273: scarified 6/91. Regeneration count 1998 = 657 t/ac. JP is 20-30 feet in height. Scattered mature jack pine on north edge.
16	42290 - Natural Mixed Pine	Sawtimber Well	12.9	88	Unspecified	
17	42220 - Natural Jack Pine	Poletimber Medium	6.9	48	Unspecified	Patches of younger timber left when Dead Battery Sale was put up in 2007.
18	42220 - Natural Jack Pine	Sapling Well	89.9	15	Immature	Jack pine 10'-20' tall. Stand was part of the Big Flake Sale #005-97-01 (units 1,2) which was completed in 1999. FTP #42-456: scarification completed 6/00. Regeneration check was completed in 5/2003 with stocking of 629 t/ac.
19	42210 - Natural Red Pine	Sawtimber Well	50.5	78	111-140	Varying dbh. Open areas have jack pine regeneration from cut/scarification. Stand was part of the Big Flake Sale #005-97-01. Sale completed in 1999 (although this stand was primarily unit 3, which was cut in 5/98). Jack pine only was removed, and a fairly thick residual of red pine remains, which is enough to identify as its own stand. FTP #42-456: scarification accomplished, although not much was treated here due to heavy stocking.
20	42210 - Natural Red Pine	Sawtimber Poor	25.6	78	1-50	"Big Flake" sale #005-97. FTP #42-456; scarification completed 7/99. Stocking survey completed 5/15/2003 - 629 trees per acre. Stand has higher residual RP BA than stand to north (18), which was part of the same sale.
21	42220 - Natural Jack Pine	Poletimber Well	33.7	48	Unspecified	Records show that northern half of stand may have some remnants of F-1938 planting of red pine and jack pine.
22	42220 - Natural Jack Pine	Sapling Well	171.4	15	Immature	Timber Sale #24-97-01, "Bird Point Jack Pine". Cutting completed Fall, 1999. FTP # 42-487: scarification completed 6/00; 161.2 acres. Regeneration count completed 5/2007 = 841 t/ac (808 J, 16 R, 17 W). Residual pine in scattered patches. Jack pine now 10'-20' tall. Nice regeneration.
26	42220 - Natural Jack Pine	Poletimber Well	14.3	81	Unspecified	Stand follows along slope/ridgeline and runs parallel to main traffic route to Whitefish Pt. This is mainly on a side hill. Stand slopes sharply south of the adjacent sand pit.
30	42220 - Natural Jack Pine	Sapling Well	50.2	15	Immature	"Sand Pit Jack Pine" sale #034-97-01 - cut late summer/early fall, 1999. FTP # 42-489: scarification completed 6/00 - 50.8 acres. Some residual oak, red and white pine within. Regeneration count completed 5/2007 = 840 t/ac (794 J, 31 R, 16 W).
31	42220 - Natural Jack Pine	Sapling Poor	87.7	7	Immature	Jack pine regeneration is patchy. JP~3 feet tall. Residual red pine and white pine. "Subdivision Jack Pine" sale #13-07 - Units 2,3 cut August, 2007 and scarified August, 2008 (FTP 42-691). Regeneration check in summer 2012: JP = 674 WP = 84 RP = 10 TPA = 768



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
32	42110 - Planted Red Pine	Poletimber Medium	10.4	78	51-80	Stand originally planted with 3 - 0 R,J in Fall, 1938. Stand harvested via shelterwood/seed tree treatment as "Tower Circle Pine", sale #016-07-01. Completed 8/22/08. Scarification not done on this portion. Regeneration check needed in summer 2012: WP = 55 RP = 27 TPA = 82
33	42210 - Natural Red Pine	Sawtimber Poor	36.7	77	51-80	Some areas east of Vermillion Road with low regeneration (mostly advanced reproduction before cut). Few jack pine seedlings. Occasional oak. Part of stand was planted Sp, 1938 with 3 - 0 RP and 2 - 0 JP. Stand harvested as "Tower Circle Pine", sale #016-07-01. Red pine left for diversity and seed source. Completed 8/22/08. Scarification completed August, 2008 (FTP42-696). Regeneration check in summer 2012: WP = 55 RP = 27 TPA = 82.
