



Compartment Review Presentation

Roscommon Forest Management Unit

Compartment 71180

Entry Year 2018

Acreage: 1,683

County Ogemaw

Management Area: Kirtland's Warbler

Revision Date: 2016-07-26

Stand Examiner: Doug Bates

Legal Description:

T24N R01E Section 25

T24N R02E Sections 29 & 30

Identified Planning Goals:

Maintain current age and cover-types as specified in the Kirtlands Warbler Recovery Plan (KWRP) in that part of the compartment which is within the plan. Maintain current age and species diversity in a range of early and late successional ecosystems in the rest of the compartment.

Soil and topography:

Terrain is flat to rolling in the western 2 sections. The eastern section of the compartment is rolling to hilly terrain. Soils are mostly Graycalm or Mancelona sand.

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

This compartment is a solid block of state ownership except for 160 acres of wooded private property in Section 30. There is also a U.S.F.W.S. parcel in Section 29 which is managed concurrently with the state land for kirtlands warbler habitat.

Unique Natural Features:

Potential for Rough Fescue, Hills Thistle, Pale Agoseris, and Allegheny Plum and other pine barren/savannah species throughout the compartment with some species of the above recorded in the compartment in recent years.

Archeological, Historical, and Cultural Features:

None identified or found during inventory.

Special Management Designations or Considerations:

That portion of the compartment within the KWRP is classified as an HCVA.

Watershed and Fisheries Considerations:

None

Wildlife Habitat Considerations:

Mineral Resource and Development Concerns and/or Restrictions

Section 25, T24N R1E and Sections 29-30, T24N R2E, Ogemaw County

Surface sediments consist of sand and gravel from ice-contact drift, glacial outwash, and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Mississippian Coldwater Shale. The Coldwater does not have a current economic use. The nearest active sand and gravel activity is located greater than three miles away, but potential should be good on the uplands, particularly in Section 29. Most of the compartment is within the Rose City Oil Field. The field has produced oil and gas from the Devonian Detroit River Group and is in secondary recovery operations currently. The main field also produces oil gas, and gas condensate from the Prairie du Chien. Most of the state lands in the compartment are currently leased and held by production.

Vehicle Access:

Access is good along county and oil well roads. Close trails where possible as well sites are abandoned.

Survey Needs:

None at this time

Recreational Facilities and Opportunities:

Ambrose to Rose City 50" - MCCT ORV trail occurs near Stoney Ridge Road. Snowmobile Trail 6 occurs along the south compartment boundary. 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. Retention of trees near or along the recreational trail that are substantial enough to withstand wind throw are encouraged. 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 the recreational trail.

Fire Protection:

Additional Compartment Information:

Stands 12, 15, and 16 are currently under contract for treatment. Timber sale # 71-007-14-01.

The following reports from the Inventory are attached:

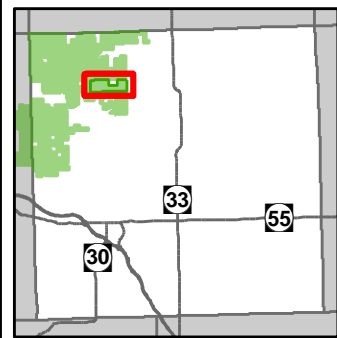
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

