



# Compartment Review Presentation

Roscommon Forest Management Unit

Compartment 71140

Entry Year 2018

Acreage: 1,944

County Roscommon

Management Area: Upper Muskegon

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

**Stand Examiner:** Doug Bates

**Legal Description:**

T21N R3W sections 3, 10, and 15

**Identified Planning Goals:**

Balance age classes and enhance in-stand diversity of various cover types providing a range of stand structures and habitats.

**Soil and topography:**

This compartment is relatively flat, but has various soil types. The northeast corner is composed of PVCd. The center of the compartment is a transition from PVCd to PARVHa and the southeast corner is primarily PARVvb. The wetland areas are surrounded by PARVCo types.

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

Solid state ownership

**Unique Natural Features:**

None have been identified but the potential exists for Kirtland's warbler and prairie warbler. Grassy openings and open jack pine and oak stands also have the potential for secretive locust, dusted skipper, grizzled skipper, red-legged spittlebug, Hill's thistle, rough fescue, Alleghany plum, and pale agoseris.

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

There is an archeological site on record on section 10. It has been added to the OFS layer.

**Special Management Designations or Considerations:**

**Watershed and Fisheries Considerations:**

This compartment contains a large amount of acreage in non-forested wetlands.

**Wildlife Habitat Considerations:**

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

Sections 3, 10, & 15, T21N R3W, Roscommon County

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 600 and 800 feet. Beneath the glacial drift are the Saginaw Formation, Bayport Limestone, and Michigan Formation. Elsewhere in the state, the Saginaw is quarried for clay, the Bayport for stone, and the Michigan gypsum. There are no active sand and gravel pits in the area, and much of the compartment appears to be low-lying and wet. Sand and gravel potential appears to be limited. Headquarters Field is located two miles to the southwest. 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 area are currently leased for oil and gas exploration and development.

**Vehicle Access:**

Good vehicular access to most high ground areas of compartment

**Survey Needs:**

None.

**Recreational Facilities and Opportunities:**

Portions of the Houghton Lake (6, 655) Snowmobile trail and the Denton Creek ORV trail / route run through this compartment. Lots of dispersed recreational activities such as hunting, camping, wildlife viewing, and berry picking occur

in this compartment.

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 50" trail tread to promote narrow use. Trees retained near or along the recreational trails should be substantial enough to withstand wind throw. Sign posts and confidence markers shall be protected. Ensure logging activity does not obliterate the trail. All stumps immediately adjacent to the trail shall be Flush-Cut to ensure stumps do not result in unsafe conditions. Prohibit widening of any narrow track recreational trail, blocking trail crossings or leaving slash and debris on any recreational trail or road.

**Fire Protection:**

**Additional Compartment Information:**

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

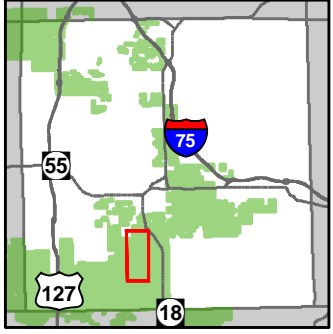
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

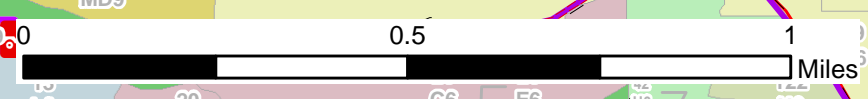
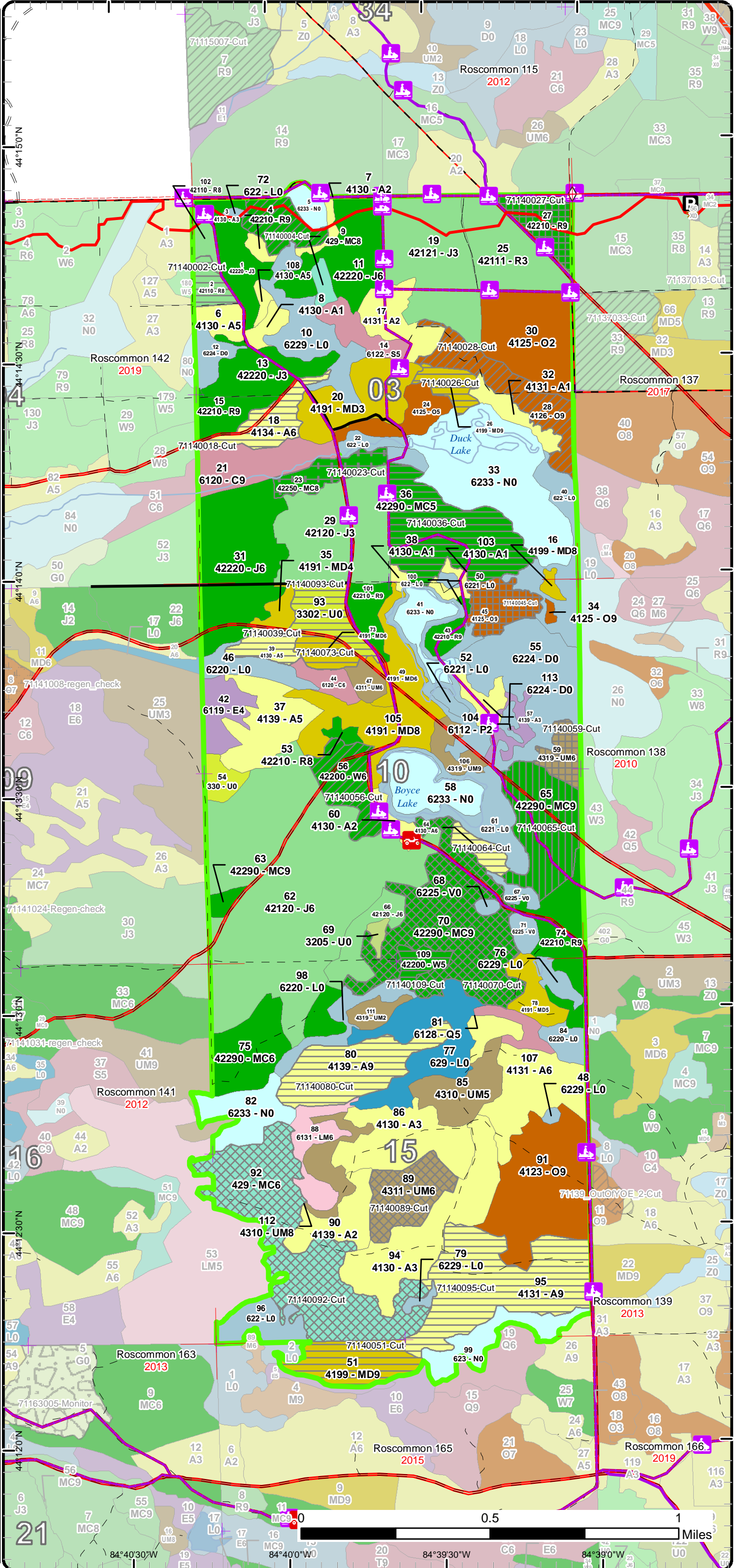
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

# Cover Type & Treatment Map

Compartment: 140  
 T21N,R03W, Sec.01, 10, 15  
 County: Roscommon  
 Unit: Roscommon  
 Mgmt Area: Upper Muskegon  
 YOE: 2018  
 Acres: 1944 GIS Calculated  
 Examiner: Doug Bates  
 Map Revised: 2/9/2017  
 Map Phase: Post-Review