34	42220 - Natural Jack Pine	Sapling Well	44.2	23	Immature	Jack pine 20 - 30' tall. "Shell Drake Flooding" sale #36-89 - cut Fall, 1991. Some oak residual present. FTP 42-286: scarification completed 8/92, with regen check in 7/95 showing 30% stocking (351 t/ac). Has definitely filled in since then!
35	42220 - Natural Jack Pine	Poletimber Well	45.5	51	Unspecified	Stand was part of old radar tower facility.
36	42220 - Natural Jack Pine	Poletimber Poor	3.1	36	Unspecified	Site of old FAA radar tower; lease agreement L-3143 signed 7/1/59 and cancelled on 6/30/69. Slowly seeding in. Open sandy areas plus footprint from tower.
37	42220 - Natural Jack Pine	Poletimber Poor	12.4	41	Unspecified	Illegal ORV trail (motor bike). Adjacent stand to site of old FAA radar tower; lease agreement L-3143 signed 7/1/59 and cancelled on 6/30/69. Slowly seeding in.
38	42220 - Natural Jack Pine	Poletimber Medium	8.2	51	Unspecified	Some JP dieback. Stand was part of old radar tower facility.
39	42220 - Natural Jack Pine	Poletimber Medium	13.4	66	Unspecified	Jack pine dying
40	42250 - Pine, Oak	Sawtimber Medium	34.2	71	111-140	Varying sizes. JP dying out. Patch timber - semi-open in areas to areas with lots of saplings. Good quantity of oak mixed in with white and red pine, although the oak is mostly small and low quality. Some dead jack pine and white pine with dead tops; weeviling also in the WP. Occasional PB within stand.
41	42290 - Natural Mixed Pine	Sawtimber Medium	32.2	81	51-80	Stand thinned as "Park Place Pine", sale #025-07-01. Complete 5/7/09. East half originally planted in 1938 with 3 - 0 R,J. Illegal ORV trails still exist after harvest although most are in new places.
42	42290 - Natural Mixed Pine	Sawtimber Well	21.7	77	81-110	Andrus Lake S.F.C.G. Area formally the "Box Car Camp" (pre-1939) - logging camp. Portion planted 1938 with 3 - 0 R,J. Heavily used recreation site, but there are a lot of dead/dying jack pine trees (due to age and budworm) within, which create a hazard to campers. Jack pine mainly on the backside of the campsites, not within the campsites. Mixed species include oak, paper birch. Lots of oak seedlings ground cover. Scotch pine planted along Vermillion Road in 1978. These should be removed before they become prolific.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
45	6120 - Lowland Cedar	Poletimber Well	11.6	101	Unspecified	Pine mostly along lake edge. Thicker pockets of cedar with open areas of misc. species. Some scattered spruce were removed in 1990 to construct fish shelters.
46	6125 - Lowland Black Spruce, Jack Pine	Poletimber Well	11.5	81	Unspecified	Decent low ground. First ridge along cutting is mostly upland jack pine with spruce. Then spruce/jack pine lowland. Foot trail through east portion of stand leading into campground. 1997: stand 30
47	42220 - Natural Jack Pine	Sapling Well	89.3	23	Immature	"Andrus Lake" sale #37-89 - cut in 1990-91. Two FTP treatments: 42-274 (~ E. end of sale - 76 acs) scarification completed 7/91 with regeneration check 1994 (31% stocked) and 10/95 (66% stocked @ 2263 t/ac). 42-289 scarification completed 8/92 (SW end of sale) with regeneration count 10/95 and 6/98 (71% stocked @ 2375 t/ac). Nice jack pine regeneration.
48	42220 - Natural Jack Pine	Sapling Well	47.2	7	Immature	Fully stocked jack pine around 3' tall. Stand harvested as "Tower Circle Pine", sale #016-07-01. Completed 8/22/08. Scarification completed August, 2008 (FTP42-696). Regeneration check in summer 2012: RP = 274 JP = 514 TPA = 788.
49	42210 - Natural Red Pine	Sawtimber Medium	28.7	86	51-80	Small pockets of thicker pine. Good regeneration throughout most of the stand. Not so much under the thick RP pockets. Some jack pine regeneration on very south end of stand. Jack pine was removed in 1991 under "Andrus Lake Sale" #37-89. Lots of small oak seedlings present.
51	42210 - Natural Red Pine	Poletimber Well	19.9	89	81-110	Snowmobile trail route runs through stand. On the south side of trail/road, there is a fairly steep intermittent wet area (old river oxbow?), which contains more spruce, white pine and paper birch. Land acquired 1985. Stand harvested as "Survey Pine", sale #001-08-01. Complete 10/05/09.
53	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	19.2	96	51-80	Stand contains lower ground and intermittent drainage (old oxbows) - drops off sharply from adjacent J type. Southern end of stand contains more red maple (old and low quality) and paper birch clumps (dead and dying, in places). Slightly higher areas are heavier to conifers (large RP, WS, old aspen) with 10-15' tall F understory. Blowdown area of S/F found. PVT property line has been established and is visible along the east side of stand (fluorescent orange) running N/S. Habitat classification indicates PARVAa site - let climax association of red maple - white pine occur. Land acquired in 1985.
54	42220 - Natural Jack Pine	Poletimber Well	15.2	87	Unspecified	Slightly rolling terrain (receding beach) - lower areas heavier to spruce with gradual ridges more to jack pine, red pine. Jack pine dying out. Some spruce has already died and fallen over in the lower ground.
55	6122 - Black Spruce	Poletimber Medium	31.4	88	Unspecified	Some open areas within stand. Some nicely stocked areas. Quite a bit of blowdown timber in places. Closer to lake, spruce is smaller in diameter; wetter. Patchy timber.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
58	42290 - Natural Mixed Pine	Sawtimber Well	14.4	77	111-140	Records indicate planting with 2-0 R,J in Sp, 1939; a good mix of species now. Intermittent wet area present along old N/S grade/trail. Small paper birch, oak throughout stand; fairly good quantity of oak seedlings ground cover.
61	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	5.4	76	Unspecified	Low stand with difficult access. Powerline R.O.W. also within stand. Edge between road and powerline is high ground. Powerline is on side slope. Rest of stand is lower ground.
62	42210 - Natural Red Pine	Sawtimber Well	89.9	86	111-140	"Paradise Pine" sale #039-97 - thinned Fall, 2000. Small road buffer was left of unthinned timber; some old yellow paint still visible. Regeneration is filling in along old roads used for harvest, none noted within the stand. Subtle old beach ridges. Very open understory. Occasional oak.
65	42210 - Natural Red Pine	Sawtimber Medium	46.3	94	51-80	Very open stand with little to no understory. Several marsh/wet areas located within stand. Stand harvested via shelterwood as "Betsy Oxbow Pine", sale #044-07-01. Complete 10/05/09. Regeneration check in 2014 (trees/acre): WP=260, RP=32, RO=82, RM=456, S=65, Fs=33.
66	42210 - Natural Red Pine	Sawtimber Well	11.8	94	171-200	Thick red pine on ridges. Spruce, red maple and birch mainly on edges.
68	42220 - Natural Jack Pine	Sapling Medium	27.3	15	Immature	"Oxbow" Sale # 30-97-01. Harvested in Fall, 1999 - Spring, 2000. Some residual red and white pine. FTP # 42-488: scarification completed 6/00. Thick regen noted on NW side of road; other areas spotty. Regeneration check completed 5/2007 = 659 t/ac (381J, 76 R, 152 W, 51 RM). Eastern portion of stand has more RP logs standing. OK JP regeneration underneath, but may combine portions into adjacent RP stands when treated.
71	6131 - Hemlock, White Pine, Maple, Birch	Poletimber Well	7.5	81	51-80	Oxbow areas and lowlands along Shell Drake River.
72	42220 - Natural Jack Pine	Poletimber Medium	5.5	61	Unspecified	Old, open-grown limby stuff! Heavy blueberry ground cover may interfere with regeneration efforts. Minor component of R,W (some of which is fairly old) which should be left behind for diversity when stand is harvested. Survey may be needed.
