



Compartment Review Presentation

Roscommon Forest Management Unit

Compartment 71031

Entry Year 2019

Acreage: 839

County Roscommon

Management Area: Upper Muskegon

Revision Date: 2017-08-01

Stand Examiner: Doug Bates

Legal Description:

T24N R03W Sections 19, 30-32

Identified Planning Goals:

Management of present oak by either selective or final harvests. Regenerate mature aspen and manage some red pine by moving it around in the compartment.

Soil and topography:

Soils are composed of pitted outwash deposits on relatively hilly terrain. The highest quality sites are on the hilliest terrain in Section 30. Section 31 is relatively flatter with lower quality soils.

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

This compartment is composed of three state parcels surrounded by private land. Subdividing of the adjacent private land has been extensive with numerous residential interfaces. Stand 19 is a narrow sliver of state land that is recommended for disposal.

Unique Natural Features:

Secretive locust, bald eagle, rainbow mussel, osprey, red-shouldered hawk, blanding's turtle, least bittern, and black tern have been identified in the vicinity. Potential exist for goshawk and Doll's merolonche also.

Archeological, Historical, and Cultural Features:

None identified or found during field work. No concerns from State Archeological Office.

Special Management Designations or Considerations:

None at this time.

Watershed and Fisheries Considerations:

Stands 1 and 2 are part of a wetland complex that provides groundwater to Higgins Lake. There is also a drain that empties into Higgins Lake near Old Point Comfort that originates from this wetland.

Wildlife Habitat Considerations:

Maintain ecosystem diversity in the compartment via habitat manipulation to benefit game species such as deer, grouse, rabbits, and turkeys as well as non-game species. Wildlife openings within compartment were perhaps at one time prairie, and are managed for wildlife as perennial openings. Oak and aspen is abundant

Mineral Resource and Development Concerns and/or Restrictions

Active sand/gravel pits are located in Section 30 and Section 25 (T24N R4W), and there is good sand and gravel potential within the compartment on the uplands. There has been no production of hydrocarbons within several miles of the compartment. Some exploration to the west has yielded multiple dry holes. Most of the state mineral rights in the compartment are currently leased. There is no known metallic mineral potential in this part of the state.

Vehicle Access:

Pretty much all of the stands can be accessed by an existing two-track systems other than stands 1-4. There are an excessive amount of illegally constructed ORV trails being constructed within the compartment. Most originate from behind the residences that border the state land.

Survey Needs:

None at this time. All corners need for timber sale prep have been located.

Recreational Facilities and Opportunities:

Numerous recreation opportunities exist in the compartment from the availability of wildlife openings and proximity to private land. Evidence of snowmobile, hunting, hiking and other dispersed recreation are popular in the area from the varying tree cover and terrain. There are no designated recreation trails within the compartment boundary. Continue forest management efforts to address resource damage areas.

Fire Protection:

No high hazard fuels or fire prone problems in this compartment.

Additional Compartment Information:

The following reports from the Inventory are attached:

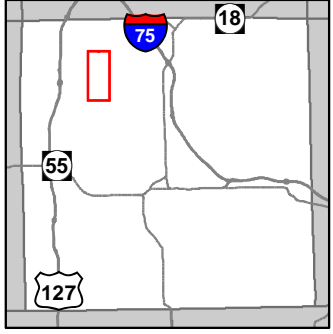
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