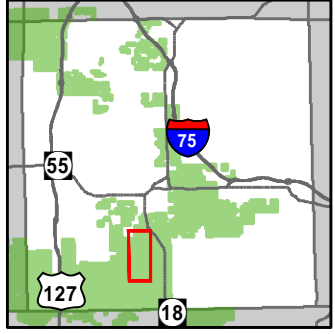
- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Culverts
- P Parking Lot
- \* Trailhead
- ORV Routes
- Snowmobile Trails
- Designated ATV Trails
- Designated ORV Route
- Designated Snowmobile Trails
- Highway
- Paved Roads
- County Gravel Roads
- Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Rivers
- Compartment Boundary
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- Harvest, Overstory Removal
- Thinning (Crown, Low, Systematic)
- Shelter Wood (w/Reserves)
- Seed Tree (w/Reserves)
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 320 - Upland Shrub
- 330 - Low Density Trees
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland
- Lakes



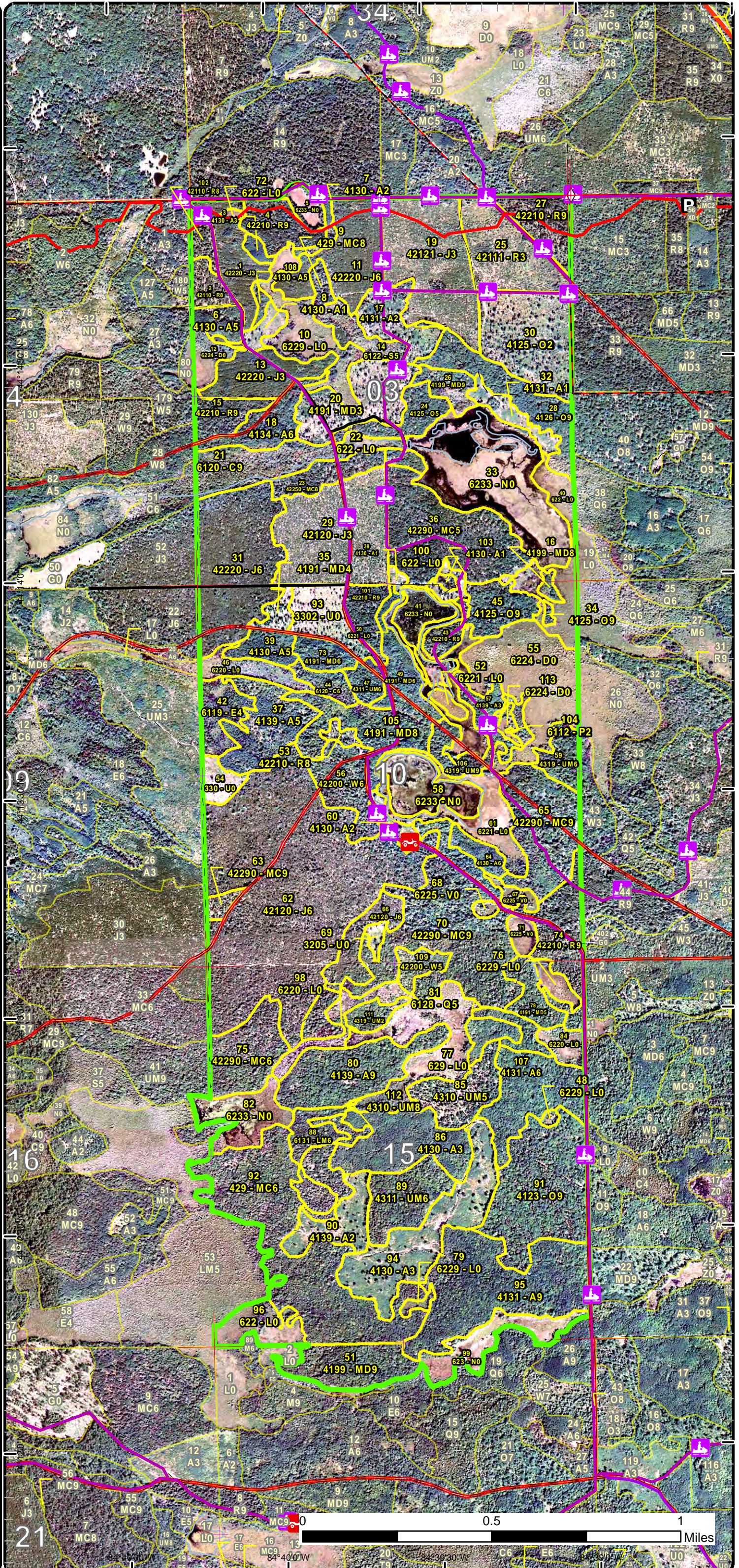
84°40'30"W 84°39'30"W 84°39'0"W

**Stand Boundary Map**

Compartment: 140  
 T21N,R03W, Sec.01, 10, 15  
 County: Roscommon  
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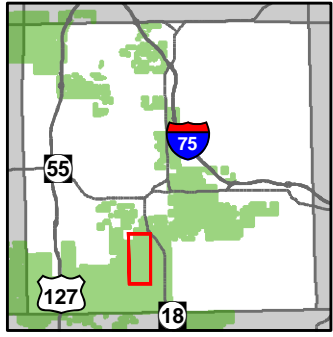