73	42220 - Natural Jack Pine	Sapling Medium	9.1	15	Immature	Regeneration 10'-20' tall. Some subtle swales/ridges. Road runs along east edge. "Oxbow Sale" #30-97-01. Harvested 1999-2000. A few 4-6" dbh JP left, as well as residual R,W,O, PB. FTP # 42-488: scarification completed 6/00. Regeneration check completed 5/2007 = 659 t/ac.
74	42210 - Natural Red Pine	Sawtimber Well	6.7	78	201+	Small stand left untreated from previous entry. Pathway/ORV trail through stand (illegal) and continuing onto private lands. Road follows western edge. Occasional birch and aspen. Evidence seen of cut RP - no record of cutting to be done here.



Stand	Cover Type	Acres	Managed Site	General Comments:
2	622 - Lowland Shrub	3.9	Yes	Tag alder with some small cedar, spruce, paper birch, and snags within and along edges.
9	6224 - Treed Bog	11.5	Yes	Stand does contain areas of slightly higher ground (small finger of JP, S harvested in 1990 cut). Portions have high water table.
15	320 - Upland Shrub	86.5		Stand harvested as "Dead Battery Jack Pine", sale #014-07-01. Complete 12/07/09. Scarified 2010 by Holli. Regeneration check in 2014: JP=280 WP=46 RP=31 TPA=357
25	320 - Upland Shrub	47.4		Poorly stocked jack pine. Stand harvested as "Subdivision Jack Pine", sale #42-013-07-01. Complete 12/07/09. Scarified 2010 by Holli. Summer 2012: JP = 95 WP = 32 TPA= 127. Red and white pine left for diversity. Most of this pine was originally planted in the fall, 1938 with 3-0 R,J.
27	710 - Sand, Soil	1.0	Yes	Sand pit along Wire Road. Stumps/brush was placed to stop ORV traffic, as well as grass plugs planted with ORV funds.
29	122 - Road/Parking Lot	7.1	Yes	Vermillion Road
43	500 - Water	32.9	Yes	Andrus Lake. FTP F42-653: Trees dropped in lake for fish habitat 7/11/2006.
44	622 - Lowland Shrub	4.5	Yes	Some scattered timber.
50	320 - Upland Shrub	11.5		Stand harvested as "Survey Pine", sale #001-08-01. Complete 10/05/09. Scarification completed in 2010. Regeneration survey in 2014: JP=158 WP=52 TPA=210. The snowmobile trail runs through the stand.
52	320 - Upland Shrub	38.8		Land acquired 1985. Stand harvested as "Survey Pine", sale #001-08-01. Complete 10/05/09. Scarification completed in 2010. Regeneration survey in 2014: JP+158 WP=52 TPA=210. Red and white pine residual = 9 BA.
56	623 - Emergent Wetland	6.1	Yes	Some scattered timber.
57	6225 - Bog	9.0	Yes	Leatherleaf
59	623 - Emergent Wetland	5.6	Yes	Stand varies from water to slight upland with regeneration (RM, WB, RO, JP, WP, RP). Road is built up across the stand.
60	122 - Road/Parking Lot	1.2	Yes	Wire Road
63	6225 - Bog	1.7	Yes	A few small spruce, maple, white pine saplings - jack pine poles. Ground cover includes: leatherleaf, lab tea, brush.



Stand	Cover Type	Acres	Managed Site	General Comments:
64	6225 - Bog	1.6	Yes	A few small spruce, maple, white pine saplings - jack pine poles. Ground cover includes: leatherleaf, lab tea, brush, sphagnum.
67	6225 - Bog	2.5	Yes	Some jack pine, paper birch along edges. Ground cover includes: leatherleaf, lab tea, blueberry, juneberry.
70	500 - Water	3.3	Yes	River oxbow - standing water.
75	6225 - Bog	0.9	Yes	Leatherleaf
76	6225 - Bog	6.4	Yes	Leatherleaf, plus scattered trees.
79	623 - Emergent Wetland	0.9	Yes	