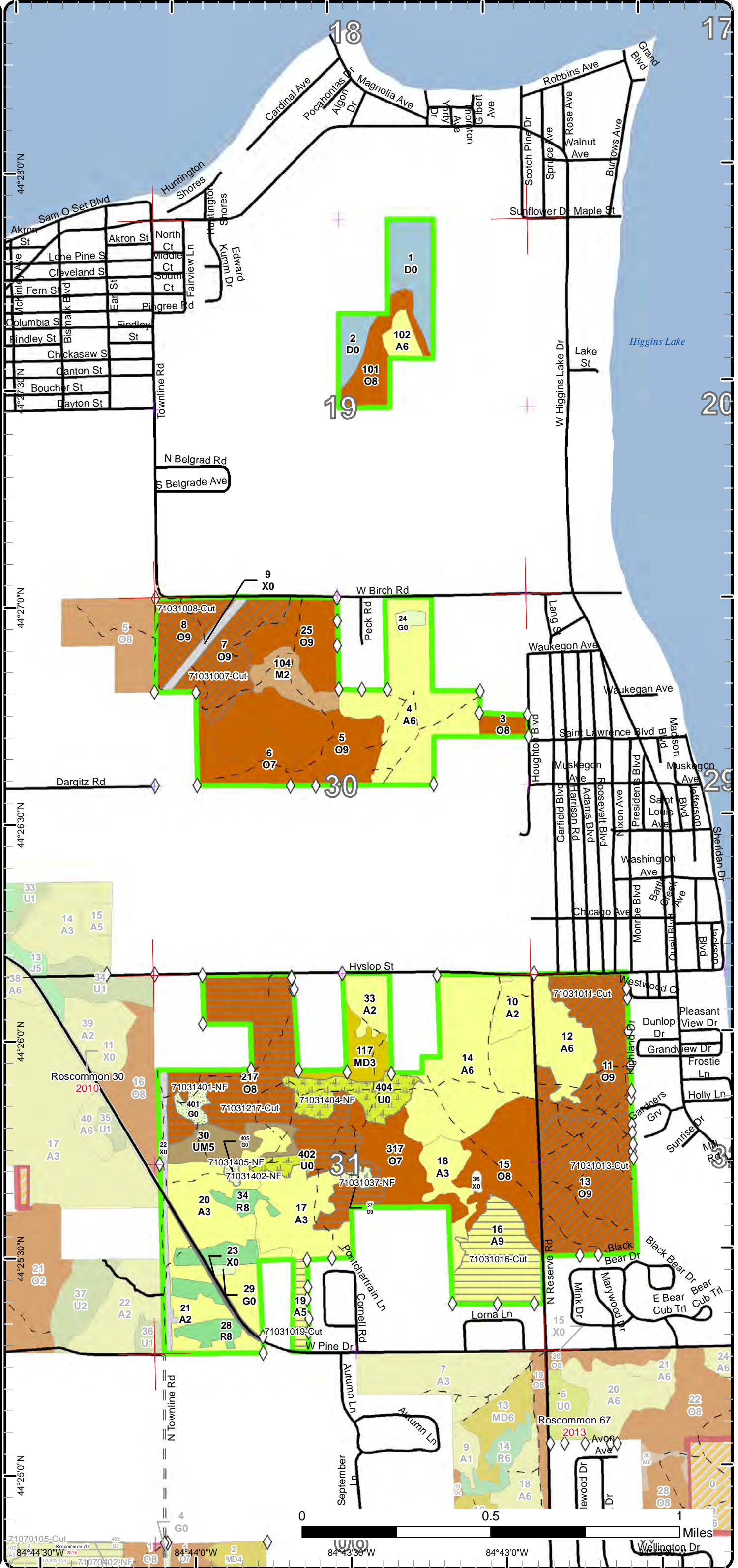
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatment Map

Compartment: 31
 T23N,R03W, Sec.19, 30-31
 County: Roscommon
 Unit: Roscommon
 Mgmt Area: Upper Muskegon
 YOE: 2019
 Acres: 838.7 GIS Calculated
 Examiner: Doug Bates
 Map Revised: 8/2/2017
 Map Phase: Review

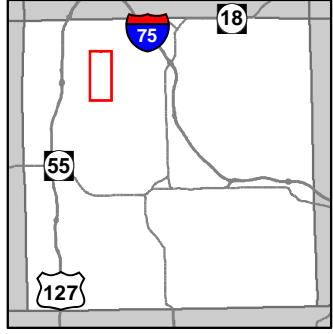


- Miris Corners
- + Remonumented Section Corners
- Field Grade GPS Corners
- Counties
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Closed
- Streams
- Lakes and Rivers All
- Compartment Boundary
- Clearcut (w/Reserves)
- Other Treatment - See Comments
- Mowing
- Thinning (Crown, Low, Systematic)
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 430 - Upland Mixed Forest
- 110 - Low Intensity Urban
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 622 - Lowland Shrub
- 790 - Other Bare/Sparsely Vegetated
- Lakes