- Miris Corners
- + Remonumented Section Corners
- ◇ Field Grade GPS Corners
- Culverts
- P Parking Lot
- \* Trailhead
- ORV Routes
- Snowmobile Trails
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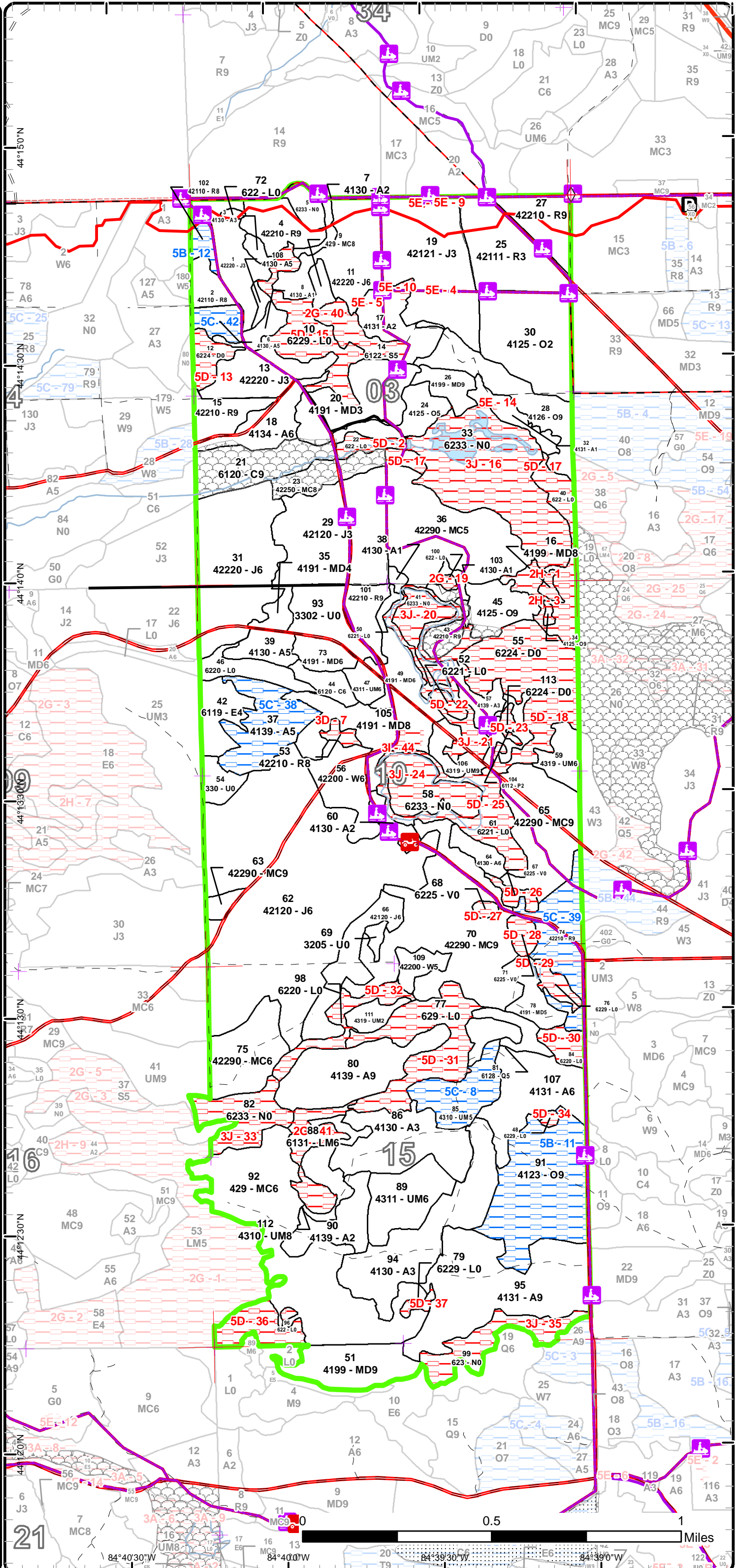


# Special Conservation Areas & Site Conditions Map

Compartment: 140  
 T21N,R03W, Sec.01, 10, 15  
 County: Roscommon  
 Unit: Roscommon  
 Mgmt Area: Upper Muskegon  
 YOE: 2018  
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- Highway
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- County Gravel Roads
- Gravel Roads
- County Poor Dirt Roads
- 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
- 2G: Too wet (sensitive soils, does not include access issues)
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 3D: Recreational / Scenic values
- 3I: Historical / archeological (add locked comments)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5D: Unproductive Forest Land
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes



21

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	95	0	51	0	29	106	14	0	32	0	0	0	0	0	0	0	0	326
Bog	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Cedar	0	0	0	0	0	0	0	0	0	0	22	6	0	0	0	0	0	0	28
Jack Pine	0	0	97	243	0	52	0	0	0	0	0	0	0	0	0	0	0	0	392
Low-Density Trees	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
Lowland Aspen/Balsam Poplar	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Lowland Conifers	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Lowland Deciduous	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	12
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14
Lowland Shrub	174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	174
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	10
Marsh	132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	132
Mixed Upland Deciduous	0	26	0	0	0	0	22	15	27	10	0	22	0	0	0	0	0	0	122
Natural Mixed Pines	0	0	0	0	0	47	29	0	0	15	34	0	0	0	0	0	0	68	193
Oak	0	0	37	0	12	0	0	0	0	0	25	66	0	0	0	0	0	0	140
Red Pine	0	0	30	0	0	0	0	0	23	15	36	3	0	0	0	0	0	16	122
Treed Bog	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
Upland Conifers	0	0	0	0	0	0	79	0	0	3	0	0	0	0	0	0	0	0	82
Upland Mixed Forest	0	0	0	5	0	0	11	0	7	9	0	18	21	0	0	0	0	5	76
Upland Shrub	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
White Pine	0	0	0	6	0	18	0	0	0	0	0	0	0	0	0	0	0	0	24
<b>Total</b>	<b>391</b>	<b>121</b>	<b>164</b>	<b>311</b>	<b>18</b>	<b>146</b>	<b>260</b>	<b>29</b>	<b>57</b>	<b>94</b>	<b>117</b>	<b>115</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>103</b>	<b>1944</b>



## Report 2 – Treatment Summary

Roscommon Mgt. Unit  
Year of Entry: 2018

Acres of Harvest

Compartment 140  
Total Compartment Acres: 1,944

Commercial Harvest - 541  
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	122	0	0	0	0	0	0	0	0	122
Low-Density Trees	16	0	0	0	0	0	0	0	0	16
Mixed Upland Deciduous	37	0	0	0	0	0	0	0	0	37
Natural Mixed Pines	47	68	0	0	34	0	12	0	0	160
Oak	0	0	0	14	0	25	0	0	0	38
Red Pine	7	0	0	15	0	13	0	0	0	35
Upland Conifers	0	79	0	0	0	0	0	0	0	79
Upland Mixed Forest	0	21	0	9	0	0	0	0	0	30
White Pine	6	0	0	0	0	18	0	0	0	24
<b>Total</b>	<b>235</b>	<b>167</b>	<b>0</b>	<b>37</b>	<b>34</b>	<b>56</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>541</b>

### Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	541	0	0	0	0	0	0	0	0	541
Next Step	0	161	85	0	0	60	617	0	0	923
<b>Total</b>	<b>541</b>	<b>161</b>	<b>85</b>	<b>0</b>	<b>0</b>	<b>60</b>	<b>617</b>	<b>0</b>	<b>0</b>	<b>1464</b>



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
2	71140002-Cut	6.8	42110 - Planted Red Pine	Sawtimber Medium	90	111-140	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

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

**Prescription** Final harvest stand removing all species to two inches. Mark to leave any of the super-canopy "monarch" red pines. Mark sure slash is light and spread out evenly for trenching. No retention due to small stand size.

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

**Acceptable Regen:** Red pine to full stocking

**Other Comment:** Place a recreational trail protection spec.

**Proposed Start Date:** 10/01/2017

4	71140004-Cut	13.2	42210 - Natural Red Pine	Sawtimber Well	79	171-200	Harvest	Low Thinning	42141 - Planted Mixed Pine, Mixed Deciduous	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

**Prescription** Do a low thinning and target leaving 70-90 basal area of red pine in the best form and use other species in areas of less red pine to meet this basal area if need be. Also manage for best in form. No retention and a higher allowance for damages to understory due to its density will need to be allowed. Roundwood operation only. The north border is a snowmobile trail with an additional ORV trail paralleling this trail about 50 feet into the stand. Make sure no activity occurs in the vernal ponds.

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

**Acceptable Regen:**

**Other Comment:** Place a recreational trail protection spec.

**Proposed Start Date:** 10/01/2017

18	71140018-Cut	14.3	4134 - Aspen, Spruce/Fir	Poletimber Well	60	111-140	Harvest	Clearcut with Retention	4130 - Aspen	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

**Prescription** Final harvest all species to two inches. Mark a half dozen large super-canopy red pine for diversity. Push into stand 21 where possible to try and salvage as much spruce/fir as possible. Cut during dormancy to stimulate regeneration. Paint out low areas for retention. Add drumming log spec.

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

**Acceptable Regen:** Aspen with a mix of other species to full stocking.

**Other Comment:** Place a recreational trail protection spec.

**Proposed Start Date:** 10/01/2017

23	71140023-Cut	11.6	42250 - Pine, Oak	Sawtimber Medium	81	111-140	Harvest	Overstory Removal	42211 - Natural Red Pine, Mixed Deciduous	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

**Prescription** Remove all pin oak and jack pine. Cut no white oak and thin the red pine down to a 70 basal area average. Remove poorly formed and very large red pine. Place a retention island 3% around the camp on west side of road. Push north line into stand 21 to salvage spruce/fir.

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

**Acceptable Regen:** Red pine and mixed deciduous to full stocking.

**Other Comment:** Place a recreational trail protection spec.

**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
26	71140026-Cut	7.8	4199 - Other Mixed Upland Deciduous	Sawtimber Well	89	51-80	Harvest	Clearcut with Retention	4199 - Other Mixed Upland Deciduous	Even-Aged	Draft Field Boundary

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

Prescription Final harvest all species to 2 inches except the white oak and red pine. Do not cut these species. At bottom of the slope it gets wet and thins out into a cedar overstory. Paint this area out and use for retention.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable maple, aspen, fir, and oak of varying percentages to full stocking

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

27	71140027-Cut	14.6	42210 - Natural Red Pine	Sawtimber Well	89	81-110	Harvest	Seed Tree	4221 - Natural Red Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Remove the red pine overstory to 20-30 basal area. Side towards leaving the largest red pine.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable a pine/oak mix

Regen:

Other

Place a recreational trail protection spec. in contract.

Comment:

Proposed Start Date: 10/01/2017

28	71140028-Cut	24.8	4126 - White, Black, N. Pin Oak	Sawtimber Well	92	141-170	Harvest	Low Thinning	4122 - Oak, Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Remove the oaks of poor quality, remove multi-stemmed red maples, and poorly formed white pine. Target basal area is between 70-90. Open up some regeneration gaps in the heavier oak areas. Side to white oaks for management and residual. Target the pin oaks.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable A oak/white pine mixed stand.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

36	71140036-Cut	47.2	42290 - Natural Mixed Pine	Poletimber Medium	47	81-110	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. Mark large crowned oaks, preferably white oak, for mast (less than one per acre) and place a 3 percent by area retention island around the vernal pond in the north central portion of the stand. Re-plant the site to red pine.

Specs:

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 with some mixed deciduous.

Regen:

Other

Place a recreational trail protection spec.

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
39	71140039-Cut	8.3	4130 - Aspen	Poletimber Medium	53	Unspecified	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Draft Field Boundary

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

Prescription Final harvest all species to two inches. Place retention along the south line in areas where the soils are softer in the stand and could leading to rutting issues.

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

Acceptable Major component being aspen, but mixed with other deciduous species to full stocking.  
Regen:

Other Place a drumming log spec.  
Comment:

Proposed Start Date: 10/01/2017

45	71140045-Cut	13.5	4125 - Black, N. Pin Oak	Sawtimber Well	100	111-140	Harvest	Seed Tree with Retention	4122 - Oak, Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Remove all aspen, jack pine, and oak. Mark 20 basal area average oak for residual mast/wildlife trees. Side towards leaving white oak or very large pines. With the red pine remove all down to 5 inches. Mark 20-30 basal area of large red pines for seed. Cut all white pine 8 inches and up. Place a 3 percent retention island in middle of stand.

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

Acceptable Mixture of oak and pine to full stocking.  
Regen:

Other Inter-plant with red pine should regeneration not meet full stocking.  
Comment: Place a recreational trail protection spec.

Proposed Start Date: 10/01/2017

51	71140051-Cut	21.7	4199 - Other Mixed Upland Deciduous	Sawtimber Well	101	111-140	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest stand removing all species to two inches. Mark to leave reserve trees of 10 basal area within stand. Reserve trees should be red and white pine monarchs and some pole sized red maple and white pine with healthy crowns.

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

Acceptable aspen with mixed pine and deciduous.  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2017

56	71140056-Cut	17.9	42200 - Natural White Pine	Poletimber Well	46	111-140	Harvest	Low Thinning	4220 - Natural White Pine	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Bring the residual stand basal area down to 70-90 basal area. First remove all aspen, then mark to remove the poor quality trees. Manage for best trees in place, siding towards white oak where applicable. Some regeneration gaps need to be created, 100 foot diameter averaging one for every two acres. No retention.

Next Step  
Treatments:

Acceptable  
Regen:

Other Place a recreational trail protection spec.  
Comment:

Proposed Start Date: 10/01/2017

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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
59 71140059-Cut	9.0	4319 - Mixed Upland Forest	Poletimber Well	89	111-140	Harvest	Seed Tree	42211 - Natural Red Pine, Mixed Deciduous	Even-Aged	Draft Field Boundary

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

Prescription Remove all species to 5 inch d.b.h., except the aspen and red maple. Remove these to 2 inches. Cut during dormancy period to help stimulate regeneration. Mark to leave 10-20 basal area of the large red pine and/or oaks for seeding/mast. Favor leaving of white oaks. Smaller size so no retention.

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

Acceptable Regen: Pine and mixed deciduous to full stocking.

Other Comment: Inter-plant with red pine to bring up to full stocking if needed.

Proposed Start Date: 10/01/2017

64 71140064-Cut	5.9	4130 - Aspen	Poletimber Well	53	Unspecified	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all species to 2 inches. Cut during dormancy to help alleviate rutting concerns and help stimulate regeneration.

Specs: Place a drumming log spec.

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

Acceptable Regen: Aspen to full stocking

Other Comment:

Proposed Start Date: 10/01/2017

65 71140065-Cut	34.0	42290 - Natural Mixed Pine	Sawtimber Well	96	51-80	Harvest	Shelterwood	4310 - Pine, Oak Mix	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Remove all aspen, jack pine and red maple to 2 inches. Mark to leave 30 basal area of large crowned oaks, preferably white, for mast/seed. In the pine overstory, leave 30 basal area of large crowned pine, preferably red, for a shelterwood. The damage amounts to the white pine understory will be high, but it is in such high amounts that cut access routes will not create a large impact. It will open up some regeneration gaps for the oaks. Roundwood operation only.

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

Acceptable Regen: Pine and oak mix of full stocking.

Other Comment: Some areas with have less residual b.a. left or none at all dependent upon the size and type of overstory currently present.

Place a recreational trail protection spec.

Proposed Start Date: 10/01/2017

70 71140070-Cut	67.6	42290 - Natural Mixed Pine	Sawtimber Well	59	111-140	Harvest	Group Selection	4220 - Natural White Pine	Uneven-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Do an overstory removal. Remove all jack pine and aspen. Then mark remaining canopy to a 70-90 basal area by focusing on removing large diameter and/or poorly formed trees. Manage for pole to small saw class white pine and side towards leaving white oak when possible. Create some opening under and around some large oaks for seeding. Roundwood operation only. The regeneration is so thick, the producer will need to cut access routes throughout stand. This will not impact the white pine regeneration amounts overall.

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

Acceptable Regen: White pine with mixed oak to full stocking.

Other Comment: Place a recreational trail protection spec.

Proposed Start Date: 10/01/2017

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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
73 71140073-Cut	7.7	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	53	Unspecified	Harvest	Clearcut with Retention	4131 - Aspen, Oak	Even-Aged	Draft Field Boundary

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

Prescription Final harvest all species to 2 inches. Cut during dormancy to help stimulate coppice regeneration. Mark about 10 basal area of super-canopy red and white pine for diversity. The wetter depressions along the south line exclude from the sale and leave as edge retention. Push into the lowland type where possible though to salvage some fir, etc.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen with a mixture of oak and white pine to full stocking.

Regen:

Other Place a drumming log spec.

Comment:

Proposed Start Date: 10/01/2017

80 71140080-Cut	32.4	4139 - Aspen, Mixed Deciduous	Sawtimber Well	89	81-110	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. Do not cut any white oak, just traces of it anyway. Place a 3 percent retention island at discretion of timber sale preparer. Cut during dormancy to help with regeneration of the older aspen and aide in the mat crossing. Place both drumming log and hare specs. in the sale. Wildlife division would like to leave the tops scattered and stand not chipped.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen

Regen:

Other Will require installation of composite mats over a narrow bog crossing between stands 77 and 88, approximately 150 feet.

Comment:

Proposed Start Date: 10/01/2017

89 71140089-Cut	20.8	4311 - Pine, Aspen Mix	Poletimber Well	110	111-140	Harvest	Group Selection	4221 - Natural Red Pine	Two-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all aspen and red maple to two inches. There are numerous very large red pines and white oaks in this stand that would be beneficial for wildlife and shading of younger white pine. Mark the large pine and oak down to a 40 basal area favoring to leave white oak when possible. Place a 5% retention island around the largest, most contiguous red pine component. Should be around the middle of the stand.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable pine with mixed 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
92	71140092-Cut	78.9	429 - Mixed Upland Conifers	Poletimber Well	50	111-140	Harvest	Group Selection	42201 - Natural White Pine, Mixed Deciduous	Even-Aged	Draft Field Boundary

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

Prescription Treat be removing all the fir, spruce, pin oak, and aspen. Delineated out any wet areas but push into adjacent spruce/fir types where possible.

Specs: In the heavier pine area, the target basal area is 70-90. To get this, remove poor quality pine/maple first, then larger saw classed trees. Leave the better pole stock and smaller saw class pine. Take red maple first, then white pine, and lastly red pine. In the areas where the canopy is more red maple, manage for the best tree in place and bring the basal area to 70-90 also. Do not cut any super-canopy pines or pin oaks that will be good for wildlife.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Pine mix, mixed with deciduous

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

93	71140093-Cut	15.9	3302 - Low Density Conifer Trees	Nonstocked		Unspecified	Harvest	Clearcut	42211 - Natural Red Pine, Mixed Deciduous	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all the red pine. Competition seems light so herbiciding should not be required. Some roller chopping may be needed to prepare

Specs: the site for trenching/planting of red pine.

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

Treatments:

Acceptable planted red pine with some oak to full stocking.

Regen:

Other

Place a recreational trail protection spec.

Comment:

Proposed Start Date: 10/01/2017

95	71140095-Cut	60.6	4131 - Aspen, Oak	Sawtimber Well	56	141-170	Harvest	Clearcut with Retention	4139 - Aspen, Mixed Deciduous	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Final harvest all species to 2 inches. Mark to leave 10-20 basal of larger oaks for mast, preferably the whites, and large red pine for diversity.

Specs: Place a couple retention island within stand totaling 5 percent for both.

Place the drumming log spec.

Place the recreation trail protection spec.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen with mixed pine and deciduous to full stocking.

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
109	71140109-Cut	6.2	42200 - Natural White Pine	Poletimber Medium	26	1-50	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary

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

Prescription Final harvest all species to 2 inches. Leave no retention due to the small size and replant to red pine.

Specs:

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

Acceptable Fully stocked red pine

Regen:OtherComment:

Proposed Start Date: 10/01/2017

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**Total Treatment  
Acreage Proposed: 540.7**



**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	9
<b>Comments</b>				
This area no longer meets the criteria to be classified as a Special Conservation Area.				
	Potential Old Growth		SCA Removal	33
<b>Comments</b>				
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.



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## Roscommon Mgt. Unit

## Report 7 – Forested Stands

Compartment: 140  
Year of Entry: 2018

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42220 - Natural Jack Pine	Sapling Well	17.5	27	Unspecified	Jack pine stand naturally revegetated by roller chopping. Very high stems per acre.
2	42110 - Planted Red Pine	Sawtimber Medium	6.8	90	111-140	Planted around 1927 amongst some natural monarchs. Height=75 ft. Stand is ready to be final harvested and replanted to red pine. Very little understory competition to contend with reestablishing stand.
3	4130 - Aspen	Sapling Well	2.2	27	Immature	Very nice aspen stand with very little in the way of other species mixed in.
4	42210 - Natural Red Pine	Sawtimber Well	13.2	79	171-200	Thinned around 1990. The east and west flanks of the stand are a higher plateau with minimal regeneration in the understory but real nice red pine of both merchantable classes. The middle is a draw with red pine, oak, and log sized white pine. The mid-canopy is pole white pine and the understory is a thicket of white pine. The stand needs to be treated to promote best formed red pine. Will get damage to understory no matter what. Recommend a thinning for now of 70-90 targeting red pine for best in form residual and encompass other species if pine is less in areas.
6	4130 - Aspen	Poletimber Medium	7.0	51	Unspecified	The northern third of the stand is sparser populated and is mainly stump sprouted oaks and pine. The remainder is denser aspen clones of 75 percent closure. Not much understory regeneration. Hold stand for one more rotation to stagger age class in M.A..
7	4130 - Aspen	Sapling Medium	2.9	27	Unspecified	North half of stand is nice dense aspen. The southern half is sparser and contains more oak, cherry, etc. There is also a small marsh grass depression in the middle of the stand.
8	4130 - Aspen	Sapling Poor	4.6	5	Immature	Sale completed in the spring 2012.
9	429 - Mixed Upland Conifers	Sawtimber Medium	3.4	80	81-110	Manage oak pine mix using intermediate cuts to manage for natural oak and pine regen. SALE COMPLETE.  Currently a mixed stand that has a ridge running north/south. The east half is higher and was treated last YOY. It slopes down to the west into wetter soils. This is where most of the maple and fir are. Oak/pine is on the high ground. Let the stand go one more rotation to see if can get more oak regeneration, then treat. Probably seed tree pine/oak and clearcut maple/fir.
11	42220 - Natural Jack Pine	Poletimber Well	29.0	27	Unspecified	roller chopped jp stand
13	42220 - Natural Jack Pine	Sapling Well	19.7	27	Immature	roller chopped jack pine stand with pockets of aspen along fringe.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
14	6122 - Black Spruce	Poletimber Medium	10.3	85	81-110	Cedar is all on north tip and has full understory of balsam the rest in black spruce with alder understory. Has a leatherleaf groundcover. Would not be able to treat for the spruce budworm salvage without causing extensive damage to soils even in frozen conditions. This is the headwaters for a stream flowing into stand 33. There is about an acre plus jack pine inclusion on the west side. It was part of stand 13's plantation but is not separated from the parent stand by lowland marsh. Will not be able to access it now from stand 13.
15	42210 - Natural Red Pine	Sawtimber Well	10.2	79	81-110	Natural red pine stand as evident by super-canopy red pine and the mix of species and ages. Some oak, maple and other pine mixed in. The oak is dying off. Mostly red maple and white pine in understory. Most of the smaller red pine is stunted, but should hold the stand one more rotation and then final harvest and replant to red pine.
16	4199 - Other Mixed Upland Deciduous	Sawtimber Medium	1.9	83	81-110	Inaccessible island surrounded by marsh.
17	4131 - Aspen, Oak	Sapling Medium	15.6	9	Immature	Stand cut in 2008 leaving heavy retention along snowmobile trail. Lots of red pine supercanopy. Good mixed stand that still has some sparse areas with just seedlings and no saplings sizes. This makes it just still under the 75% canopy closure.
18	4134 - Aspen, Spruce/Fir	Poletimber Well	14.3	60	111-140	Very poor quality stand with overmature oak. The finger between stand 15 and 21 is mainly spruce and fir. recommend final harvesting stand to restart the aspen and salvage the spruce/fir. Do in dormancy to help stimulate coppice regeneration. Paint out the low area along the southern border for retention. Push into stand 21 where possible to get high ground spruce/fir.
19	42121 - Planted Jack Pine, Mixed Deciduous	Sapling Well	47.6	14	Immature	Jack pine plantation established in 2003. Has a lot of competition from oak and cherry. Will be mixed stand in future.
20	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	25.6	9	Immature	Part of Duck Lake Pine cut in 2008. This unit had more jack pine in it. Expect some jack pine regeneration in the next few years. Heavy red pine retention left throughout. Some of the oak retention died in summer of 08.
21	6120 - Lowland Cedar	Sawtimber Well	21.5	91	171-200	Smaller diameter cedar with a dense fir understory. The outer perimeter is higher basal area. The sparser center contains more blowdown with a flowing stream running the length of the stand. There are numerous side seeps also coupled with the stream eliminates any salvage operations. Heavy deer sign.
23	42250 - Pine, Oak	Sawtimber Medium	11.6	81	111-140	Overmature oak and jack pine that are dying off. This is mainly the east side of the road. West of the road there is more red pine. Better regeneration on the west side also. Recommend go in and removing all the oak and jack pine. Mark the residual red pine to 70 basal area average. Place a retention island around the campsite on west half. Push into stand 21 where possible to remove spruce/fir.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
24	4125 - Black, N. Pin Oak	Poletimber Medium	11.9	39	81-110	Old fire - May have been salvaged. Mostly oak stump sprouts of poorer quality. Sparser on the east side. West side has some aspen understory. The oak is not quite ready to treat and the older species are longer lived and will hold till the oak is ready.
25	42111 - Planted Red Pine, Mixed Deciduous	Sapling Well	29.8	13	Immature	Red pine plantation with heavy competition from other species. The red pine seems to be holding its own and tops other species in most spots. Still will be probably a mixed stand.
26	4199 - Other Mixed Upland Deciduous	Sawtimber Well	7.8	89	51-80	Stand slopes down into the marsh to the southeast. The overstory is mature maple and aspen. Dense balsam fir understory but most of it is not of merchantable size yet. Could be a good stand to salvage/treat because of the fir content.
27	42210 - Natural Red Pine	Sawtimber Well	14.6	89	81-110	thinned in 2000. A couple of natural monarchs within. The west side has less red pine overstory and more oak and cherry coming in. Find oak in the red pine understory also. The basal area is higher on the east side. Has a snow trail on two sides and bisected by an ORV trail. Seed tree harvest to get a pine/oak mix.
28	4126 - White, Black, N. Pin Oak	Sawtimber Well	24.8	92	141-170	Smaller diameter saw class stand with white oak being the predominate species. Look at doing a low thin removing the smaller oaks of poor quality. Open up some regeneration holes and manage for an oak/pine stand. Not a heavy amount of regeneration in understory now to contend with and damage during treatment. remove the multi-stemmed red maple and poor quality pine to reach target Basal area. Transitions to lowland red maple at the SE corner. White pine understory to east and red maple/cherry to the west.
29	42120 - Planted Jack Pine	Sapling Well	49.3	14	Immature	Mix of pin cherry and northern pin oak in a jack pine plantation
30	4125 - Black, N. Pin Oak	Sapling Medium	37.1	15	Immature	There is about a 10 basal area of residual saw-sized overstory left post-harvest. Species range from white oak to both red and white pine. They are not affecting the understory regeneration so should be left for visual. Site was slated to be burnt but was dropped. Don't need it, site regenerating good on it's own.
31	42220 - Natural Jack Pine	Poletimber Well	52.3	40	Unspecified	Dense natural regeneration of jack pine of smaller diameter with numerous sapling sizes in the overstory, Believe the density is contributing to the smaller diameters.
32	4131 - Aspen, Oak	Sapling Poor	7.7	6	Immature	Steep sloped stand leading into a marsh. It is revegetating back to aspen from a previous harvest.
34	4125 - Black, N. Pin Oak	Sawtimber Well	0.9	100	81-110	Small overmature oak stand converting to pine. Inaccessible and would be best to let go natural.
35	4191 - Mixed Upland Deciduous with Conifer	Poletimber Poor	4.8	60	1-50	Oak overstory is poor quality stump sprouted oaks. Evidence of decline in some of the oaks. The understory has a fair amount of jack pine coming in mixed with some maple, cherry, and red pine. There are some oak seedlings. Allow oak to go till reaches rotation age and remove. This will give more time for the pine to fill in.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	42290 - Natural Mixed Pine	Poletimber Medium	47.2	47	81-110	Poor quality jack pine stand that has pockets of mortality. Site has not reached rotation age but recommend final harvesting and establishing site to red pine. Soil type sides towards red pine. Stand 104 was harvested last YOE but has since mostly converted to a low type. The high ground portion that adjoined this stand was placed into this stand.
37	4139 - Aspen, Mixed Deciduous	Poletimber Medium	24.1	56	Unspecified	Poor quality aspen stand with several wet swales mixed in, none bigger than a standard swimming pool. Let go another rotation to stagger treatments in compartment. Even if treat now versus later it will not regenerate well to aspen based on current cover.
38	4130 - Aspen	Sapling Poor	1.5	6	Immature	
39	4130 - Aspen	Poletimber Medium	8.3	53	Unspecified	Not a very good aspen stand. Sparse with the best aspen along the south fringe where it transitions into a lowland. Currently under water. May not be able to treat all of stand. Think it is best to treat stand now during dormancy and try to stimulate some better coppice regeneration. Place retention along the south line in the areas do not believe will be able to treat due to soft ground.
42	6119 - Mixed Lowland Deciduous Forest	Poletimber Poor	12.5	58	Unspecified	Poor quality stand with wet soils even under the forested canopy. The unforested areas are tag alder or leatherleaf that feed water into the forested areas. Tag alder is found in some amounts throughout the entire stand. Humucky ground. Best not to try and operate in.
43	42210 - Natural Red Pine	Sawtimber Well	5.5	126	81-110	Small stand with large super-canopy red pine with a mid-canopy and understory of white pine. Would create a fair amount of damage to the mid and sub-canopies try to remove the red pine and aspen. Let stand one more rotation to see if understory matures to the point where less damage will occur to it should a treatment be done. Would mark some pine to cut and spec cut oak/aspen if we treat.
44	6120 - Lowland Cedar	Poletimber Well	6.3	109	171-200	Numerous drains and wet depressions making area to sensitive to treat. The balsam fir is full in the easterly 2/3rds and none in the dense cedar on the west 1/3rd.
45	4125 - Black, N. Pin Oak	Sawtimber Well	13.5	100	111-140	Overmature oak stand with red pine mixed in. Real good red and white pine regeneration in the understory. Manage for that.
47	4311 - Pine, Aspen Mix	Poletimber Well	4.9	64	171-200	The aspen and white pine in good shape. The aspen is not quite as old as the white pine, but is at rotation age. It will currently hold another ten years and then should treat stand, maybe TSI. Other aspen stands in the vicinity that are at a higher priority.
49	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	14.3	53	81-110	Not a very high percentage of aspen but it is the dominate species. The understory is heavy to red maple throughout with areas with high amounts of either white pine or oak.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
51	4199 - Other Mixed Upland Deciduous	Sawtimber Well	21.7	101	111-140	Stand was originally Stand 3, Compartment 165, but was combined into this compartment for treatment purposes. Mature aspen stand with red maple, pit and mound topography wetter to the north the pine is very good. White pine of various heights is well developed in the understory, in some places just reaching the canopy. The aspen is beginning to senesce the east part of the stand has more aspen in the canopy and the west side has more red maple in the canopy. White pine is mostly supercanopy. The white pine understory density is full in some places and low in others.
53	42210 - Natural Red Pine	Sawtimber Medium	2.5	101	81-110	Thinning with open regeneration gaps. The only regeneration coming in is red maple from stump sprouting. There is some white pine that is only found right near the base of the residual red pines. Small size. Leave for aesthetics.
56	42200 - Natural White Pine	Poletimber Well	17.9	46	111-140	Very dense white pine stand with many sapling sized white pine dying out. Stand could use a TSI/low thinning by removing basal area down to 70-90. Remove the poor quality tress first along with aspen. Gaps need to be created but not enough removed to cause the white pine to weevil. Several super-canopy red and white pines throughout, so believe the stand is natural.
57	4139 - Aspen, Mixed Deciduous	Sapling Well	6.3	28	Unspecified	Not one of the better aspen stands. The outer fringes has oak and pine grading into maple then leatherleaf ground cover. The north end has the largest aspen and corresponding highest ground. Several sparse areas.
59	4319 - Mixed Upland Forest	Poletimber Well	9.0	89	111-140	Poor quality stand. The pine is at maturity and the aspen is not doing very good. Try to restart the aspen by harvesting this stand in the dormancy period. Will leave eith large red pine or oaks for mast/seeding. Hope to get a mix pine/aspen stand. If stand fails to regenerate fully, interplant red pine.
60	4130 - Aspen	Sapling Medium	4.9	6	Immature	Some overstory white oak and white pine left post-harvest. Find trace amounts of red and jack pine seedlings.
62	42120 - Planted Jack Pine	Poletimber Well	163.4	26	Unspecified	Most of this stand burned in a fire. Looks like it was trenched and seeded amongst low density natural jack pine that is about 2" dbh ahead of seeded stuff. Has supercanopy red pine.
63	42290 - Natural Mixed Pine	Sawtimber Well	3.1	80	81-110	Nice stand that was thinned last YOE.
64	4130 - Aspen	Poletimber Well	5.9	53	Unspecified	Decent aspen stand with some low wet depressions. Harvest during dormancy to help with rutting concerns and help stimulate regeneration.
65	42290 - Natural Mixed Pine	Sawtimber Well	34.0	96	51-80	Overmature pine/oak stand. Recommend treating it by removing most of the oak, all of the aspen, jack pine, and maple. Mange for the pine/oak mix.
66	42120 - Planted Jack Pine	Poletimber Well	13.1	26	Immature	Some large saw classed jack pine throughout. Appears to have been seeded to jack pine under an existing jack pine cover.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
70	42290 - Natural Mixed Pine	Sawtimber Well	67.6	59	111-140	WP has regenerated in various cohorts. Becoming multi-storied. Oak transitions away as it gets wetter to the south. Areas of red maple poles w/ white pine understory and pockets of red pine near flooding. Areas around 73 have some lowland type in them. There is a trace of hemlock and cedar in the SE corner. The oak is starting to die off. Manage for white and red pine in stand.
73	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	7.7	53	Unspecified	A younger aspen, maple, and oak stand mixed with more mature red and white pine. The maple and aspen are stump sprouted mainly and are of poor quality. The understory regeneration is a mix but not heavily. Aspen regeneration is being browsed hard. The southern edge has several low depressions sloping into the cedar type. Wet and would be best to leave out of sale and leave for edge retention. Recommend treating now to beat maple.
74	42210 - Natural Red Pine	Sawtimber Well	24.1	95	111-140	Very nice red pine stand in the mid-sized saw class. Stand was thinned in 1991. The basal area is running almost 120 through most of the stand with it being slightly less in the southern third. The white pine understory is so thick that you need to part it with your arms to walk through. Let stand go another rotation and look at either thinning again or restarting it to younger red pine.
75	42290 - Natural Mixed Pine	Poletimber Well	28.7	56	81-110	Large overstory red pine and overmature oak. The mid-canopy is a pole class white and jack pine stand. Some of the jack pine is dying, but overall the stand is alright and the predominate species is longer lived. Let go another rotation and manage for a white/red pine mixed stand.
78	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	9.9	62	81-110	Open grown low quality overmature pin oak with a good component of white pine establishing itself. Could manage for oak and pine and sustain some pin oak browse by cutting or the better choice is to leave it for mast and let it convert to white pine. It is going to anyway. Majority of pin oak are past the point of stump sprouts.
80	4139 - Aspen, Mixed Deciduous	Sawtimber Well	32.4	89	81-110	Overmature aspen stand that will become red maple and white pine if not treated now. There is a place that can be crossed with composite mats on the downward side of a large beaver dam. The location is where stands 77 and 88 meet. About 150 across.
81	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Medium	6.0	37	51-80	Small stream flowing through middle of the stand with tag alder and dead ash lining the narrow outwash plain. The banks taper slightly upward and are full of balsam fir, followed by maple and cedar. Too narrow and a BMP concern to try and cut the fir.
85	4310 - Pine, Oak Mix	Poletimber Medium	18.1	105	51-80	Sparse stand with mature oak and white pine overstory. The understory is a mix of maple, white pine, and oak. There is a large opening in the center used for camping. Has some cherry brush in it. The site is at rotation age, but the major species is longer lived, so recommend holding off one more rotation and then shelterwood the site. This will stagger the age classes/treatments in the area.
86	4130 - Aspen	Sapling Well	37.3	27	Unspecified	aspen cut in 1990



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
88	6131 - Hemlock, White Pine, Maple, Birch	Poletimber Well	13.5	68	141-170	Sphagnum ground cover. The center core that is lower/wetter has less basal area. Transitions into mostly lowland. The wetter areas contain the maple, spruce and tag. The higher ground contains the white pine with spruce. Will be treating stand 80 to the north so will be pushing into this stand where possible.
89	4311 - Pine, Aspen Mix	Poletimber Well	20.8	110	111-140	Mature pine and aspen stand needing to be treated. Red pine is the dominant species so will manage for this by final harvesting the stand. Will not leave any residual trees within the stand so can aerial herbicide if needed. Leave a 3-5 percent retention island at the southern most tip.
90	4139 - Aspen, Mixed Deciduous	Sapling Medium	15.2	6	Immature	Sparse regeneration aspen with large open areas with just some scattered oak seedlings and cherry.
91	4123 - Red Oak	Sawtimber Well	51.8	107	51-80	Stand was thinned last rotation. Only regeneration getting back is stump sprouted red maple. There is a younger aspen component in stand. A retention island exists in the middle of the stand, south of the 2-track that has red pine over hemlock. Recommend going another rotation to see if more oak establishes it self and do either another thinning or shelterwood.
92	429 - Mixed Upland Conifers	Poletimber Well	78.9	50	111-140	Mixed stand where going to manage for a white and red pine mix. The north end has some small wet swales that will need to be delineated out but at the same time push into the spruce/fir type where possible.
94	4130 - Aspen	Sapling Well	41.8	6	Immature	Nice dense aspen regeneration.
95	4131 - Aspen, Oak	Sawtimber Well	60.6	56	141-170	All the oak and red pine are super-canopy. Nice aspen is ready to treat.
101	42210 - Natural Red Pine	Sawtimber Well	9.6	73	81-110	Red pine was thinned about 5 years ago. The oak and red maple in the mid-canopy is poor quality. Very little regeneration except for white pine which is sparse except for the northern third.
102	42110 - Planted Red Pine	Sawtimber Medium	5.1	90	81-110	Planted around 1927 amongst some natural monarchs. The north third is bisected by an ORV trail. The pine is smaller in diameter, most likely suppressed ones from the overstory removed 5 years ago. Not enough basal area for another thinning and the red pine understory is good. Recommend holding another rotation to first see how the regeneration takes off and then allow the red pine to put some diameter on their boles. They are long lived and will hold.
103	4130 - Aspen	Sapling Poor	3.4	6	Immature	
104	6112 - Lowland Aspen	Sapling Medium	6.2	28	Unspecified	Lowland aspen stand with scattered white and jack pine with an understory of tag alder in places. Ground cover is leatherleaf.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
105	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Medium	26.8	75	81-110	Pine mix with heavy red maple component. Dense white pine understory that has been toppled by some snow. The mid-canopy is heavy red maple poles and small sawlog class. The maple was shaded and higher age. Recommend managing this stand for white/red pine mixed with a deciduous mix.
106	4319 - Mixed Upland Forest	Sawtimber Well	7.3	74	111-140	Intermittent streams flowing to the east. Contains hemlock and birch along these streams. Will need to buffer with retention islands. The rest of the stand is large mature red and white pine overstory mixed with poor quality overmature Pin Oak. The mid-canopy is the maple. The understory is dense white pine with some red maple. Treat and manage for the understory white pine. There will be damage to some of the understory, no way around it. It's amounts will rebound though. The far southeast tip is lower ground with mostly small maple poles. Site may contain an archeological site so needs to be surveyed to determine .
107	4131 - Aspen, Oak	Poletimber Well	29.0	44	81-110	Mature oaks mixed with younger aspen and maple. Let the stand go one more rotation, the oaks will hold and allow the aspen to get to rotation age. A small stream flows along the border between this stand south line and the north line of stand 91. Hemlock line the stream.
108	4130 - Aspen	Poletimber Medium	1.9	27	Immature	Aspen clone mixed in with pine that came back from the treatment done to stand 1.
109	42200 - Natural White Pine	Poletimber Medium	6.2	26	1-50	Cut in 1991 and rx'd to plant, but never done. It has come back to a very poor quality sparse stand. The canopy closure is higher because of the bushy white pine. The pine is weeviled. Never will be a good stand that could be managed in the future so recommend cutting it and planting it to red pine like it should have been 25 years ago.
111	4319 - Mixed Upland Forest	Sapling Medium	5.4	26	Immature	High ground island surrounded on all sides by low ground.
112	4310 - Pine, Oak Mix	Sawtimber Medium	11.0	50	81-110	Overmature oak and aspen. Let go one more rotation and manage for the pine, some of the oak and aspen may have died out but is good for wildlife.