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

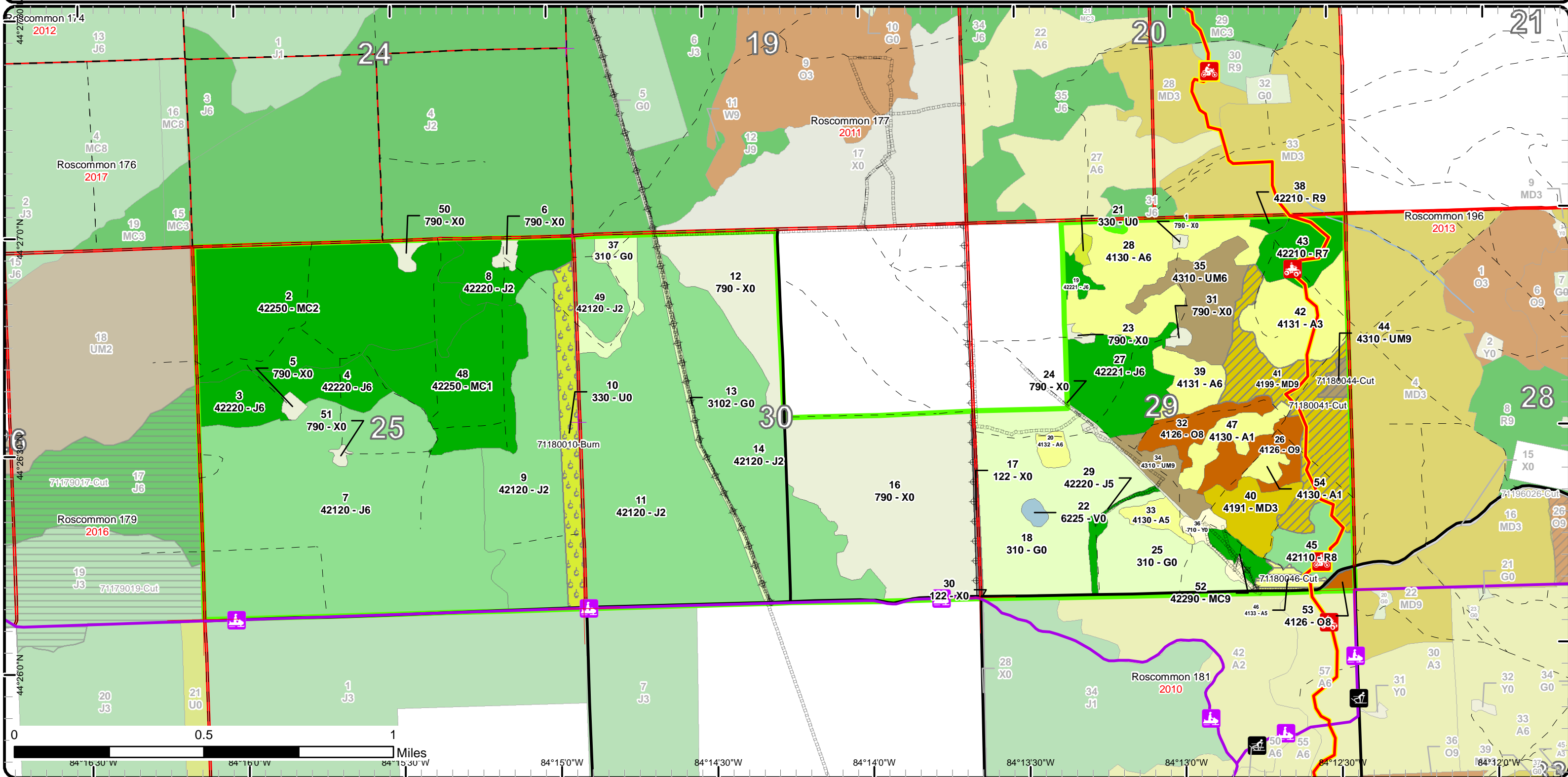
Base feature information, stand boundaries, cover types, and numbers
Proposed treatments
Site condition boundaries
Details on the road access system

Cover Type & Treatments Map

Compartment: 180
 T24N, R02E, Sec. 29-30
 T24N, R01E, Sec. 25
 County: Ogemaw
 Unit: Roscommon
 Mgmt Area: Kirtland's Warbler
 YOE: 2018
 Acres: 1683 GIS Calculated
 Examiner: Doug Bates
 Map Revised: 2/9/2017
 Map Phase: Post-Review

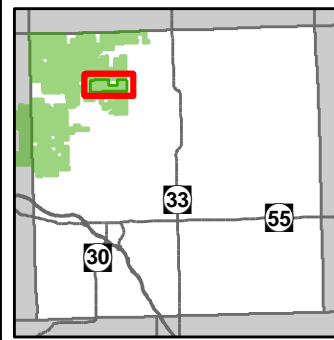


- Miris Corners
- + Remonumented Section Corners
- 🚲 MCCCT Trails
- 🚲 ORV Trails
- 🚶 Ski Trails
- 🚲 Snowmobile Trails
- Designated ATV Trails
- Designated Snowmobile Trails
- Michigan Cross Country Cycle Trail (MCCCT)
- Paved Roads
- County Gravel Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Rivers
- Pipeline
- ⊕ Powerline
- ▭ Compartment Boundary
- ▭ Clearcut (w/Reserves)
- ▭ Prescribed Burn
- ▭ Thinning (Crown, Low, Systematic)
- ▭ 412 - Oak Types
- ▭ 413 - Aspen Types
- ▭ 419 - Mixed Upland Deciduous
- ▭ 421 - Planted Pines
- ▭ 422 - Natural Pines
- ▭ 430 - Upland Mixed Forest
- ▭ 122 - Roads/Parking Lot
- ▭ 310 - Herbaceous Openland
- ▭ 330 - Low Density Trees
- ▭ 622 - Lowland Shrub
- ▭ 710 - Sand/Soil
- ▭ 790 - Other Bare/Sparsely Vegetated

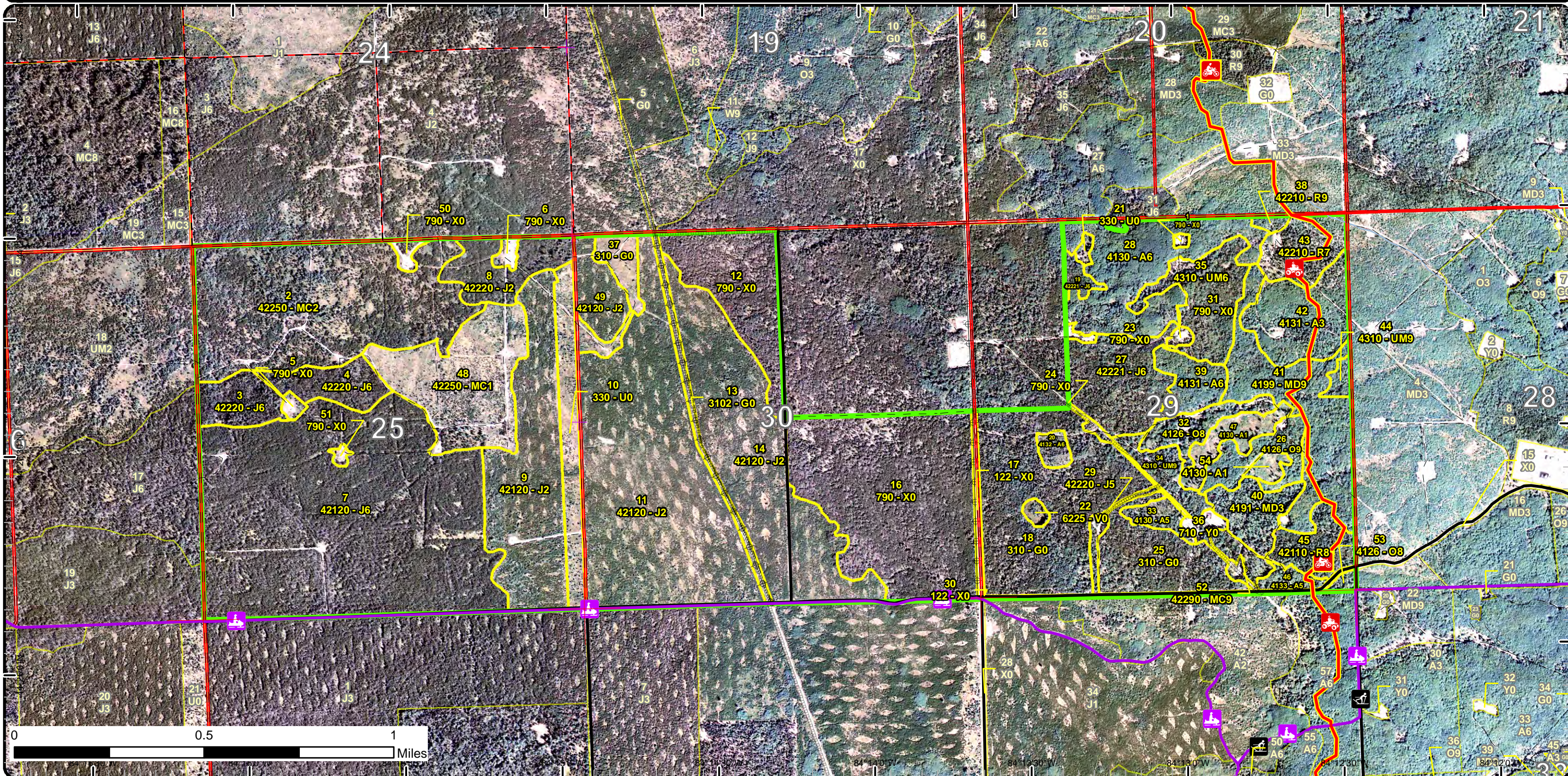


Stand Boundary Map

Compartment: 180
 T24N, R02E, Sec. 29-30
 T24N, R01E, Sec. 25
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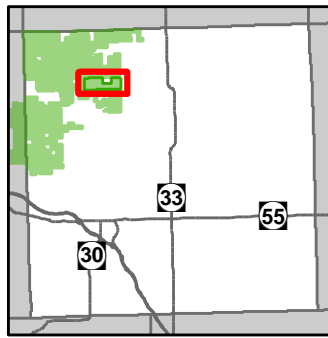


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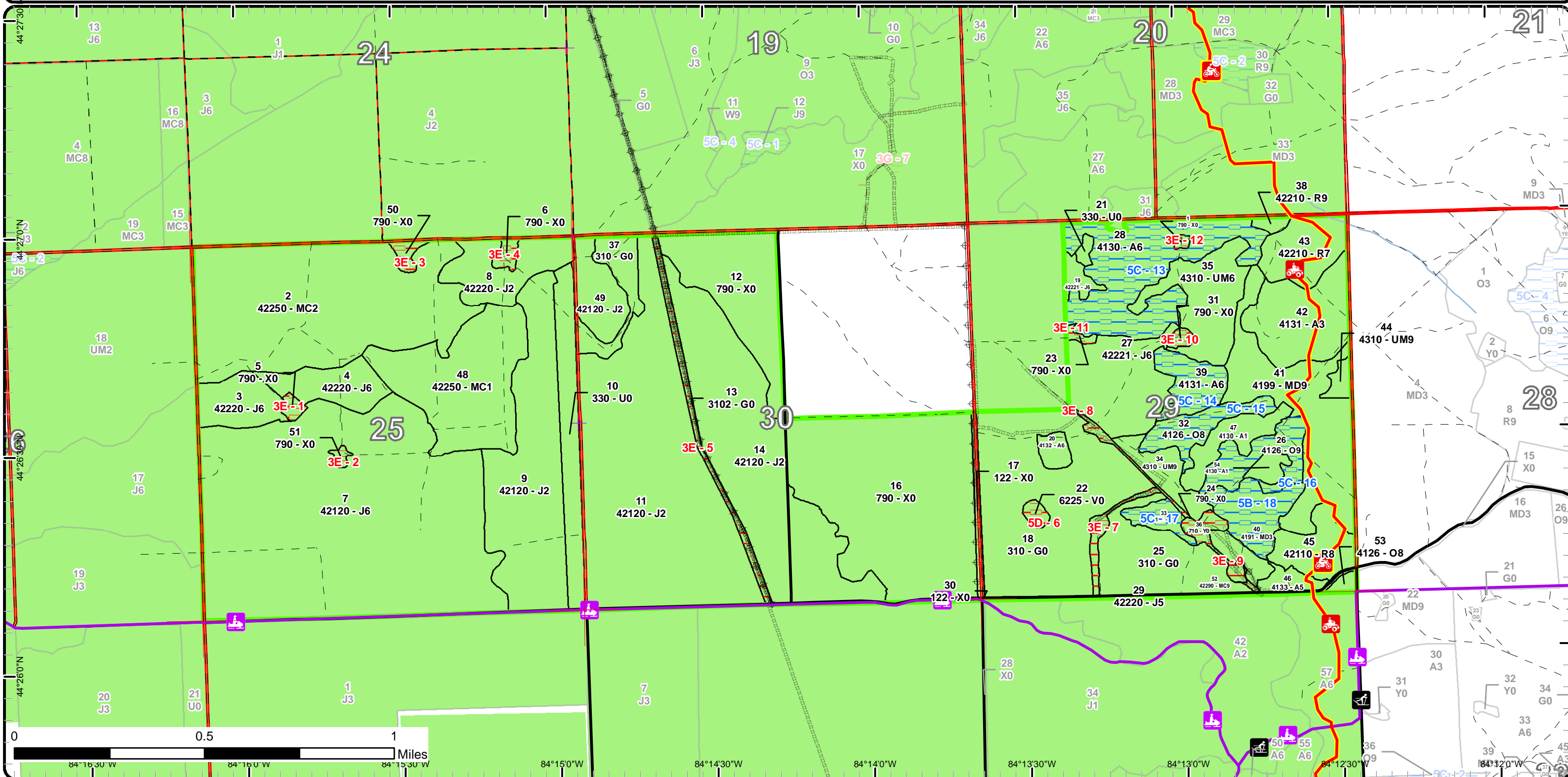


Special Conservation Areas & Site Conditions Map

Compartment: 180
 T24N, R02E, Sec. 29-30
 T24N, R01E, Sec. 25
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- Poor Dirt Roads
- Rivers
- Pipeline
- Powerline
- 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)
- 5D: Unproductive Forest Land
- Stand Boundaries
- Kirtland Warbler Habitat



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	18	35	0	0	0	86	0	0	5	0	0	0	0	0	0	0	0	144
Bare/Sparsely Vegetated	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190
Bog	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Herbaceous Openland	158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	158
Jack Pine	0	0	381	25	286	0	47	0	0	0	0	0	0	0	0	0	0	0	737
Low-Density Trees	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
Mixed Upland Deciduous	0	0	18	0	0	0	0	0	57	0	0	0	0	0	0	0	0	0	75
Natural Mixed Pines	0	0	63	137	0	0	0	0	6	0	0	0	0	0	0	0	0	0	206
Oak	0	0	0	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	33
Red Pine	0	0	0	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	41
Sand, Soil	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Upland Mixed Forest	0	0	0	0	0	0	44	0	0	0	4	0	0	0	0	0	0	0	48
Urban	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Total	397	18	497	162	286	0	218	0	0	101	4	0	0	0	0	0	0	0	1681



Report 2 – Treatment Summary

Roscommon Mgt. Unit
Year of Entry: 2018

Acres of Harvest

Compartment 180
Total Compartment Acres: 1,683

Commercial Harvest - 66
 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	5	0	0	0	0	0	0	0	0	5
Mixed Upland Deciduous	0	0	0	0	57	0	0	0	0	57
Upland Mixed Forest	0	0	0	0	4	0	0	0	0	4
Total	5	0	0	0	61	0	0	0	0	66

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	66	0	0	0	28	0	0	0	0	94
Next Step	0	28	0	0	28	0	5	28	0	90
Total	66	28	0	0	56	0	5	28	0	184



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
10	71180010- Burn	28.1	330 - Low-Density Trees	Nonstocked		Unspec ified	Burn	Fuel Break	3102 - Grass		Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Control burn to remove forested canopy and/or herbicide the stand then do a burn of mechanical prep such as roller chopping to remove canopy.
Specs:

Next Step SitePrep, Other - Specify; Burn, Fuel Break; Other, Other
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

41	71180041-Cut	56.9	4199 - Other Mixed Upland Deciduous	Sawtimber Well	87	141- 170	Harvest	Crown Thinning	4121 - Oak, Aspen	Two-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Remove all aspen to 2 inch d.b.h.. Mark to thin the remaining overstory to a 70-90 basal area managing for best tree in place and to open under
Specs: some regeneration gaps.

Next Step
Treatments:

Acceptable
Regen:

Other Will need ORV trail protection specs.
Comment:

Proposed Start Date: 10/01/2017

44	71180044-Cut	3.6	4310 - Pine, Oak Mix	Sawtimber Well	92	111- 140	Harvest	Crown Thinning	4221 - Natural Red Pine	Uneven- Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Remove all jack pine and mark older red pines and create regeneration gaps for oaks by removing poorly formed trees so at the same time
Specs: looking for best trees in place. Looking for a residual basal area to be between 70 and 90.

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

46	71180046-Cut	5.3	4133 - Aspen, Mixed Pine	Poletimber Medium	87	81-110	Harvest	Clearcut	4131 - Aspen, Oak	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Final harvest all species to 2 inch. The stand is small in size and would not warrant any retention. Place a drumming log spec.
Specs:

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

Acceptable Mix of aspen and oak to full stocking
Regen:

Other ORV trail bisects stand. The aspen is old and may tend to blow over so do not leave buffer along trail. Cut stumps flush and implement
Comment: protection specs.

Proposed Start Date: 10/01/2017

**Total Treatment
 Acreage Proposed: 93.9**

Report 4 – Site Conditions

Roscommon Mgt. Unit

Doug Bates : Examiner

Compartment: 180

Year of Entry: 2018

Availability for Management

Total Acres	Acres Available	Acres Available With Condition	Acres Not Available	Dominant Site Conditions			
Acres	Available	With Condition	Not Available	5B	5C	3E	5D
144	63	81	0	Aspen	81		
190	174	0	16	Bare/Sparsely Vegetated		16	
2	0	0	2	Bog			2
158	148	0	10	Herbaceous Openland		10	
739	734	0	4	Jack Pine		4	
30	30	0	0	Low-Density Trees			
75	57	18	0	Mixed Upland Deciduous	18		
207	207	0	0	Natural Mixed Pines			
33	2	31	0	Oak		31	
41	41	0	0	Red Pine			
6	0	0	6	Sand, Soil		6	
47	47	0	0	Upland Mixed Forest			
11	11	0	0	Urban			
1,683	1,514	131	38	Total Forested Acres	18	112	36
	90%	8%	2%	Relative Percent			2

**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	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Roscommon Mgt. Unit

Doug Bates : Examiner

Compartment: 180

Year of Entry: 2018

3	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	10	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Enbridge Energy pipeline.							
6	Unavailable	5D: Unproductive Forest Land	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	4	5E: Long-Term Retention	Unspecified	Unspecified	Unspecified
Comments:							
8	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	3	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Roscommon Mgt. Unit

Doug Bates : Examiner

Compartment: 180

Year of Entry: 2018

9	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	6	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
10	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	2	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
11	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
12	Unavailable	3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
13	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	60	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Roscommon Mgt. Unit

Doug Bates : Examiner

Compartment: 180

Year of Entry: 2018

14	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	15	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
15	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	14	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
16	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	17	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
17	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
18	Available	5B: Maintain for regeneration purposes	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



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

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

SCA Name	SCA Category	Detail Type	Recommendation	Acres
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Comments



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
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.



Stand	Roscommon Mgt. Unit			Report 7 – Forested Stands		Compartment: 180 Year of Entry: 2018
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	42250 - Pine, Oak	Sapling Medium	137.4	29	Immature	Naturally regenerating jack pine from a wildfire.
3	42220 - Natural Jack Pine	Poletimber Well	17.2	39	Unspecified	Some jack pine in the sawlog class but the majority is still in the 30+ year old pole class. Areas of mortality throughout stand in all age classes. Not much jack pine regeneration, but based on surrounding sites that were treated, the stand would come back to a mix of pine and oak if treated. Red pine occurs in pockets and mostly on the south end of the stand.
4	42220 - Natural Jack Pine	Poletimber Well	18.4	39	Unspecified	Better quality jack pine than stand to the south. Boles straighter and not bushy/deformed looking. Could be harvested but hold for age class because of adjacent KW cuts in this compartment.
7	42120 - Planted Jack Pine	Poletimber Well	250.8	32	Unspecified	Very poor quality jack pine with numerous mortality pockets. Barely get one stick out of pole size trees. Red pine in not very tall for diameter.
8	42220 - Natural Jack Pine	Sapling Medium	24.7	29	Unspecified	Natural jack pine regeneration from a wildfire. Very dense where pine is but have numerous open grass areas throughout. The large red pine survived the fire. Find some oaks from stump sprouting.
9	42120 - Planted Jack Pine	Sapling Medium	83.1	16	Unspecified	planted to jack pine for KW in spring 2000. More stump sprouted oaks along the western edge.
11	42120 - Planted Jack Pine	Sapling Medium	169.4	16	Unspecified	planted to jack pine for KW in spring 2000.
14	42120 - Planted Jack Pine	Sapling Medium	110.8	16	Unspecified	planted to jack pine for KW in spring 2000
19	42221 - Natural Jack Pine, Mixed Deciduous	Poletimber Well	4.2	51	Unspecified	Jack pine stand with heavy slash load. Not much regeneration in understory to speak of. Most is jack pine in the overstory just not over the 5". Jack pine is thinning out thru mortality. Have some stump sprouting of oaks. Also couple of good aspen clones on a couple of ridges in the stand. Hold for another rotation to stagger jack pine age class in compartment. Stand was the result of a wildfire.
20	4132 - Aspen, Jack Pine	Poletimber Well	4.5	51	Unspecified	Regeneration from a wildfire. Two aspen clones with a band of jack pine in the middle. Was left for a visual buffer for the surrounding KW treatment. Aspen will hold another rotation and then can treat.
26	4126 - White, Black, N. Pin Oak	Sawtimber Well	17.0	87	81-110	Mix of young and old oak due to wildfire. Very good oak all over the understory. Some red maple here and there. Sparser oak stand than one to the east with way more white oak and less aspen. Find some scattered pine also. Aspen not as old either.
27	42221 - Natural Jack Pine, Mixed Deciduous	Poletimber Well	38.3	51	Unspecified	Right on the edge of being a sawlog class stand. There are sawlog jack pine in there but are dying. Have good oak and jack pine regeneration, so stand could be harvested and get good regeneration. However, there is a large amount of jack pine being currently treated in this compartment so feel it is best to hold another ten years to stagger age classes.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
28	4130 - Aspen	Poletimber Well	59.7	51	Unspecified	Stand resulting from wildfire. Mix of both aspen species. Sawlog class aspen is at the clone epicenters and then decreases in size and quality as radiate out. The bigtooth aspen is mainly on the ridge tops. Between the aspen, find oak and red maple of poor quality and being from stump sprouts. Aspen is trying to regenerate in the understory but is being browsed. Hold one more rotation and then treat. This will lessen the amount of treatments in compartment.
29	42220 - Natural Jack Pine	Poletimber Medium	4.4	51	Unspecified	Strip of jack pine that contains above ground petroleum lines, a well pump and access road. Is used as fire whorl for KW planting on both sides. Leave as long term retention.
32	4126 - White, Black, N. Pin Oak	Sawtimber Medium	14.3	87	51-80	Stand is a valley with road and pipeline running through the middle. Large wolfy oaks of both varieties. The oak regeneration is being browsed hard.
33	4130 - Aspen	Poletimber Medium	6.6	51	Unspecified	Good quality immature aspen stand. Aspen regeneration being browsed.
34	4310 - Pine, Oak Mix	Sawtimber Well	12.3	51	81-110	Mixed stand with jack pine regenerated from a wildfire and larger oaks and red pine having survived the fire. Good oak and jack pine regeneration in the mid-canopy. Could be treated, but recommend holding ten because of the recent KW treatments to the immediate west.
35	4310 - Pine, Oak Mix	Poletimber Well	31.4	51	111-140	2 aged stand but mostly around 50 years old regenerated jack pine, maple, and aspen from a wildfire. The older oaks and red pine were survivors of the fire. Majority of the maple and pin oak is stumps sprouts. Overall still a pole size class with a good mix of regeneration in the understory. Hold another rotation to let oaks get more size and stagger the age class percentage of jack pine in the compartment.
38	42210 - Natural Red Pine	Sawtimber Well	2.2	51	141-170	Wildfire impacted stand, the red pine just into log class. Will hold another rotation and then recommend a group selection or possibly a thinning.
39	4131 - Aspen, Oak	Poletimber Well	14.7	51	Unspecified	Two-aged stand as the result of a wildfire. The larger oaks were survived the fire while the asp is resulting regeneration of it. Have stump sprouting maple coming up all over. Very good oak regeneration in understory but is being browsed hard and can only get a couple feet. Hold stand to stagger treatment amounts in this compartment. It will hold.
40	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	18.3	15	111-140	All species removed in the Summer 2002 but the red pine. Fair amount of red pine basal area but the understory regeneration is dense in maple and oak. Not sure worth damaging the regeneration by taking off the red pine. The red pine is long lived, may be able to thinning them out in the future when the current new growth gets larger in size.
41	4199 - Other Mixed Upland Deciduous	Sawtimber Well	56.9	87	141-170	Mix of young and old oak due to wildfire with a good component of aspen with several pockets of pure aspen clones. Also a good mix of oak regeneration spread throughout the understory with some pockets of heavy red maple regen.. Propose a thinning.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
42	4131 - Aspen, Oak	Sapling Well	35.2	17	Unspecified	Stand was cut in a spring 2000 - cut all species except red pine. Good dense regeneration of either aspen or oak or both. have to wait till aspen gets to merchantable age to remove red pine, otherwise damage to much regeneration trying to remove them.
43	42210 - Natural Red Pine	Sawtimber Poor	21.0	51	51-80	Stand was treated in the spring 200 by removing all species but red pine. This resulted in some areas very sparse of regeneration such as on the west side to areas very heavy to oak regeneration. The red pine ranges from 60 basal area in the north to 160 in portions of the southern half. Recommend wait one more rotation and then good in to thin out the red pine in the denser areas, avoiding areas of good oak regeneration.
44	4310 - Pine, Oak Mix	Sawtimber Well	3.6	92	111-140	Lots of younger age class species under an older red pine stand as the result of a wildfire in 1966. Recommend a thinning to open up some regeneration gaps and remove some of the larger red pines. Bring the basal area down to a 70-90 basal area.
45	42110 - Planted Red Pine	Sawtimber Medium	17.7	52	111-140	Third row thinned in the Summer 2002. Red pine is doing good and there is a carpet of oak regeneration in the understory. Some small aspen inholdings that were not cut in 2002.
46	4133 - Aspen, Mixed Pine	Poletimber Medium	5.3	87	81-110	This is and aspen stand that was underplanted with red pine. The red pine was thinned in 2002. The red pine is deformed and stunted because of the aspen overstory. There is good aspen and oak regeneration in the understory so recommend cutting it and letting it come back to an oak/aspen mix.
47	4130 - Aspen	Sapling Poor	13.5	7	Immature	Final harvest winter 2010/2011. Came back good to aspen to oak. Left sawlog size class white oaks scattered throughout stand. Average about 10 basal area.
48	42250 - Pine, Oak	Sapling Poor	63.3	17	Immature	Was final harvested in winter 1999/2000. Came back naturally very sparse to oak and jack pine. Numerous gas lines on the ground in the area, maybe this is why they did not incorporate it into the KW plantings to the immediate east.
49	42120 - Planted Jack Pine	Sapling Medium	17.2	17	Immature	planted to jack pine for KW in spring 2000.
52	42290 - Natural Mixed Pine	Sawtimber Well	6.3	89	81-110	Sawlog class red pine overstory with a younger aspen/jack pine mid-canopy. Recommend to hold this stand one more rotation to stagger treatment amounts in Compartment. The species will hold and then possibly seed tree the red pine next rotation.
53	4126 - White, Black, N. Pin Oak	Sawtimber Medium	2.1	87	111-140	Poor quality oak stand. Good regeneration in understory though. Hold till next rotation and treat.
54	4130 - Aspen	Sapling Poor	4.3	7	Immature	Final harvest in the winter 2010/2011. Coming in good to aspen.



Stand	Cover Type	Acres	Managed Site	General Comments:
1	790 - Other Bare/Sparsely Vegetate	0.9	No	Well pump site
5	790 - Other Bare/Sparsely Vegetate	2.0	No	Oil well site.
6	790 - Other Bare/Sparsely Vegetate	2.6	No	Petroleum production facility/storage tanks.
10	330 - Low-Density Trees	28.1	No	Fuel break that has not been treated. Very close to being forested, probably will be by next YOY.
12	790 - Other Bare/Sparsely Vegetate	46.6	No	Stand completed in Summer 2016. Stand was trenched in 2016 in preparation for KW planting, under FTP# W71-943.
13	3102 - Grass	9.8	Yes	Enbridge Energy buried petroleum line R.O.W..
16	790 - Other Bare/Sparsely Vegetate	127.6	No	Sale was completed in May 2016. Stand was trenched in 2016 in preparation for KW planting, under FTP# W71-943.
17	122 - Road/Parking Lot	5.0	No	Fairview Road, Class A to Muskegon Development Shop. Overhead powerline along west edge.
18	310 - Herbaceous Openland	96.6	No	Was final harvested Spring 2015 under sale # 71-007-14-01. Stand was trenched in 2016 in preparation for KW planting, under FTP# W71-943.
21	330 - Low-Density Trees	1.7	No	Grassy opening, may have been a well site in years past. Evidence of mounds and ditches. There is a 6 inch line running on west edge.
22	6225 - Bog	2.3	No	Leatherleaf bog with a ring of large red pine on the outer perimeter.
23	790 - Other Bare/Sparsely Vegetate	1.3	No	Valve station
24	790 - Other Bare/Sparsely Vegetate	2.8	No	Overhead powerline clearing and buried petroleum lines.
25	310 - Herbaceous Openland	37.2	No	Was final harvested Spring 2015 under sale # 71-007-14-01. Stand was trenched in 2016 in preparation for KW planting, under FTP# W71-943.
30	122 - Road/Parking Lot	5.8	No	Heath Road, Class A.
31	790 - Other Bare/Sparsely Vegetate	1.7	No	Pump jack.
36	710 - Sand, Soil	6.2	No	Multiple well pumps, storage tanks, and above ground petroleum lines.



Stand	Cover Type	Acres	Managed Site	General Comments:
37	310 - Herbaceous Openland	14.2	No	Unplanted grass buffer between two KW stands that contains a well pad and access roads.
50	790 - Other Bare/Sparsely Vegetate	3.0	No	Petroleum storage battery.
51	790 - Other Bare/Sparsely Vegetate	1.3	No	Well head.