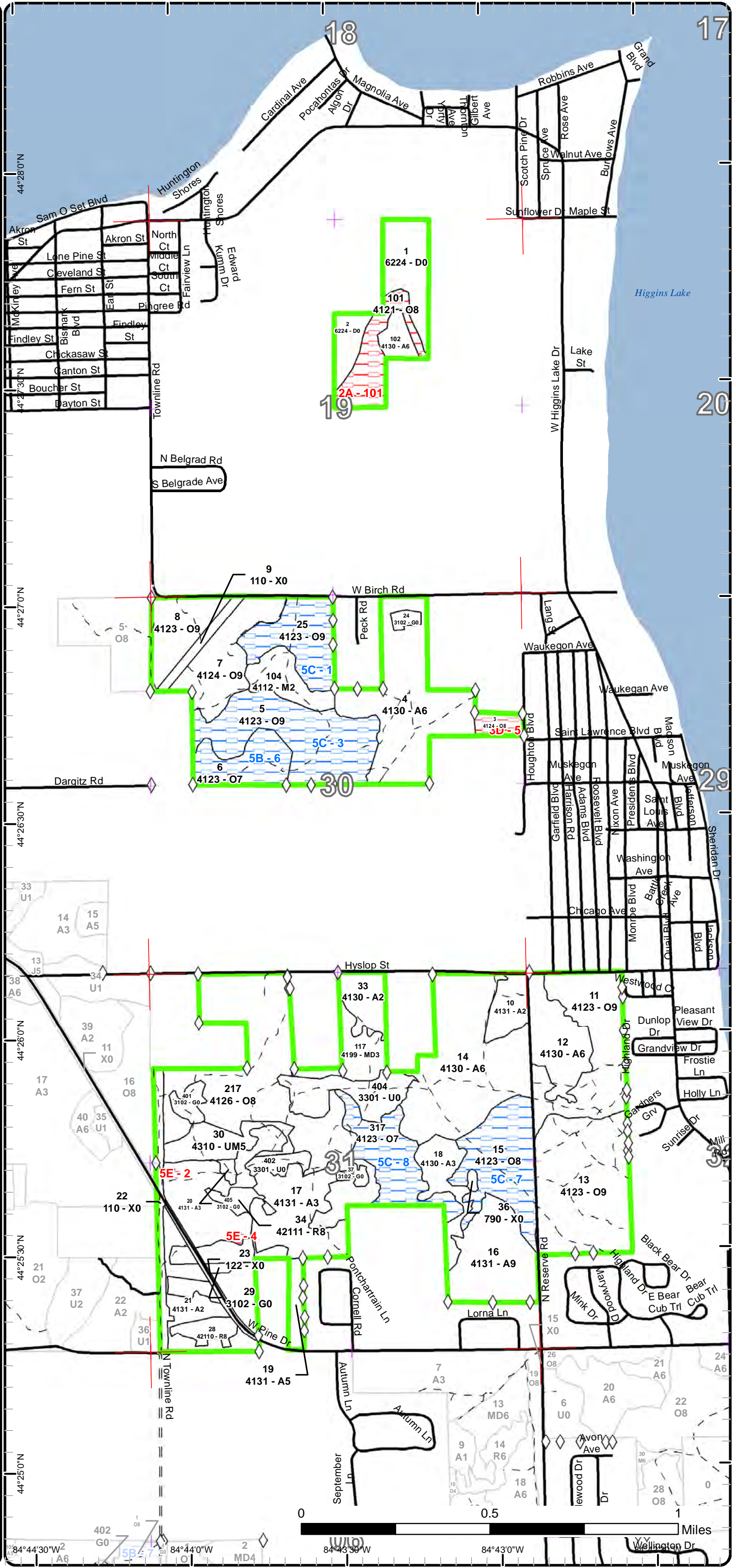


Special Conservation Areas & Site Conditions Map

Compartment: 31
 T23N,R03W, Sec.19, 30-31
 County: Roscommon
 Unit: Roscommon
 Mgmt Area: Upper Muskegon
 YOE: 2019
 Acres: 838.7 GIS Calculated
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- Miris Corners
- + Remonumented Section Corners
- Field Grade GPS Corners
- Counties
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Closed
- Streams
- Lakes and Rivers All
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 2A: Adjacent landowner denied access
- 3D: Recreational / Scenic values
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes



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	56	55	79	0	77	6	0	0	32	0	0	0	0	0	0	0	0	305
Bare/Sparsely Vegetated	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Herbaceous Openland	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Low-Density Trees	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Mixed Upland Deciduous	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Northern Hardwood	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Oak	0	0	0	0	0	0	0	0	0	206	42	145	0	0	0	0	0	0	393
Red Pine	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	20
Treed Bog	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
Upland Mixed Forest	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	14
Urban	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
Total	81	68	68	79	0	77	41	0	0	32	206	42	145	0	0	0	0	0	838



Report 2 – Treatment Summary

Roscommon Mgt. Unit
Year of Entry: 2019

Compartment 31
Total Compartment Acres: 839

Acres of Harvest

Commercial Harvest - 262
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	39	0	0	0	0	0	0	0	0	39
Oak	82	0	0	0	0	142	0	0	0	223
Total	120	0	0	0	0	142	0	0	0	262

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	262	0	0	0	0	0	0	0	31	292
Next Step	0	163	82	0	0	82	202	0	31	558
Total	262	163	82	0	0	82	202	0	61	850



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
7	71031007-Cut	25.4	4124 - Red with White Oak	Sawtimber Well	109	111-140	Harvest	Low Thinning	4123 - Red Oak	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Thin the stand to a 70-90 basal area average. Leave the maple alone unless it is very bad quality or is needed to be removed for operability.

Specs: Tend to remove oaks that have very narrow crowns, are of poor quality, and the more mature red oaks in the lower 20's diameter. Tend to leave the larger white oaks and all oaks above 26 inches. These will provide mast and future snags. A steep ravine exists along the west edge. Keep operations out to prevent slope erosion.

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

8	71031008-Cut	18.1	4123 - Red Oak	Sawtimber Well	111	81-110	Harvest	Low Thinning	4122 - Oak, Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Thin the basal area down to an 70 basal area where applicable. Favor leaving the pole sized maple and white pine unless they are very poor

Specs: quality. Focus on removing the oaks with small crowns, poor quality, or mature oaks under in the lower 20's for d.b.h.. Favor leaving white oak when possible and all oaks with a diameter greater than 26 inches.

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

11	71031011-Cut	40.2	4123 - Red Oak	Sawtimber Well	111	111-140	Harvest	Low Thinning	4124 - Red with White Oak	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription This time around do a thinning by removing small crowned, deformed oaks. Next target some of the older oaks in the lower 20 inch d.b.h..

Specs: Leave all oaks over 26 inches and favor taking red oak over white. Do not cut maple or aspen unless they are very poor quality or in the way for operability. Keep the residual basal area around 90. Trying to keep some crop trees in the lower d.b.h for future treatments.

Next Step

Treatments:

Acceptable oak with mixed deciduous.

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

13	71031013-Cut	58.0	4123 - Red Oak	Sawtimber Well	95	141-170	Harvest	Low Thinning	4124 - Red with White Oak	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Treat the stand by removing narrow crowned, poor developed oaks favor white's for leaving when practical. Also target some of the older/larger

Specs: oaks in the 20+ d.b.h.. range. Leave oaks over 26 inches for future snags.

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018



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
16	71031016-Cut	32.3	4131 - Aspen, Oak	Sawtimber Well	86	81-110	Harvest	Clearcut with Retention	4131 - Aspen, Oak	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Final harvest all species to 2 inches. Mark to leave about a 10 basal area average of large diameter oaks for mast and future snags. Side
Specs: towards leaving whites when possible. Place a three percent retention island in the middle of the stand.

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

Acceptable aspen/oak mix to a moderately stocked stand.
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018

19	71031019-Cut	6.3	4131 - Aspen, Oak	Poletimber Medium	53	51-80	Harvest	Clearcut	4131 - Aspen, Oak	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Final harvest all species to two inches. Mark large oak for mast equaling about a 10 basal area where applicable.
Specs:

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

Acceptable aspen with oak to moderately stocked levels.
Regen:

Other Put parcel up for disposal.
Comment:

Proposed Start Date: 10/01/2018

37	71031037-NF	2.1	3102 - Grass	Nonstocked	0	Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
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Habitat Cut: No**Site Condition:**

Prescription Mow, cultivate, fertilize, seed as required to maintain established Wildlife Opening, Dead Stream 6F
Specs:

Next Step NonForestMgt, Mowing
Treatments:

Acceptable
Regen:

Other Combine to treatment in Stand 217 to have some of oak removed at time of timber harvest within the opening to bring more towards an open
Comment: grass area

Proposed Start Date: 10/01/2018

217	71031217-Cut	81.5	4126 - White, Black, N. Pin Oak	Sawtimber Medium	112	51-80	Harvest	Clearcut with Retention	4211 - Planted Red Pine	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Final harvest all species to a two inch d.b.h. and chip the tops. Mark to leave one large oak for mast per acre, siding towards white oak. Place
Specs: numerous retention islands within the stand encompassing aspen clones or clumps of mature white oaks. Do enough to equal 10 percent. This will concentrate overstory competition less red pine and be easier to treat understory completion with herbicide. Trench and plant the site to red pine.

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

Acceptable Fully stocked red pine planation
Regen:

Other
Comment:

Proposed Start Date: 10/01/2018



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
401	71031401-NF	4.3	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Mowing	310 - Herbaceous Openland		Proposal

Habitat Cut: No**Site Condition:**

Prescription Mow, cultivate, fertilize, seed, spray as required to maintain established Wildlife Opening, Dead Stream 6B.

Specs:

Next Step NonForestMgt, Mowing

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

402	71031402-NF	4.6	3301 - Low Density Deciduous Trees	Nonstocked		Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
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Habitat Cut: No**Site Condition:**

Prescription Mow, cultivate, fertilize, seed as required to maintain established Wildlife Opening, Dead Stream 6E

Specs:

Next Step NonForestMgt, Mowing

Treatments:

Acceptable

Regen:

Other

Comment: Combine to treatment in Stand 217 to have some of oak removed at time of timber harvest within the opening to bring more towards an open grass area

Proposed Start Date: 10/01/2018

404	71031404-NF	18.0	3301 - Low Density Deciduous Trees	Nonstocked	0	Unspec ified	NonForestMgt	Other - Specify	310 - Herbaceous Openland		Proposal
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Habitat Cut: No**Site Condition:**

Prescription Mow, cultivate, fertilize, seed as required to maintain established Wildlife Opening. Dead Stream 6A.

Specs:

Next Step NonForestMgt, Mowing

Treatments:

Acceptable

Regen:

Other

Comment: Combine to treatment in Stand 217 to have some of oak removed at time of timber harvest within the opening to bring more towards an open grass area.

Proposed Start Date: 10/01/2018

405	71031405-NF	1.5	3102 - Grass	Nonstocked		Unspec ified	NonForestMgt	Mowing	310 - Herbaceous Openland		Proposal
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Habitat Cut: No**Site Condition:**

Prescription Mow, cultivate, fertilize, seed as required to maintain established Wildlife Opening, Dead Stream 6D

Specs:

Next Step NonForestMgt, Mowing

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

**Total Treatment
Acreage Proposed: 292.3**

Report 4 – Site Conditions

Roscommon Mgt. Unit
Doug Bates : Examiner

Compartment: 31
Year of Entry: 2019

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions						
		With Condition	Not Available		5B	5C	2A	3D	5E	
305	304	0	1	Aspen						1
1	1	0	0	Bare/Sparsely Vegetated						
11	11	0	0	Herbaceous Openland						
23	23	0	0	Low-Density Trees						
13	13	0	0	Mixed Upland Deciduous						
12	12	0	0	Northern Hardwood						
393	223	148	22	Oak	18	130	17	5		
20	20	0	0	Red Pine						
27	27	0	0	Treed Bog						
14	14	0	0	Upland Mixed Forest						
19	19	0	0	Urban						
839	668	148	23	Total Forested Acres	18	130	17	5		1
	80%	18%	3%	Relative Percent						

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	24	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Roscommon Mgt. Unit

Doug Bates : Examiner

Compartment: 31

Year of Entry: 2019

3	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	47	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	5E: Long-Term Retention	1	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
5	Unavailable	3D: Recreational / Scenic values	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Available	5B: Maintain for regeneration purposes	18	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	33	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
8	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	26	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Roscommon Mgt. Unit

Doug Bates : Examiner

Compartment: 31

Year of Entry: 2019

101	Unavailable	2A: Adjacent landowner denied access	17	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
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	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
3	4124 - Red with White Oak	Sawtimber Medium	5.1	113	81-110	Very small stand with seasonal homes directly adjacent. Large oaks with numerous super-canopy sized. No oak in the understory just some maple and hazel. With the close proximity to the residences and its small size it is best just to let this one manage itself. The oaks will keep giving mast for a few years.
4	4130 - Aspen	Poletimber Well	55.0	40	Unspecified	Solid bigtooth aspen on a very good site.
5	4123 - Red Oak	Sawtimber Well	47.0	96	81-110	Stand thinned in 2012. Good quality oak stand that does not have the maple taking over the understory liking some of the other surrounding oak stands. The basal area is based all on oak. In good health with no signs of mortality pockets. Will hold another rotation.
6	4123 - Red Oak	Sawtimber Poor	17.8	96	1-50	Stand cut in Dec 2011, left scattered R/W pine and green marked trees. This shelterwood cut resulted in some seeding/sprouting of oaks but in pockets. There is a lot of bare understory yet. Stand would not be forested based on the understory but is just barely by the overstory left. Will call this the current overstory type and hopefully by next rotation the regeneration will have taken off more in the understory to call it that. If not maybe remove more of the saw class oaks and plant to red pine.
7	4124 - Red with White Oak	Sawtimber Well	25.4	109	111-140	Stand was treated in 1990 with red maple getting a good start in the mid-canopy and pretty much taking over the whole understory. Recommend thinning the stand. Open up some crop trees of younger age to get some growth and remove some of the more mature, larger diameter oaks, preferably reds when possible. The stand is converting over to red maple. Will prolong the oak in the stand and producing some quality oaks for at least a couple more rotations. Will leave most or all of the oaks 26 inches in greater for continued mast and future snags once the stand has converted to maple.
8	4123 - Red Oak	Sawtimber Well	18.1	111	81-110	Stand was treated back in 1990 aiding in the maple and white pine mid-canopy developing. The aspen and maple completion in the understory is fairly light while there is actually more white pine. Recommend a light thinning of the smaller crowned, lower quality suppressed oaks and a few of the more mature red oaks in the lower 20 inch class. Bring the basal area down to around 70 where applicable. This will help the white pine shading for now till it gets better established. Favor white oak to be left and all oaks over 26+ dbh. This stand is moving towards converting back to white pine with a maple component. The large crowned/d.b.h. oaks will be left when the most of the remaining oaks are finally removed allowing the pine/maple open canopy.
10	4131 - Aspen, Oak	Sapling Medium	9.7	27	Immature	This was a portion of stand 14 that did not come in very good. It is a mix of cherry, oak, and aspen. These has been at least one, possible two wildfires in this stand since the treatment that has hampered its regenerating.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
11	4123 - Red Oak	Sawtimber Well	40.2	111	111-140	The terrain is undulating with a heavy understory of red maple regeneration. Just a trace of oak regen. This stand will be maple one day. This time around do a thinning by removing small crowned, deformed oaks. Next target some of the older oaks in the lower 20 inch d.b.h.. Leave all oaks over 26 inches and favor taking red oak over white. Do not cut maple or aspen unless they are very poor quality or in the way for operability. Keep the residual basal area around 90. Trying to keep some crop tree in the lower dbh and leaving the larger oaks for mast and future snags once the stand finally converts to maple.
12	4130 - Aspen	Poletimber Well	22.3	40	Unspecified	Nice stand of aspen with good size saw log classed oaks scattered about the stand. There are also pockets of 12+ inch aspen saw class trees in area. Both these must have been small trees left post-harvest from the last treatment. The stand is in good health and will hold another rotation. This will lessen the treatments in the area for those stands with higher priorities.
13	4123 - Red Oak	Sawtimber Well	58.0	95	141-170	Had all aspen removed in 1990 when it was thinned. The stand's average diameter is less than the surrounding oak stands. There is a fair amount of pole to small saw log sized oaks with very little maple regeneration in the understory. For the most part the understory is open. This stand could benefit from a thinning by opening up some regen gaps and stump sprouts. Treat the stand by removing narrow crowned, poor developed oaks favor white's for leaving when practical. Also target some of the older/larger oaks in the 20+ d.b.h.. range. Leave oaks over 26 inches for future snags.
14	4130 - Aspen	Poletimber Well	63.2	27	Immature	Decent aspen regeneration with some pockets of sparser, heavier to maple/oak along the middle of the stand where the forest road is. A small pocket of mature oak was left next to the private residence at the northwest corner of the stand.
15	4123 - Red Oak	Sawtimber Medium	33.4	95	81-110	Decent mature red oak stand that was shelterwood treated in 2001. All the aspen and maple were removed at that time and the understory has regrown to varying percentages of these two species. There is no oak regeneration to speak of in either seedings or stump sprouts. Several pockets exists throughout the stand of aspen/maple canopies where no oak exists. This stand will one day convert to an aspen/maple mixed stand. The regeneration within these two stand is to far along to treat by burning or herbiciding so within the next rotation or so remove the rest of the oak overstory before the oak dies.
16	4131 - Aspen, Oak	Sawtimber Well	32.3	86	81-110	Last inventory it was decided to leave this stand to convert to hardwoods. That is not a sound choice in that all the oak stand that adjoin this stand to the north will be converted to this maple hardwood cover in the near future and there is no stopping it. This stand's aspen is old and falling apart but if we treat it now, the aspen component should be kept and will give diversity to the future heavy maple type that will be in this area.
17	4131 - Aspen, Oak	Sapling Well	30.1	16	Immature	Stand has scattered oak retention in pockets. Aspen and oak regeneration is the feature stand.
18	4130 - Aspen	Sapling Well	13.6	16	Immature	Decent aspen regeneration with a high maple component mixed in the mid-canopy. There are a few scattered clumps of mature oak trees left post-harvest for mast.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	4131 - Aspen, Oak	Poletimber Medium	6.3	53	51-80	Recommended last cycle to dispose of. The stand's aspen is already declining. It is narrow and bound by numerous residences on two sides. Final harvest stand and mark to leave 10 basal area of the largest oak for mast. Then put up for disposal.
20	4131 - Aspen, Oak	Sapling Well	39.0	6	Immature	The stand was treated in 2011 by removing all the aspen and red maple. The oak component was heavier and was not treated. The oak is scattered evenly throughout the stand either individually or in small clumps. Recommend just letting the oak die out and provide mast for now and snags in the future. Would result in too much damage to the new regrowth trying to remove poor quality oaks.
21	4131 - Aspen, Oak	Sapling Medium	17.1	6	Unspecified	Stand was treated in 2011 and had all the aspen and red maple removed. The aspen has come back very well. The pine was thinned and oak left. The residual harvestable oak is of poor quality and would not justify the damage to the regeneration that is coming in to remove it. Let the oak provide mast for now and as it dies out become snags.
25	4123 - Red Oak	Sawtimber Well	24.1	96	81-110	This stand was thinned in 2012. Possibly an oak wilt pocket developing on the south edge of this stand along the old landing site that is just into stand 104. The maple has taken over the understory and portion of the mid-canopy. Little bit of oak seeding and some stump sprouting. The oak overstory is still in good health besides the one pocket of mortality. Barring an oak wilt pocket being confirmed, this stand can go another rotation without treatment. The oaks average basal area is 70 but the added pole sized maple coming in brings the average up.
28	42110 - Planted Red Pine	Sawtimber Medium	16.3	52	111-140	Red pine plantation (1965) that was overtopped in many areas by oak and aspen. Where the pine was pure, form was fairly good. All the aspen was removed, some oak and the pine thinned. Heavy aspen/oak understory in the middle of the stand where a large pocket was cut out last treatment. Leave the stand for now and look at doing some subsequent thinnings of the remaining red pine and when the aspen that is in there now reaches maturity, remove it all including pine and convert it to aspen.
30	4310 - Pine, Oak Mix	Poletimber Medium	13.9	52	81-110	Aspen and some oak were removed in 2000. The red pine was overtopped by oak in a vast majority of the plantation from the start and has resulted in small diameter poorly developed pine. Where no oak existed the red pine did very well and have diameters in the 12 inch range. There are a few of these "pockets" scattered throughout the stand with the largest be around 1.5 acres. Do nothing this time but in subsequent rotations thin the pine out over time allowing more aspen/oak to fill in. At rotation age remove the remaining red pine and let convert to aspen/oak.
33	4130 - Aspen	Sapling Medium	11.1	15	Immature	Decent aspen regeneration with the northern fringe being sparse oak/cherry component.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
34	42111 - Planted Red Pine, Mixed Deciduous	Sawtimber Medium	4.2	52	111-140	Stand that was treated in 2011. It was originally lumped in with stand 20. They thinned the red pine and removed the oak/aspens/maple. Decided to break the stand out for now because of the high volume of good red pine in here. Just under 50 percent of the sub-canopy/understory in dense aspen and maple. Where the pine still stands it for the most part is clear in the understory. Recommend over the next rotations do some thinning in this stand and once the aspen in this stand and the adjacent stand reaches maturity remove the red pine completely and let it go back to aspen as it wants too.
101	4121 - Oak, Aspen	Sawtimber Medium	17.2	101	81-110	Very good quality northern red oak with heavy red maple understory. Parcel is surrounded by private property with no access. No archeological or MNFI concerns on file. Site should be looked at for disposal.
102	4130 - Aspen	Poletimber Well	5.7	27	Immature	Fair quality aspen stand surrounded by private property with no access. No archeological or MNFI concerns on file. Site should be looked at for disposal.
104	4112 - Maple, Beech, Cherry Association	Sapling Medium	12.4	6	Immature	Stand clearcut in Feb 2011. The maple has take over. Roughly 30 basal area of saw class oaks were left for mast.
117	4199 - Other Mixed Upland Deciduous	Sapling Well	12.7	15	Immature	Poor quality oak stand mixed with quacking aspen and cherry.
217	4126 - White, Black, N. Pin Oak	Sawtimber Medium	81.5	112	51-80	Stand was treated in 2001 removing the aspen, maple, and thinning of the oak. The aspen came back in the original clones and did not spread out. The maple did the same, coming back in pockets under the oak. Many parts of the stand have bare understory or a fair amount of cherry. The north half has a good amount of large dead oak snags that are being picked off by firewood cutters. There is no oak to speak of coming back either by sprouting or seeding. Recommend a final harvest and plant the vast majority into red pine.
317	4123 - Red Oak	Sawtimber Poor	25.5	97	51-80	This stand was treated the same time as stand 217. It was shelterwood cut in 2001 and had pretty much all the maple and aspen removed. The ground is slightly better here and the red oak did not stump sprout very well. The maple and aspen flourished and took over the understory and overstory in places vacant of any oak overstory. This stand will one day be an aspen/maple mixed stand. Their regeneration is to far along to treat by burning or herbicide. Let the oak go for another rotation at least and check its decline. If it is starting to go remove most of the remaining oak overstory and leave just some mast trees.



Stand	Cover Type	Acres	Managed Site	General Comments:
1	6224 - Treed Bog	18.8	No	Treed bog surrounded by private property with no access. No archeological concerns and the only MNFI concern was a fairy slipper sighting from 1849. Site should be looked at disposal.
2	6224 - Treed Bog	8.0	No	Treed bog surrounded by private property with no access. No archeological or MNFI concerns on file. Site should be looked at for disposal.
9	110 - Low Intensity Urban	5.0	No	Overhead powerline clearing. Very rough two-track runs the length of it. Quite hilly.
22	110 - Low Intensity Urban	10.0	No	Overhead powerline.
23	122 - Road/Parking Lot	4.1	No	County Road 104.
24	3102 - Grass	2.1	No	Old reclaimed oil well pad.
29	3102 - Grass	1.0	No	grass opening.
36	790 - Other Bare/Sparsely Vegetate	0.9	No	grass open area that has an illegal ORV traffic that have created a miniature race track.
37	3102 - Grass	2.1	Yes	Maintained opening by Wildlife Division.
401	3102 - Grass	4.3	Yes	Grass opening maintained by Wildlife Division. Has several piles of buildings materials illegally dumped.
402	3301 - Low Density Deciduous Tree	4.6	Yes	A maintained opening by Wildlife Division. Has a good amount of large, old oaks clumps scattered about. Could be classified as forested.
404	3301 - Low Density Deciduous Tree	18.0	Yes	This is a maintained semi-open opening by Wildlife Division. At the current canopy closure this is actually a forested stand.
405	3102 - Grass	1.5	Yes	Maintained opening by Wildlife Division.