Stand	Cover Type	Acres	Managed Site	General Comments:
5	6233 - Wet Meadow	5.5	No	Grass marsh with steep outer slopes forested with log class white pine and some oak. This keeps slope from eroding and from illegal vehicle traffic.
10	6229 - Mixed lowland shrub	24.2	No	Doqwood, tag, and leatherleaf.
12	6224 - Treed Bog	7.0	No	Leatherleaf bog with a small island at the northern end of spruce and tamarack. Would not be able to get to and treat this small island.
22	622 - Lowland Shrub	4.6	No	
33	6233 - Wet Meadow	60.5	No	Duck Lake
40	622 - Lowland Shrub	24.1	No	
41	6233 - Wet Meadow	11.6	No	
46	6220 - Alder/willow	10.0	No	
48	6229 - Mixed lowland shrub	1.0	No	Has a fringe of maple, oak , and aspen around the outer perimeter.
50	6221 - Fen	16.5	No	
52	6221 - Fen	2.4	No	
54	330 - Low-Density Trees	6.3	No	Sale completed in 2011. This is a naturally regenerating jack pine stand that just hasn't reached the forested canopy percentage. The jack pine is coming in though and should be forested by next YOY> Don't need to do anything. The pine ranges from 6" to 3', so it is still establishing itself. Decent amount of cherry but should eventually be overtaken. Aspen is good in the couple clones it's in. Over 5' tall.
55	6224 - Treed Bog	43.2	No	
58	6233 - Wet Meadow	18.9	No	Boyce Lake
61	6221 - Fen	21.3	No	
67	6225 - Bog	3.4	No	Leatherleaf
68	6225 - Bog	1.6	No	Leatherleaf.



Stand	Cover Type	Acres	Managed Site	General Comments:
69	3205 - Mixed Upland Shrub	2.1		Still not forested. Just a couple of small aspen clones coming back. Several large open areas with sporadic cherry, oak, maple, and/or jack pine here and there. The maple and oak being browsed hard by the deer. Wildlife division would like this to stay as is for a non-managed opening till it regenerates fully on its own in the future.
71	6225 - Bog	4.2	No	
72	622 - Lowland Shrub	0.9	No	
76	6229 - Mixed lowland shrub	4.7	No	
77	629 - Mixed non-forested wetland	31.4	No	Open grassy marsh with water for most times of year. Find pockets of red osier dogwood also.
79	6229 - Mixed lowland shrub	1.8	No	
82	6233 - Wet Meadow	18.0	No	
84	6220 - Alder/willow	6.3	No	
93	3302 - Low Density Conifer Trees	15.9		Stand was cut leaving about 10-20 basal area of large red pine trees. These were left for natural seeding. The site was then burnt to prepare the seed bed for the pine and kill off competition. It didn't work, no pine has seeded in and the oak and cherry so no signs of dying off. Oaks is either small seedling or 10 stump sprouts. Recommend removing the residual pine and replant the red pine artificially.
96	622 - Lowland Shrub	13.0	No	
98	6220 - Alder/willow	10.7	No	
99	623 - Emergent Wetland	17.5	No	flooding with multiple beaver dams.
100	622 - Lowland Shrub	1.2	No	Lowland bog with a pocket of trees on the east side that is still in wet soils, that is why they were not cut in adjacent treatment.
113	6224 - Treed Bog	2.2	No	