



Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12146

Entry Year 2020

Acreage: 866

County Iron

Management Area: Michigamme Reservoir

Revision Date: 2018-07-31

Stand Examiner: Scott Sebero

Legal Description:

T43N-R31W Sections 8, 9, 16 and 17.

Identified Planning Goals:

Develop age class distribution in aspen type. