



# Compartment Review Presentation

Roscommon Forest Management Unit

Compartment 71113

Entry Year 2018

Acreage: 1,411

County Roscommon

Management Area: Upper Muskegon

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**Revision Date:** 2016-07-26

**Stand Examiner:** Doug Bates

**Legal Description:**

T22N R03W Sections 28 – 30, 32

**Identified Planning Goals:**

Maintain current age and species diversity in a range of early and late successional ecosystems.

**Soil and topography:**

Terrain in the compartment ranges from flat to rolling with some steeper areas. Soils also vary with the majority of the uplands in Roselawn sand and smaller areas of Grayling sand. Bands of Newton loamy sand, Rubicon sand, and Saugatuck sand in the lower elevations.

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

State land in the compartment is mostly solid blocks of state ownership and is equally surrounded by state and private ownership. Section 29 is completely owned by Camp Co Be Ac with the recent purchase of the strip of state land along Reserve Road. Private ownerships on the north are mostly permanent residences on wooded acreages, commercial property, and also a few smaller wooded subdivisions and wooded acreages with seasonal residences. Camp Nokomis is just to the south of the compartment. M-55 and Houghton Lake are 2 miles to the north.

**Unique Natural Features:**

Historical record of a species of special concern – Allegheny Plum

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

**Special Management Designations or Considerations:**

None identified.

**Watershed and Fisheries Considerations:**

The headwaters of Pup Creek are located in SWSW of Section 32 and Pup Lake is just to the south of the compartment. Owens Lake is located on Camp Co Be Ac property in Section 29.

**Wildlife Habitat Considerations:**

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

Sections 28-30 & 32, T22N R3W, Roscommon County

[As of 2007, the state no longer has any ownership in Section 29]

Surface sediments consist of sand and gravel from ice-contact drift, glacial outwash, and postglacial alluvium. The glacial drift thickness varies between 600 and 800 feet. Beneath the glacial drift are the Pennsylvanian Saginaw Formation and the Mississippian Bayport Limestone and Michigan Formation. Elsewhere in the state, the Saginaw is quarried for clay, the Bayport for stone, and the Michigan gypsum. Most of the sand and good gravel pits are associated with upland areas. Most of this compartment is upland and potential appears to be good. There are existing pits in sections 30 and 32.

Headquarters Field is located three miles to the south. The field has produced over 11.3 million bbls of oil and 4.2 Bcf gas primarily from the Devonian Richfield Formation and is in secondary recovery operations currently. All state minerals in the compartment are currently leased for oil and gas exploration and development.

**Vehicle Access:**

Vehicle access is good to both the exterior and interior of the compartment via county roads, forest two-tracks, and the snowmobile trail and ORV route.

**Survey Needs:**

Stands with treatments along private property have good corners established.

**Recreational Facilities and Opportunities:**

The county roads are heavily used year round. Owens Road is also used for Snowmobile trail. Assure logging ahead signs are placed on the trail to notify users of logging activity. Focus retention pockets in clusters along or near trail. Non-merchantable understory maintained adjacent to trail shall be protected and be maintained next to trail tread to promote narrow use. Hunters utilize the compartment for deer, rabbit, and other game species.

**Fire Protection:****Additional Compartment Information:****The following reports from the Inventory are attached:**

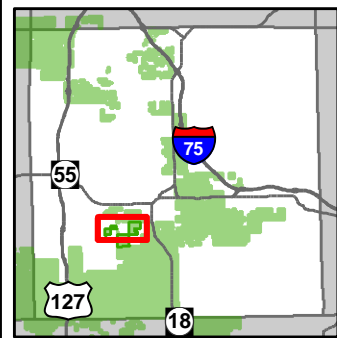
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

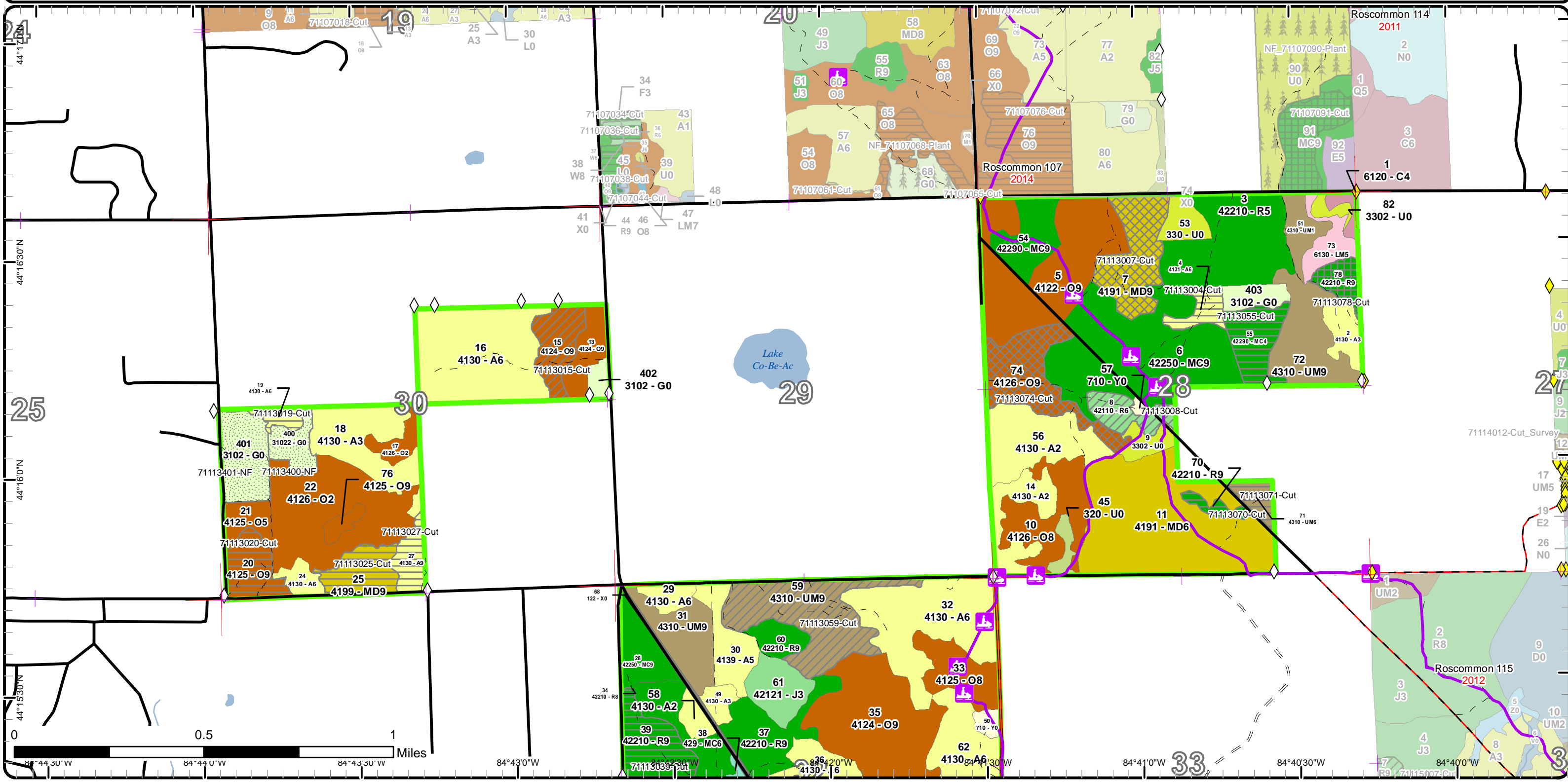
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

# Cover Type & Treatments Map

Compartment: 113  
 T22N, R03W, Sec. 28-30, 32  
 County: Roscommon  
 Unit: Roscommon  
 Mgmt Area: Upper Muskegon  
 YOE: 2018  
 Acres: 1411 GIS Calculated  
 Examiner: Doug Bates  
 Map Revised: 2/9/2017  
 Map Phase: Post-Review

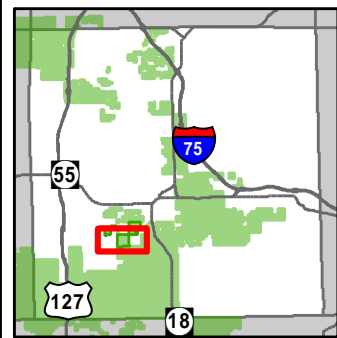


- |                                |                                     |                           |
|--------------------------------|-------------------------------------|---------------------------|
| — Miris Corners                | ⊠ Selection (Group, Single Tree)    | ■ 320 - Upland Shrub      |
| ⊕ Remonumented Section Corners | ▨ Clearcut (w/Reserves)             | ■ 330 - Low Density Trees |
| ◆ Survey Grade GPS Corners     | ▤ Mowing                            | ■ 710 - Sand/Soil         |
| ◇ Field Grade GPS Corners      | ▧ Thinning (Crown, Low, Systematic) | ■ Lakes                   |
| ⚡ Snowmobile Trails            | ▩ Seed Tree (w/Reserves)            |                           |
| — Designated Snowmobile Trails | ■ 412 - Oak Types                   |                           |
| — Paved Roads                  | ■ 413 - Aspen Types                 |                           |
| — County Gravel Roads          | ■ 419 - Mixed Upland Deciduous      |                           |
| — Gravel Roads                 | ■ 421 - Planted Pines               |                           |
| — County Poor Dirt Roads       | ■ 422 - Natural Pines               |                           |
| — Poor Dirt Roads              | ■ 430 - Upland Mixed Forest         |                           |
| — Rivers                       | ■ 612 - Lowland Coniferous Forest   |                           |
| ▭ Compartment Boundary         | ■ 613 - Lowland Mixed Forest        |                           |
|                                | ■ 122 - Roads/Parking Lot           |                           |
|                                | ■ 310 - Herbaceous Openland         |                           |

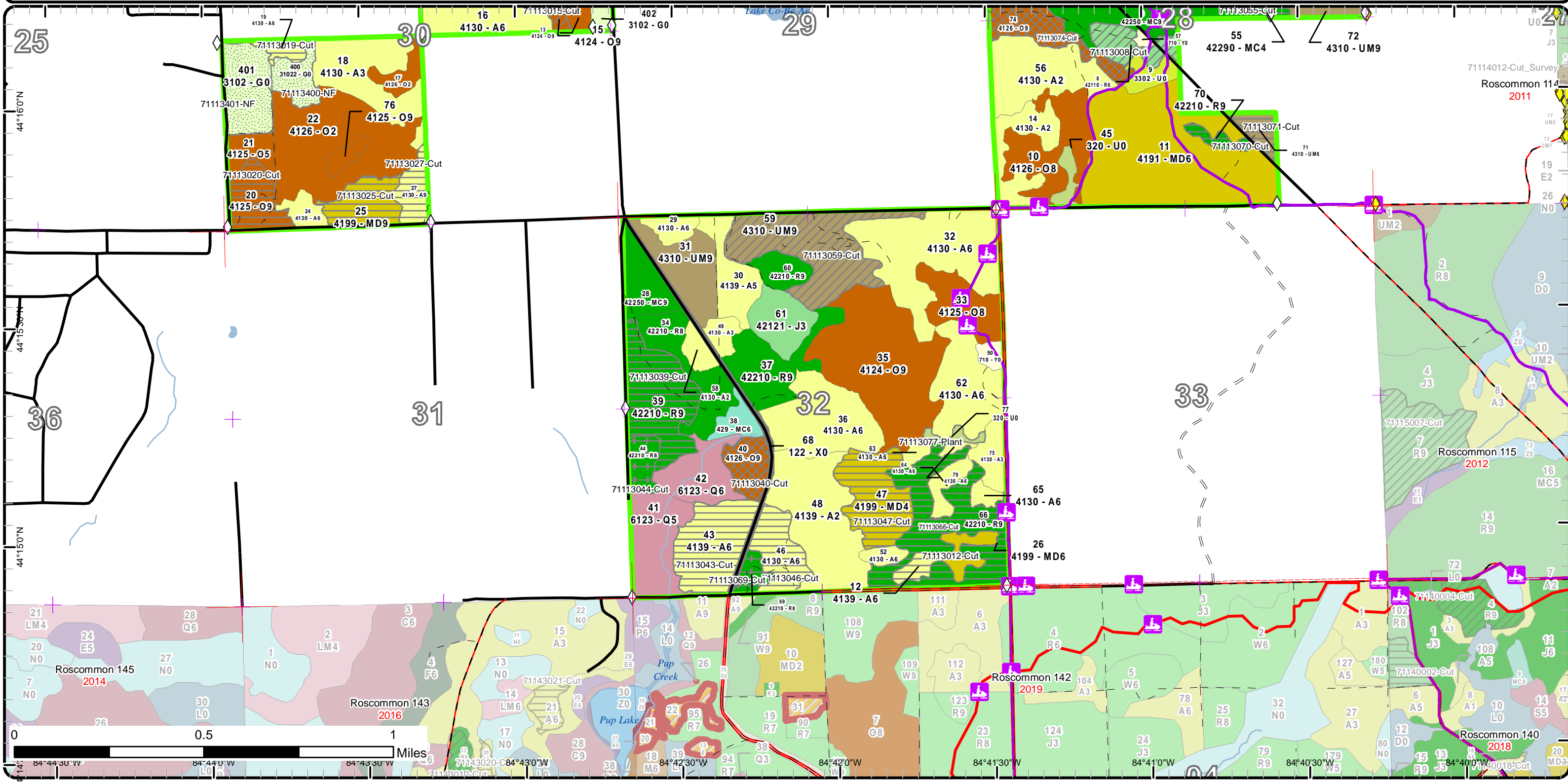


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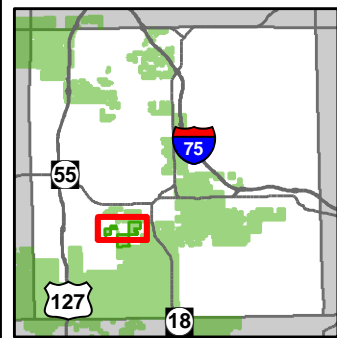


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|---|---|--|
| <ul style="list-style-type: none"> <li>— Miris Corners</li> <li>— Remonumented Section Corners</li> <li>◆ Survey Grade GPS Corners</li> <li>◇ Field Grade GPS Corners</li> <li>🏠 Snowmobile Trails</li> <li>— Designated ATV Trails</li> <li>— Designated ORV Route</li> <li>— Designated Snowmobile Trails</li> <li>— Paved Roads</li> <li>— County Gravel Roads</li> <li>— Gravel Roads</li> <li>— County Poor Dirt Roads</li> <li>— Poor Dirt Roads</li> </ul> | <ul style="list-style-type: none"> <li>— Rivers</li> <li>— Compartment Boundary</li> <li>⊗ Selection (Group, Single Tree)</li> <li>— Clearcut (w/Reserves)</li> <li>— Planting (tree species)</li> <li>— Harvest, Overstory Removal</li> <li>— Mowing</li> <li>— Thinning (Crown, Low, Systematic)</li> <li>— 412 - Oak Types</li> <li>— 413 - Aspen Types</li> <li>— 419 - Mixed Upland Deciduous</li> <li>— 421 - Planted Pines</li> <li>— 422 - Natural Pines</li> <li>— 429 - Mixed Upland Conifers</li> <li>— 430 - Upland Mixed Forest</li> </ul> | <ul style="list-style-type: none"> <li>— 612 - Lowland Coniferous Forest</li> <li>— 122 - Roads/Parking Lot</li> <li>— 310 - Herbaceous Openland</li> <li>— 320 - Upland Shrub</li> <li>— 330 - Low Density Trees</li> <li>— 710 - Sand/Soil</li> <li>— Lakes</li> </ul> |
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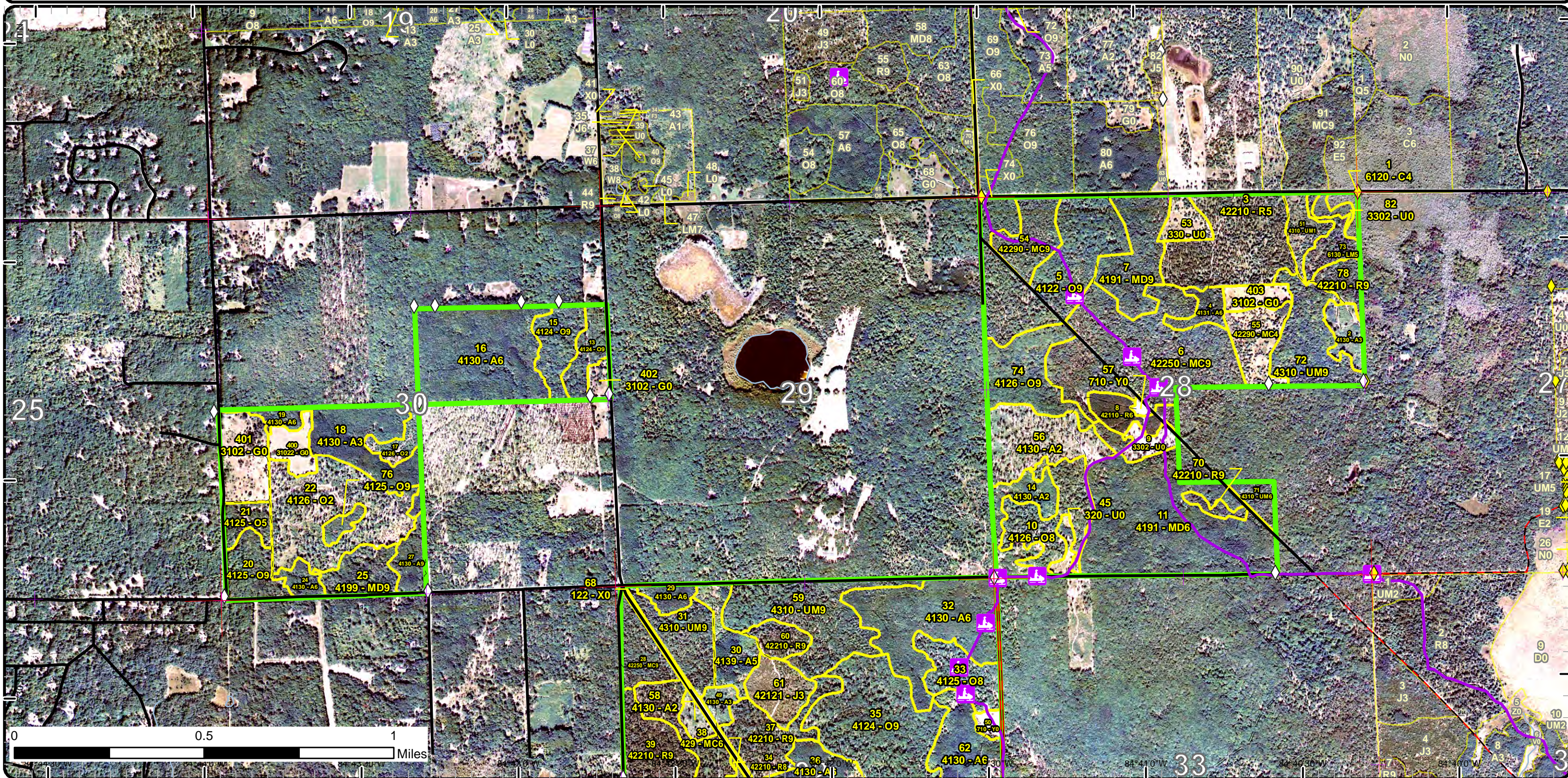


# Stand Boundary Map

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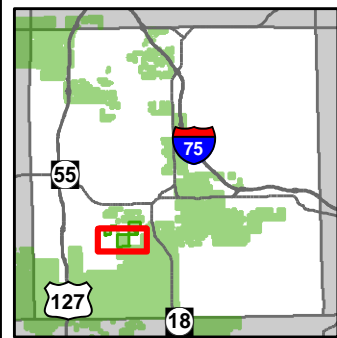


- Miris Corners
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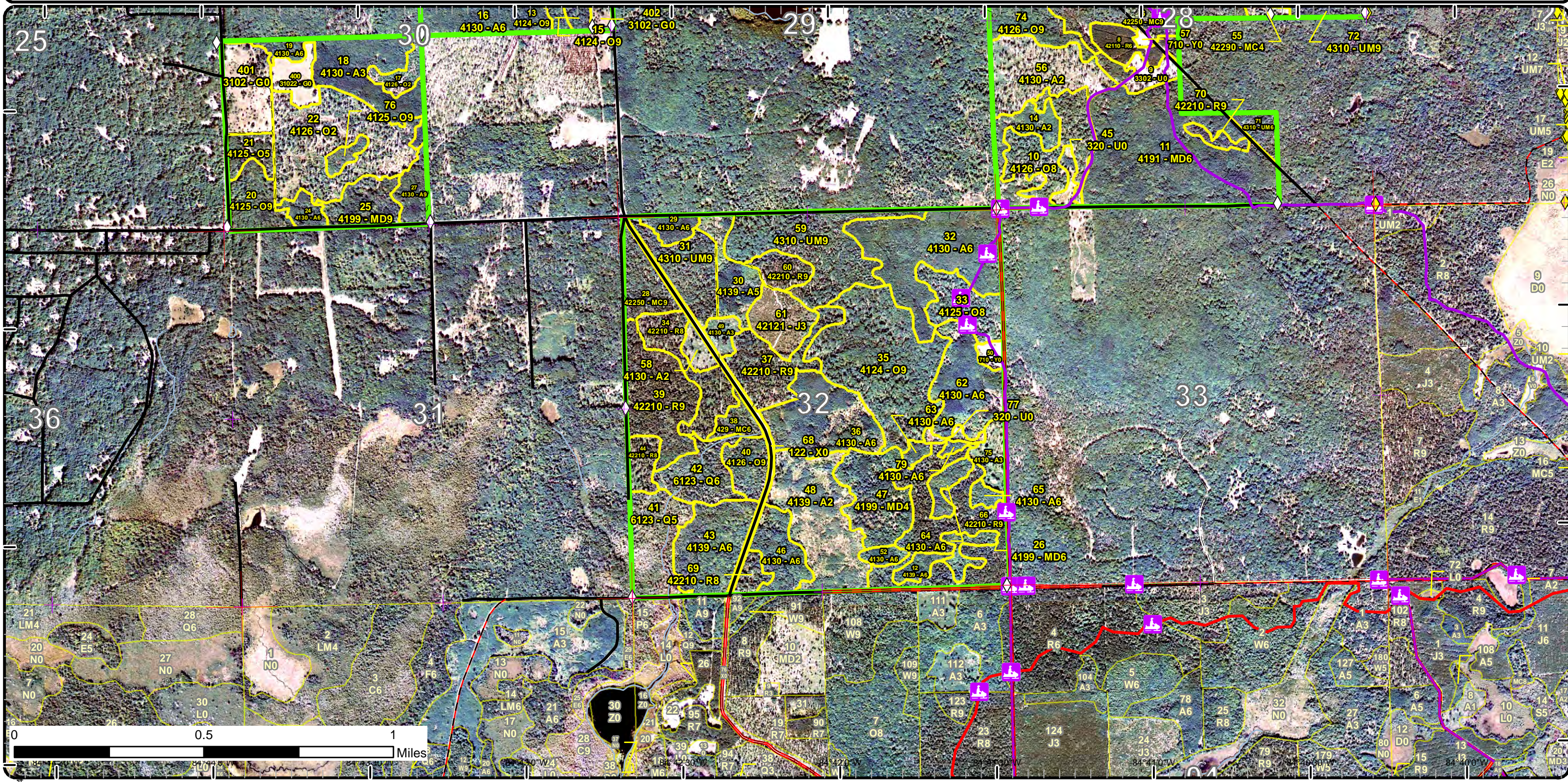
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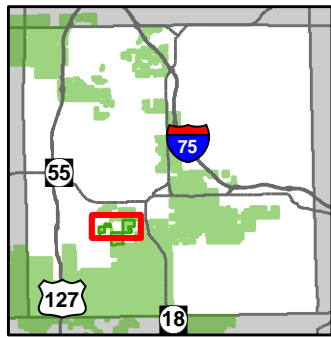
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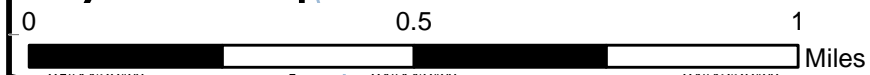
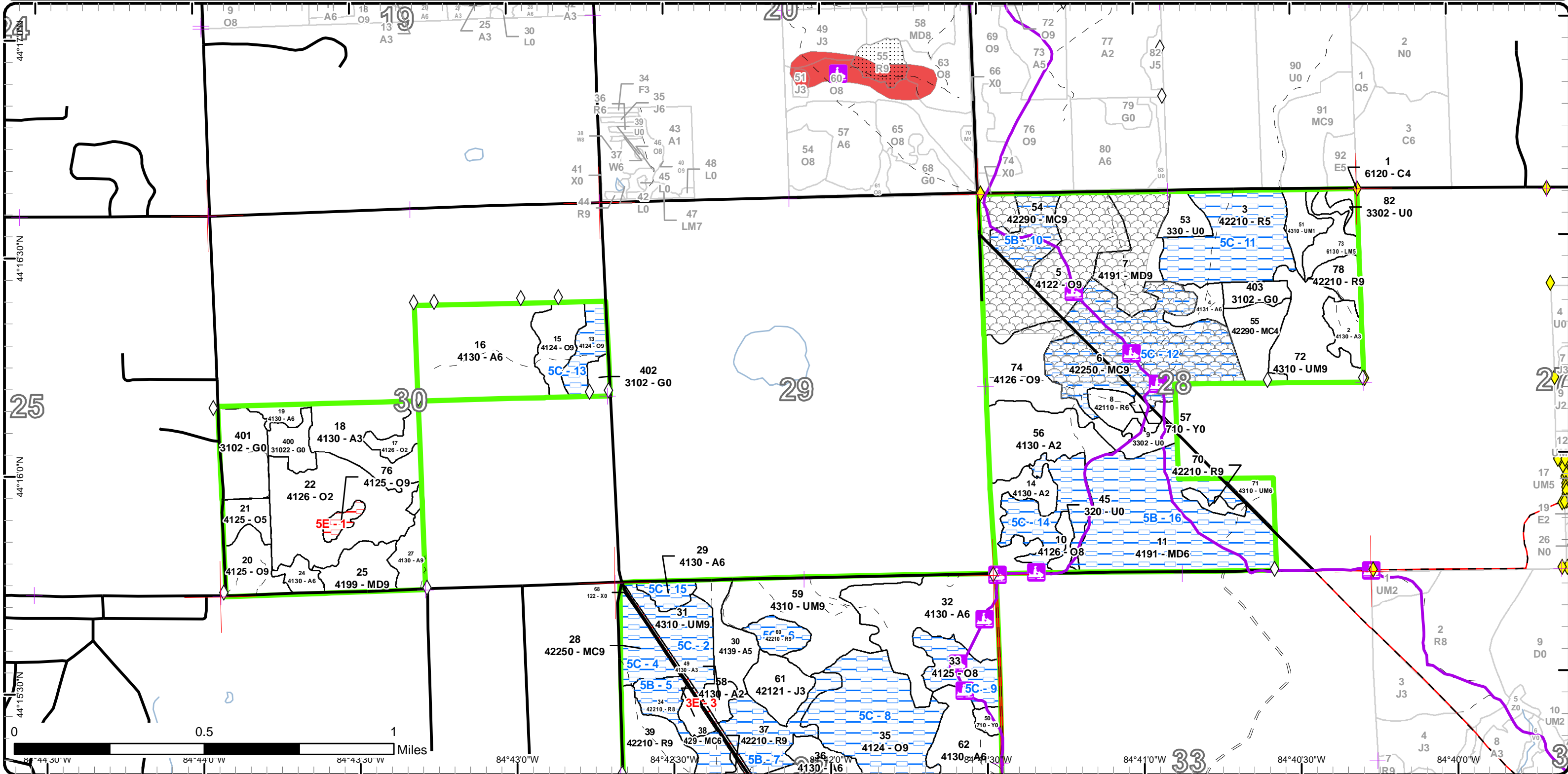


# Special Conservation Areas & Site Conditions Map

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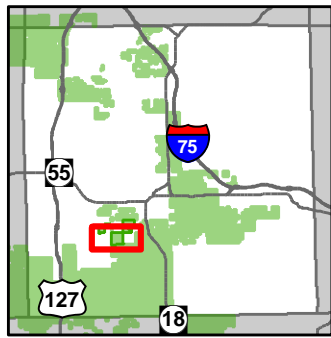
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- County Gravel Roads
- Gravel Roads
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- Poor Dirt Roads
- Rivers
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 3E: Easement / lease, non-military (e.g. Consumers Power red pine, etc)
- 5E: Long-Term Retention
- Stand Boundaries
- Ecological Reference Areas



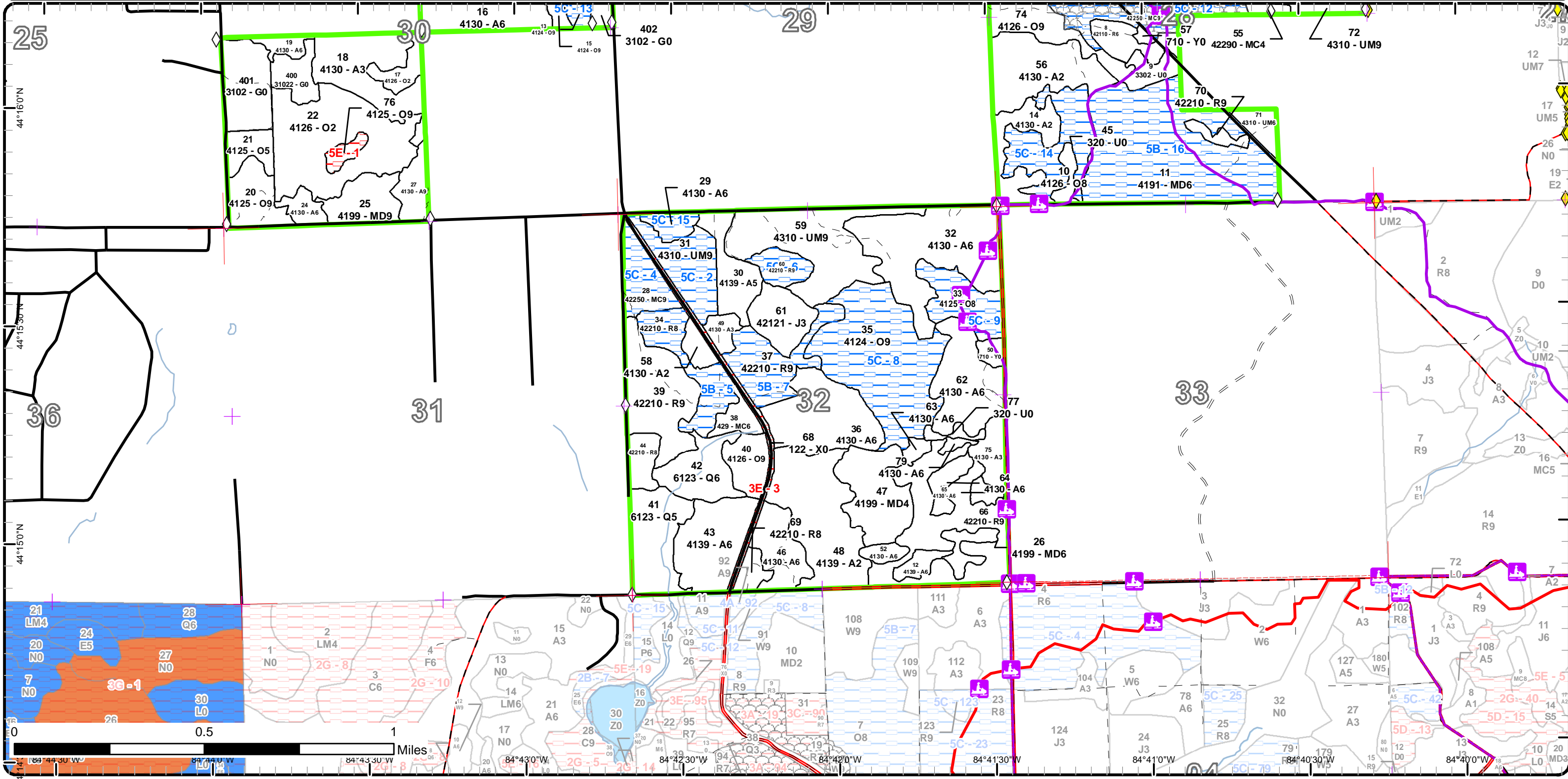
84°44'30"W
84°44'0"W
84°43'30"W
84°43'0"W
84°42'30"W
84°42'0"W
84°41'30"W
84°41'0"W
84°40'30"W
84°40'0"W

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- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- Riparian Area
- Other Habitat Area



44°16'0"N, 44°15'30"N, 44°15'0"N, 44°14'30"N  
 84°44'30"W, 84°44'00"W, 84°43'30"W, 84°42'30"W, 84°42'00"W, 84°41'30"W, 84°41'00"W, 84°40'30"W, 84°40'00"W  
 0.5 1 Miles



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
Aspen	0	53	56	106	31	101	55	0	0	0	0	0	0	0	0	0	0	0	399
Cedar	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
Herbaceous Openland	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
Jack Pine	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Low-Density Trees	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Lowland Conifers	0	0	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	40
Lowland Mixed Forest	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	9
Mixed Upland Deciduous	0	0	0	0	104	0	6	0	25	0	14	0	0	0	0	0	0	0	149
Natural Mixed Pines	0	0	0	16	0	0	0	0	0	0	72	0	0	0	0	0	0	29	117
Oak	0	50	0	6	0	0	8	0	0	86	95	0	0	0	0	0	0	56	301
Red Pine	0	0	0	0	0	10	0	0	0	21	113	51	0	0	0	0	0	0	195
Sand, Soil	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Upland Conifers	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
Upland Mixed Forest	0	0	0	9	0	6	0	0	27	19	41	0	0	0	0	0	0	0	102
Upland Shrub	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Urban	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
<b>Total</b>	<b>74</b>	<b>103</b>	<b>70</b>	<b>137</b>	<b>135</b>	<b>163</b>	<b>69</b>	<b>0</b>	<b>61</b>	<b>126</b>	<b>338</b>	<b>51</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>85</b>	<b>1409</b>



## Report 2 – Treatment Summary

Roscommon Mgt. Unit  
Year of Entry: 2018

Acres of Harvest

Compartment 113  
Total Compartment Acres: 1,411

Commercial Harvest - 362  
Harvests with Site Condition - 0  
Next Step Harvest - 0  
Habitat Cut - 0

### Cover Type by Harvest Method

	Clearcut	Selection	Patch Clearcut	Seed Tree	Shelterwood	Thinning	Overstory Removal	Salvage	Other	Total Acres
Aspen	64	0	0	0	0	0	0	0	0	64
Mixed Upland Deciduous	38	25	0	0	0	0	0	0	0	63
Natural Mixed Pines	16	0	0	0	0	0	0	0	0	16
Oak	14	38	0	0	14	0	0	0	0	66
Red Pine	77	0	0	7	10	12	0	0	0	106
Upland Mixed Forest	6	0	0	0	41	0	0	0	0	47
<b>Total</b>	<b>214</b>	<b>63</b>	<b>0</b>	<b>7</b>	<b>65</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>362</b>

### Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	362	0	2	0	0	0	0	28	0	391
Next Step	0	250	133	0	0	115	472	0	28	997
<b>Total</b>	<b>362</b>	<b>250</b>	<b>135</b>	<b>0</b>	<b>0</b>	<b>115</b>	<b>472</b>	<b>0</b>	<b>55</b>	<b>1388</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
4	71113004-Cut	6.5	4131 - Aspen, Oak	Poletimber Well	52	111- 140	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary

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

Prescription Final harvest all species to 2 inches. Marked 10 basal area large crowned oaks for mast. With stands small size, leave no retention.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen with a component of oak and pine to full stocking

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

7	71113007-Cut	25.4	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	72	141- 170	Harvest	Group Selection	4311 - Pine, Aspen Mix	Two-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all aspen to 2 inches. Any species other than aspen in these aspen areas should be removed also. Areas with oak and pine,

Specs: remove the basal area to around 70 basal area opening up the canopy and removing the more mature oaks, just leaving a handful of large crowned for wildlife/mast. Looking to keep the younger oak/pine for residual. Shortwood operation to limit the amount of damage to pine understory.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen with oak/pine mix

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

8	71113008-Cut	9.8	42110 - Planted Red Pine	Poletimber Well	40	171- 200	Harvest	Systematic Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Remove every third row. Do not remove outer most rows at this time.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

12	71113012-Cut	4.0	4139 - Aspen, Mixed Deciduous	Poletimber Well	53	Unspec ified	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all species to two inches. Leave all oak 5 inches and less plus all white oak. small size so leave no retention. Harvest during

Specs: dormancy to stimulate coppice regeneration. Place drumming log spec.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
15	71113015-Cut	14.2	4124 - Red with White Oak	Sawtimber Well	97	171-200	Harvest	Crown Thinning	4122 - Oak, Pine	Uneven-Aged	Draft Field Boundary

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

Prescription Do an crown thinning to reduce the basal area between 50-70 allowing for some regeneration gaps trying to get some oak back. Remove most of the large crowned oaks and poorly formed one also. Mark sure to leave some wildlife/mast oak in the residual evenly over stand. Will need to be a shortwood operation and will have damage to portions of the understory due to the density.

Specs:

Next Step  
Treatments:

Acceptable  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2017

19	71113019-Cut	4.3	4130 - Aspen	Poletimber Well	52	Unspecified	Harvest	Clearcut	4131 - Aspen, Oak	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all species but white oak. Leave these oaks for mast. Will not impact regeneration. Small narrow size along private so leave no retention.

Specs:

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

Acceptable Mix of aspen and oak of varying percentages to full stocking.  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2017

20	71113020-Cut	14.0	4125 - Black, N. Pin Oak	Sawtimber Well	97	111-140	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all species to two inches and chip to allow for planting of red pine. Do not cut any white oak. Place a 3% retention island down in the south end along the border with stand 24. May need to herbicide to reduce red maple competition. There is an aspen pocket in the north end of the stand that will be harvested. If spray stay out aspen inclusion and do not trench in here also.

Specs:

Next Step Pesticide, Skidder/Mechanical; SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr);  
Treatments: Monitoring, Natural Regen (Re-Inventory)

Acceptable red pine to full stocking.  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2017

25	71113025-Cut	13.9	4199 - Other Mixed Upland Deciduous	Sawtimber Well	97	141-170	Harvest	Clearcut with Retention	4131 - Aspen, Oak	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest stand removing all species to two inches except the oak. Remove the oak to 5 inches. Cut no white oaks either. Mark approximately 1 large oak per acre for mast evenly throughout stand and place a 3% retention island in middle of stand.

Specs:

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

Acceptable an oak/aspen mixed stand of varying percentages of either.  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
27	71113027-Cut	8.6	4130 - Aspen	Sawtimber Well	52	171- 200	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary

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

Prescription Final harvest all species to two inches. Mark a handful of oak for mast and leave all white oak. Not many anyways. Along private property,  
Specs: recommend not leaving retention island because of this and narrow orientation. Place drumming log spec.

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

Acceptable aspen with an oak component  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2017

39	71113039-Cut	30.2	42210 - Natural Red Pine	Sawtimber Well	97	171- 200	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all species to a two inch diameter and chip to allow replanting of red pine. Place a couple retention islands within the southern half  
Specs: of the stand totaling 5%. One place could be along the north end of Stand 44.

Next Step Pesticide, Skidder/Mechanical; SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr);  
Treatments: Monitoring, Artificial Regen(3yr)

Acceptable red pine to full stocking  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2017

40	71113040-Cut	10.1	4126 - White, Black, N. Pin Oak	Sawtimber Well	82	111- 140	Harvest	Single Tree Selection	4126 - White, Black, N. Pin Oak	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Thin the stand by first removing all the aspen to 2 inches and then mark for the best tree in place, no matter species to a basal area of 70-90.  
Specs: Favor removing pin oak over white when possible.

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

Acceptable Oak with mixed deciduous.  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2017

43	71113043-Cut	25.9	4139 - Aspen, Mixed Deciduous	Poletimber Well	52	Unspec ified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all species to 2 inches. Mark 20 basal area of either large oaks for mast/wildlife or red pine for visual/legacy trees. Push into the q-  
Specs: type as far as possible. Place 12 brush piles spaced out along the q-type edges for habitat. Place a 3% retention island in middle of stand. Leave some drumming logs.

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

Acceptable aspen  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2017



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
44	71113044-Cut	7.1	42210 - Natural Red Pine	Sawtimber Medium	97	81-110	Harvest	Overstory Removal	413 - Aspen	Even-Aged	Draft Field Boundary

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

Prescription Remove all red pine overstory. Do not allow any skidding of tree tops or lengths over 17 feet. Put protect specifications for aspen understorey.

Specs: Will be impact so put a 35 percent damage allowance on the understorey. No retention.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable If does not come back to full stocking aspen, replant the site to original cover species, red pine.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

46	71113046-Cut	15.1	4130 - Aspen	Poletimber Well	39	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all species to 2 inches with following exceptions: Leave all white oak, oak 5 inches or less, and all red pine. Small clump of red

Specs: pine in northwest corner along Reserve Road, leave for retention. Place some drumming logs.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen to full stocking, if fails plant area of non-aspen with red pine.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

47	71113047-Cut	24.0	4199 - Other Mixed Upland Deciduous	Poletimber Poor	39	51-80	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all species to two inches. Re-establish stand back to red pine. When trench make sure to go around aspen clones. Leave the

Specs: white pine band at the south tip out for retention.

Next Step Pesticide, Skidder/Mechanical; SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr);

Treatments: Monitoring, Artificial Regen(3yr)

Acceptable fully stocked red pine

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

55	71113055-Cut	15.7	42290 - Natural Mixed Pine	Poletimber Poor	28	Immatu re	Harvest	Clearcut	4212 - Planted Jack Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all trees to 2 inches. Chip tops and leave no retention, very sparse failed site to begin with.

Specs:

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

Treatments:

Acceptable jack pine to full stocking

Regen:

Other

Site to be planted back to jack pine. Do not trench/plant in aspen inclusion in northeast tip.

Comment:

Proposed Start Date: 10/01/2017



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
59	71113059-Cut	40.7	4310 - Pine, Oak Mix	Sawtimber Well	97	111-140	Harvest	Crown Thinning	4122 - Oak, Pine	Even-Aged	Draft Field Boundary

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

Prescription Mark the stand to 70-90 basal area. Target the older/poor quality pin oak. If a large wildlife one leave. Then manage for best tree in place  
Specs: whether it is oak or pine.

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

Acceptable oak and pine mix  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2017

66	71113066-Cut	43.2	42210 - Natural Red Pine	Sawtimber Well	103	111-140	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all species to 2 inches and chip tops. Leave a one or more retention pockets in stand totaling 3-5 percent. One pocket is to be along the east line midway up the stand and encompass the area with the fair amount of white oak component. If find some super-canopy trees within stand, leave for visual. May need to herbicide treat maple competition. Trench site and avoid any large aspen inclusions regenerating. Plant to red pine.

Next Step Pesticide, Skidder/Mechanical; SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr);  
Treatments: Monitoring, Artificial Regen(3yr)

Acceptable Fully stocked red pine plantation  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2017

69	71113069-Cut	4.6	42210 - Natural Red Pine	Sawtimber Medium	101	171-200	Harvest	Overstory Removal	4133 - Aspen, Mixed Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all species to two inches. Mark 10 basal area large red pine for visual. No retention due to small size. With have to place damage percentage little higher because of dense understory. Roundwood operation only.

Next Step Monitoring, Natural Regen (Intermediate)  
Treatments:

Acceptable to full stocking levels aspen with a pine component  
Regen:

Other Interplant with red pine if full stocking not achieved  
Comment:

Proposed Start Date: 10/01/2017

70	71113070-Cut	3.2	42210 - Natural Red Pine	Sawtimber Well	101	141-170	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all species to 2 inches and chip tops. No retention due to size. May need to tree red maple completion before trenching and planting back to red pine.

Next Step Pesticide, Skidder/Mechanical; SitePrep, Roller Chopping; SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr);  
Treatments: Monitoring, Artificial Regen(3yr)

Acceptable fully stocked red pine  
Regen:

Other replant to red pine  
Comment:

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
71	71113071-Cut	5.8	4130 - Pine, Oak Mix	Poletimber Well	42	141- 170	Harvest	Clearcut	4133 - Aspen, Mixed Pine	Even-Aged	Draft Field Boundary

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

Prescription Final harvest all species to two inches. Mark out 20 basal area of large white oak for mast or red pine for visual. No retention.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen with pine mixed in of varying percentages to full stocking.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

74	71113074-Cut	27.8	4126 - White, Black, N. Pin Oak	Sawtimber Well	97	141- 170	Harvest	Single Tree Selection	4122 - Oak, Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Thin stand by removing all aspen to two inches, mark older pin oaks, poorly formed trees of other species, managing for best tree in place including red maple. Want more white oak residual if possible. Want residual basal area to be between 70-90. Will have damage to understory so place allowance percentage higher. Roundwood operation only.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Oak and pine mix to full stocking

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

77	71113077- Plant	2.3	320 - Upland Shrub	Nonstocked	0	Unspec ified	Planting	Initial Plant	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Trench and plant to red pine.

Specs:

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

Treatments:

Acceptable fully stocked red pine plantation

Regen:

Other

Failed regeneration site.

Comment:

Proposed Start Date: 10/01/2017

78	71113078-Cut	7.4	42210 - Natural Red Pine	Sawtimber Well	99	141- 170	Harvest	Seed Tree	42330 - Upland Fir	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Remove red pine down to an approximate 20 basal area providing some cover for the balsam fir understory. There will be damages to the understory as a result of the treatment but will rebound.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable upland fir with mixed pine.

Regen:

Other

Should the fir die out, re-establish the site to red pine via planting.

Comment:

Proposed Start Date: 10/01/2017





S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
400	71113400-NF	8.6	31022 - Warm Season Grass	Nonstocked		Unspec ified	NonForestMgt	Mowing	3102 - Grass		Draft Field Boundary

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

Prescription Mow, cultivate, fertilize, seed as required to maintain established Wildlife Opening, Headquarters Field 1.

Specs:

Next Step NonForestMgt, Mowing

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

401	71113401-NF	18.9	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Mowing	310 - Herbaceous Openland		Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Mow, cultivate, fertilize, seed as required to maintain established Wildlife Opening, Headquarters Field 1.

Specs:

Next Step NonForestMgt, Mowing

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

**Total Treatment  
Acreage Proposed: 391.3**

## Report 4 – Site Conditions

Roscommon Mgt. Unit  
Doug Bates : Examiner

Compartment: 113  
Year of Entry: 2018

### Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions			
		With Condition	Not Available		5B	5C	3E	5E
401	395	5	0	Aspen		5		
3	3	0	0	Cedar				
38	38	0	0	Herbaceous Openland				
14	14	0	0	Jack Pine				
17	17	0	0	Low-Density Trees				
40	40	0	0	Lowland Conifers				
9	9	0	0	Lowland Mixed Forest				
149	69	80	0	Mixed Upland Deciduous	80			
116	16	101	0	Natural Mixed Pines	16	85		
302	186	112	4	Oak		112		4
196	105	90	0	Red Pine	40	50		
4	4	0	0	Sand, Soil				
6	6	0	0	Upland Conifers				
102	82	19	0	Upland Mixed Forest		19		
6	6	0	0	Upland Shrub				
9	0	0	9	Urban			9	
1,411	990	408	13	Total Forested Acres	136	272	9	4
	70%	29%	1%	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	4	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
2	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

## Report 4 – Site Conditions

Roscommon Mgt. Unit

Doug Bates : Examiner

Compartment: 113

Year of Entry: 2018

3	<b>Unavailable</b>	<b>3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)</b>	9	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Reserve Road							
4	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	13	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
5	<b>Available</b>	<b>5B: Maintain for regeneration purposes</b>	19	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
6	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	8	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
7	<b>Available</b>	<b>5B: Maintain for regeneration purposes</b>	21	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
8	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	59	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

## Report 4 – Site Conditions

Roscommon Mgt. Unit

Doug Bates : Examiner

Compartment: 113

Year of Entry: 2018

9	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	17	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
10	<b>Available</b>	<b>5B: Maintain for regeneration purposes</b>	16	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>	43	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
12	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	72	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
13	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	11	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
14	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	25	5B: Maintain for regeneration purposes	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

## Report 4 – Site Conditions

Roscommon Mgt. Unit

Doug Bates : Examiner

Compartment: 113

Year of Entry: 2018

15	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	6	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
16	<b>Available</b>	<b>5B: Maintain for regeneration purposes</b>	80	5C: Delay treatment for age/size class diversity or exceptional site quality	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							



**Report 5 – PROPOSED SPECIAL CONSERVATION AREA\* (SCA) DETAILS**

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
	Potential Old Growth		SCA Removal	163

**Comments**

This area no longer meets the criteria to be classified as a Special Conservation Area.



**Report 6 – EXISTING SPECIAL CONSERVATION AREA DETAILS**

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

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

Conservation Area	Type	Description
SCA	Cold Water Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6120 - Lowland Cedar	Poletimber Poor	3.2	97	1-50	Most of the maple aspen and all of the ash is dead. The cedar is not far behind. Lot of dead stand cedar as of now. The balsam fir is coming in in spots for regeneration. Dense tag alder though. Standing water all over.
2	4130 - Aspen	Sapling Well	8.3	7	Immature	UPLAND RM STAND WITH ASPEN AND OAK COMPONENT, CUT TO 4" AND MANAGED FOR ASPEN, WAS CUT IN DORMANT SEASON TO INCREASE SPROUTING OF OVERMATURE ASPEN. CUT SPRING 2010 - DEE
3	42210 - Natural Red Pine	Poletimber Medium	42.6	96	111-140	THINNED IN 2000 BY RMOVING JP/OAK AND MARKED RED PINE. Fairly sparse regenerating stand with a open understory. The basal area for the portion of the stand west of the 2-track is 170. On the east side it ranges from 80-110. Stand is holding well, let go another rotation before treat again.
4	4131 - Aspen, Oak	Poletimber Well	6.5	52	111-140	Dense white pine regeneration in the understory. Treat now and do during dormancy to stimulate aspen regeneration.
5	4122 - Oak, Pine	Sawtimber Well	55.8	88	81-110	On the poorer side for quality, this stand was thinned in 2000. Has heavy regeneration of white pine in the understory and mid-canopy filling in where oaks are absent. Let the pine get larger and do either a seed tree or shelterwood treatment managing for a pine/oak mix. Will be heavier to pine no matter what treatment do.
6	42250 - Pine, Oak	Sawtimber Well	71.6	97	141-170	Uneven aged natural stand of mixed species. The dominate species is red pine followed up by oak. The jack pine has all but died out. The regeneration is thick with white pine with some oak in areas and scattered red pine here and there. To stagger the treatments in the compartment, hold off one more rotation before manage the stand for a red and white pine stand with mixed oak.
7	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Well	25.4	72	141-170	A mature oak and aspen stand with hardly any oak or aspen regeneration. Recommend treating the aspen areas for aspen by clearcutting and manage the oaks for a future pine/oak mix. The aspen in the northern portion of the stand is younger.
8	42110 - Planted Red Pine	Poletimber Well	9.8	40	171-200	Needing to be third row thinned.
10	4126 - White, Black, N. Pin Oak	Sawtimber Medium	25.4	90	81-110	Stand was treated with a 40 percent crown closure shelterwood harvest in 1998. The oak is at maturity and ready to go but to stagger the age class distribution in area, wait one more rotation. The oak will hold and allow regeneration to grow up some more. Then do any overstory removal. The regeneration is in pockets of each species to dense stocking but not much intermingling. Heavy witch hazel in areas also. Hilly terrain.
11	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	80.0	39	141-170	Undulating terrain with pockets of pure aspen mixed with pockets of pure oak or pine, or a combination of both. To many of small size to break out into separate stands and do find aspen regenerating in the mid-canopy of the oak/pine. The oak is ready to go but not aspen. Wait one more rotation and treat, the oak will hold.





	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
12	4139 - Aspen, Mixed Deciduous	Poletimber Well	4.0	53	Unspecified	Heavy completion from maple in both the overstory and under. Final harvest stand during dormancy to try and help aspen against maple regeneration. Leave all oak 5 inches less and all white oak.
13	4124 - Red with White Oak	Sawtimber Well	10.8	97	141-170	Stand was thinned to 90 B.A. in the Spring 2010. The white pine regeneration is good. Some aspen up at the north end. All the red maple has been removed previously and getting stump sprouting of it, luckily not to much though. No oak regeneration, however. Leave the stand for another rotation to let pine mature more and manage for an oak/pine mixed stand.
14	4130 - Aspen	Sapling Medium	15.3	15	Immature	PART OF STAND #10 WHICH WAS FINAL HARVESTED FOR ASPEN MANAGEMENT. The aspen came back in for the most part fairly well. Very dense in the original clones area. There are several larger open grass areas fragmenting the stand.
15	4124 - Red with White Oak	Sawtimber Well	14.2	97	171-200	North half of stand is dense white pine regeneration with some maple and the southern half is just the opposite. No regeneration of oak at all. Have large crowned oaks that are poorly formed over-topping small topped red and white oaks. Recommend a crown opening removing basal area to 50-70. Will get some damage to pine/maple understory no matter what. Will come back.
16	4130 - Aspen	Poletimber Well	52.5	41	Unspecified	Nice aspen stand with red maple regenerating in the understory. Some maple and oak in overstory also. There is a small white pine inclusion towards the east line. Oak mainly stump sprouted. Hold another rotation.
17	4126 - White, Black, N. Pin Oak	Sapling Medium	6.3	27	Immature	Sparse in areas, the oak is regenerating the site for the most part. Southern half is the sparsest. The maple and oak pole sized are from stump sprouts.
18	4130 - Aspen	Sapling Well	28.1	27	Immature	Very nice dense aspen stand. Most of the regeneration in the understory is red maple though. Very little maple in the overstory however.
19	4130 - Aspen	Poletimber Well	4.3	52	Unspecified	Nice mature aspen stand with mixed oak sawlogs. Some oak and aspen regeneration that is being browsed. Time to treat.
20	4125 - Black, N. Pin Oak	Sawtimber Well	14.0	97	111-140	Overmature pin oak stand needing to be treated. There is very little regeneration in understory besides red maple which is dense. The merchantable maple is largely stump sprouts. Good mature aspen inclusion at the north tip that can be treated also. Recommend cutting and establishing to red pine.
21	4125 - Black, N. Pin Oak	Poletimber Medium	7.8	52	81-110	Not good quality oak where the majority of the saw class oaks are stump sprouts. Those oaks that seeded in are still pole size. There still is some fair large open areas still in the interior.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
22	4126 - White, Black, N. Pin Oak	Sapling Medium	49.8	7	1-50	Stand was seed tree harvest in the Summer 2009 leaving all white oak and red/white pine. The oak regeneration has come back very well with aspen clones scattered throughout. The white oak overstory has not hampered regeneration and should be left for seed, mast, and eliminate potential damage to regeneration trying to remove.
24	4130 - Aspen	Poletimber Well	5.3	28	Immature	Nice aspen regeneration that has filled in very well.
25	4199 - Other Mixed Upland Deciduous	Sawtimber Well	13.9	97	141-170	Intermixed species stand with either pure oak or aspen and very little intermingling. The oak is overmature, largely stump sprouts that is dying off. The aspen is overmature also. The regeneration is thick red maple however. Treat the stand by final harvest and should allow the aspen to spread out more and allow future stump sprouting of younger oak.
26	4199 - Other Mixed Upland Deciduous	Poletimber Well	5.5	52	51-80	Younger oak stand mainly of poor formed stump sprouted pin oaks.
27	4130 - Aspen	Sawtimber Well	8.6	52	171-200	Nice mature aspen stand ready to be treated. The oaks are saw class and most of the red maple are stump sprouted. Small oak inclusion at the north tip to be treated also, allow aspen to fill in.
28	42250 - Pine, Oak	Sawtimber Well	13.2	90	171-200	Stand was thinned in 200. Mostly a pine type predominately red. Small size saw class currently with not an overabundant amount of regeneration. Could do an overstory removal, but recommend to wait another rotation to stagger age class/treatments in area. Stand will hold.
29	4130 - Aspen	Poletimber Well	5.5	52	Unspecified	Nice aspen stand that is to be held to stagger age classes.
30	4139 - Aspen, Mixed Deciduous	Poletimber Medium	14.5	28	Immature	Several areas didn't fill in with aspen but rather red maple and cherry. The aspen won't fill in completely but some of the open grass areas fragment stand and benefit wildlife.
31	4310 - Pine, Oak Mix	Sawtimber Well	19.2	80	141-170	Stand was thinned in 2000. The oaks are small saw class of poor quality. There is a dense regeneration of white pine with this pine in overstory also. Recommend letting stand go another rotation before possibly remove overstory. This will allow the saw classes to gain diameters, let the regeneration grow, and stagger treatments in area. The bottom third of the stand is larger saw sized red pines with some white. These will hold as well.
32	4130 - Aspen	Poletimber Well	48.5	41	Unspecified	Good aspen stand. There are inclusion pockets within containing red and white pine of the saw class mixed with pole sized stump sprouted oak.
33	4125 - Black, N. Pin Oak	Sawtimber Medium	17.0	89	81-110	Shelterwood cut in 2002. Not a lot of regeneration but what is, is either oak or pine. No red maple in understory or over. The white oak is smaller and of better quality. The white pine is just getting in saw sizes. Let the oaks and pine go one more rotation to get little more growth. They will hold plus it'll stagger the age classes.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
34	42210 - Natural Red Pine	Sawtimber Medium	18.7	97	81-110	Stand was thinned in October 2010. There is dense aspen regeneration in understory. Let the stand go another rotation and then look at removing some of the overstory.
35	4124 - Red with White Oak	Sawtimber Well	59.3	83	111-140	CUT ASPEN/RM AMD MARKED OAK IN MOST OF STAND (LEAVE ALL R/W PINE), IN PINE INCLUSIONS CUT ALL HARDWOODS AND JACK PINE, MARK DEN TREES, SNAG TREES, AND LEAVE COARSE WOODY DEBRIS. - CUT MARCH 2011, DEE  Nice oak stand with a good mix of other species. The aspen regeneration has come in most places very densely. Red maple is in that mix but not as much. There is some oak stump sprouting. Appears to be about a 5 acre block in the middle of the stand that was not treated. It contains mature aspen and red pine. Was it left for retention? Stand will hold an rotation for sure. Allow regeneration to get bigger and stagger age classes of oak.
36	4130 - Aspen	Poletimber Well	30.9	27	Unspecified	Good aspen with the sparser areas being oak, maple, red pine, and cherry. The aspen came back well in their original spots and is slowly moving into the areas formally oak. Good Mix.
37	42210 - Natural Red Pine	Sawtimber Well	21.4	86	111-140	Thinned October 2010. Heavy regeneration in understory mainly of aspen but some maple and oak. Some areas have high basal area.
38	429 - Mixed Upland Conifers	Poletimber Well	5.6	46	81-110	Large red pine along the south line. Not enough to cut by itself and will damage to much regeneration. Wait one more rotation and then cut. Not much understory regeneration.
39	42210 - Natural Red Pine	Sawtimber Well	30.2	97	171-200	Stand thinned in 2000. Aspen regeneration is being browsed. Remove all aspen and maple to 2 inches. Leave the oak for now and mark the pine 90-110. The areas with less pine and currently more aspen/maple will come back as such and give a mixed stand with younger inclusions. In these areas bring the red pine down to 20-30 basal area. Will not come in to get pine because damage regeneration. The aspen/maple mainly in the southern area.
40	4126 - White, Black, N. Pin Oak	Sawtimber Well	10.1	82	111-140	Fairly open understory within a light mix of fir, maple, and some white pine regeneration. The pin oak is older, poor quality and the white oak is a fair amount but on the smaller side. Not much multi-stemmed red maple. Recommend thinning the stand
41	6123 - Lowland Fir	Poletimber Medium	23.1	46	1-50	HEADWATERS OF WOLF CREEK that flows in the middle of the stand in a north/south direction. Each side of the stream is an outwash full of tag alder. Beyond the outwash, the elevation grades upward just a little and this is where find tree of merchantable size and understory other than tag. This entire stand is wet at least some time of the year and has much soils that will impede any type of treatment, even during winter months. BMP issues also with creek.
42	6123 - Lowland Fir	Poletimber Well	16.8	46	111-140	HEADWATERS OF WOLF CREEK. More canopy than the adjacent lowland type. Even higher elevation but still plenty of sheet flow and water retention throughout the year to make it inoperable.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
43	4139 - Aspen, Mixed Deciduous	Poletimber Well	25.9	52	Unspecified	Time to treat the stand and that aspen regeneration is being browsed heavily and is not able to compete with fir. Final harvest all species to 2 inches. Mark stand to leave 20 basal area of large mast oaks or legacy red pine. Push into the q-type boundary when can. Larger, more mature aspen to east.
44	42210 - Natural Red Pine	Sawtimber Medium	7.1	97	81-110	Thinned October 2010. Remove red pine overstory and allow natural aspen regeneration that has come back in the understory very densely to convert stand to aspen. Will need to protect the understory as much as possible but since still young should rebound in areas that do get impacted.
46	4130 - Aspen	Poletimber Well	15.1	39	Unspecified	Not the best quality aspen currently. The aspen is trying to regenerate but being browsed hard. The red maple is coming in thick in understory. Best to restart stand now so still some vigor in rooting system and due during dormancy to help aspen outstart maple as much as possible.
47	4199 - Other Mixed Upland Deciduous	Poletimber Poor	24.0	39	51-80	Very sparse poorly regenerated stand. The maple and pin oak are all stump sprouts. Not much understory with wide open grass areas with cherry. There are a couple good aspen clone inclusions. Recommend cut stand and plant it to red pine. Soils are conducive to this pine. There is a swath of dense white pine at the southern tip at the base of the ridge leading up into stand 52. Leave this for retention.
48	4139 - Aspen, Mixed Deciduous	Sapling Medium	41.0	17	Immature	STAND WAS SUPPOSED TO HAVE BEEN PLANTED TO RED PINE BUT WAS NEVER PLANTED DUE TO HEAVY ASPEN REGENERATION, S.I. FOR RED PINE = 60. Areas that had aspen originally have come back good. Where it was oak have some oak regeneration but mostly cherry brush. Do not believe the stand will be fully stock but the non-aspen/oak areas fragment stand and will still benefit wildlife.
49	4130 - Aspen	Sapling Well	4.4	7	Immature	Stand cut October 2009, left scattered RPSL for visual and a few oak for mast. Came back nicely to aspen.
51	4310 - Pine, Oak Mix	Sapling Poor	8.7	27	Immature	Stand failed to regenerate fully so was interplanted with jack pine in 2010. The original regeneration from the cut 26 years ago just reach merchantable sizes. When the jack pine seedlings take off this will be a fully stocked stand.
52	4130 - Aspen	Poletimber Well	3.3	39	Unspecified	Very nice younger aspen stand.
54	42290 - Natural Mixed Pine	Sawtimber Well	15.8	103	171-200	Mature pine stand with full white pine regeneration and nothing else. Could be treated but recommend holding another rotation to allow regeneration to get a little larger plus stagger treatments amounts in area.
55	42290 - Natural Mixed Pine	Poletimber Poor	15.7	28	Immature	A failed site that did not come back fully stocked and those pine that did are stunted limby "puff balls" that need to be cut and the site needs to be trenched and planted. The site has a heavy grass mat that may be impeding natural regeneration. There is a small aspen inclusion in the northeast tip that will treat and restart it but not be trenched in with follow-up treatments. This will allow the ages to be close for future treating.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
56	4130 - Aspen	Sapling Medium	28.1	5	Immature	Cut Fall 2012, 30 SF of Mixed Oak/White Oak left, monitor for regeneration and plant RP if stand does not regenerate. Good regeneration of aspen and oak currently. Could get the overstory oak, but would cause more damage to regenerating stand than benefit of removal.
58	4130 - Aspen	Sapling Medium	4.4	6	Immature	Cut September 2010, left scattered oak for mast and visual
59	4310 - Pine, Oak Mix	Sawtimber Well	40.7	97	111-140	THINNED IN 2000. Lot of witch hazel on the west half. West half of the stand is predominately oak with some pine. Understory is hazel or dense red maple. The east half more pine component with some oak. Regeneration is white pine. The pin oak is mature and poor quality. The white oak and pine on younger side. Treat by removing the majority of pin oak, managing for best tree in place (pine and white oak) and open it up for regeneration gaps. Manage for oak/pine mix.
60	42210 - Natural Red Pine	Sawtimber Well	7.6	97	111-140	THINNED IN 2000. Nice natural red pine stand. Still find large pine nurse trees. Handful of large oaks out there. Find some regeneration of white pine, nut majority is oak. Wait one more rotation and manage for oak/pine mix.
61	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	14.1	14	Immature	The stand was planted to jack pine in 2003. The portion of the stand west of the orv trail had a wildfire in 1998 which is why there is less competition on that side with other species.
62	4130 - Aspen	Poletimber Well	26.2	27	Unspecified	A high percentage of red maple component in stand but still aspen is doing good. Red maple is mainly stump sprouts.
63	4130 - Aspen	Poletimber Well	2.3	39	Unspecified	Decent aspen with red maple mixed in.
64	4130 - Aspen	Poletimber Well	5.7	39	Unspecified	Hardly any regeneration in understory. Fair quality aspen stand. Heavy to red maple though. On a ridge. Not quite ready to treat.
65	4130 - Aspen	Poletimber Well	2.7	39	Unspecified	Decent aspen stand not ready in age to treat.
66	42210 - Natural Red Pine	Sawtimber Well	43.2	103	111-140	Thinned Spring 2009, DEE. Mature red pine stand on the lighter side for regeneration in understory. The south 1/4 is thick with red maple saps and poles in the mid-canopy. The further north find oak, aspen and some red maple. Final harvest stand and restart to red pine.
69	42210 - Natural Red Pine	Sawtimber Medium	4.6	101	171-200	Thinned in 2000. Has a heavy aspen component in the open regen. gaps. Recommend removing overstory and managing for an aspen/pine mixed stand. Will get damage to understory, but it is young and vigorous enough it will come back.
70	42210 - Natural Red Pine	Sawtimber Well	3.2	101	141-170	Full red maple regeneration underneath. Recommend final harvest and replanting back to red pine. May need to treat red maple completion before trenching/planting. Mark a large oak tree for mast or nurse tree red pine per acre to be left.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
71	4310 - Pine, Oak Mix	Poletimber Well	5.8	42	141-170	Mixed stand with a higher aspen component. Final harvest stand and leave some white oak and red pine for diversity. No retention due to small size and sided on two sides by private.
72	4310 - Pine, Oak Mix	Sawtimber Well	27.2	73	111-140	Pine on west half and maple/oak on east. Dense regeneration. The oak is mature with not too high of basal area, but with regeneration amounts it would cause considerable damage to it. The top species are more long lived. The pin oak may die out but allow go another rotation, maybe more regeneration will mature allowing more operating space. Manage for a pine/oak mix then.
73	6130 - Fir, Aspen, Maple	Poletimber Medium	9.0	73	81-110	Overall wet site with some slightly higher mounds where fine trees. They are spread out with sensitive soils separating them. Would not be able to operate in and not rut it even in frozen conditions, not even to salvage the balsam fir.
74	4126 - White, Black, N. Pin Oak	Sawtimber Well	27.8	97	141-170	Overmature oak stand with dense white pine understory. Manage for a mixed oak/pine stand by thinning to 70-90 basal area. Remove the aspen and poor quality trees managing for best tree in place including maple. Side with white oak when possible. Will get damage to white pine regeneration, no way around it. It is young, vigorous, and dense enough it will come back. The south line is an upslope into stand 56 that is mostly aspen.
75	4130 - Aspen	Sapling Well	8.1	7	Immature	Cut Fall 2009 - DEE. 20-30 b.a. of red pine and white oak overstory left post-harvest. The aspen regeneration has come back in densely. Have oak stump sprouting under the aspen along with some maple.
76	4125 - Black, N. Pin Oak	Sawtimber Well	3.5	90	111-140	Mature oak and aspen stand left as long-term retention for the shelterwood treatment done to stand 22.
78	42210 - Natural Red Pine	Sawtimber Well	7.4	99	141-170	Mature red pine stand with a very dense balsam fir understory. Do a seed tree harvest leaving approximately 20 basal area of red pine but manage the future stand to balsam fir.
79	4130 - Aspen	Poletimber Well	1.4	39	Unspecified	Younger sparse aspen stand on a ridge top. Not large enough to treat on own. Wait one more rotation and treat with other small aspen stands close by of the same age.



Stand	Cover Type	Acres	Managed Site	General Comments:
9	3302 - Low Density Conifer Trees	6.3	No	Cut Fall 2012 - left scattered R/W oak and R/W pine, west arm of stand was too steep to cut, DEE. Stand was planted to red pine in 2014.
45	320 - Upland Shrub	3.7	No	PART OF STAND #10 WHICH WAS FINAL HARVESTED FOR ASPEN MANAGEMENT. The aspen failed to regenerate except for about a 1/2 acre single clump of it in the north end. Currently grass covered with sweetfern and witch hazel. At this time do not do a supplemental re-plant but leave for wildlife.
50	710 - Sand, Soil	3.0	No	a former borrow pit that has become an unauthorized ORV scramble area. The snowmobile trail bisects stand making it easy access to all vehicles year round. Possibly could spread tree slash from nearby timber sales to impede traffic until site can be vegetated.
53	330 - Low-Density Trees	7.6	No	Fail site for regeneration. Was planted to red pine in 2010.
57	710 - Sand, Soil	1.1	No	Sandy scramble area for illegal ORV activity. Slash the site in with red pine tops from upcoming adjacent timber sale and then interplant with red pine to aid in future revegetation.
68	122 - Road/Parking Lot	9.4	No	Reserve Road
77	320 - Upland Shrub	2.3	No	Site failed to regenerate. Trench and plant to red pine with stand 66.
82	3302 - Low Density Conifer Trees	2.8	No	Lowland tag alder marsh with scattered cedar that is dying out. Some baslasam coming in but stand water in large parts of it.
400	31022 - Warm Season Grass	8.6	Yes	Maintained opening by wildlife division.
401	3102 - Grass	18.9	No	Grass opening with very little woody vegetation except for some scattered cherry. There is a single clump of saw class red pine at the north end. Also a steep bowl at the north end that is starting to get some illegal hill climbing activity.
402	3102 - Grass	3.8	No	NON - MAINTAINED GRASSY OPENING NEXT TO RESERVE ROAD, OLD FOUNDATION ON PRIVATE PROPERTY TO THE SOUTH - POSSIBLE ARCHEOLOGICAL SITE
403	3102 - Grass	6.9	Yes	A portion of stand 55 to south that has evidence of a former wildfire which is way most of the forest species are absent. Site can either be left as a grass opening, or planted to jack pine with stand to south.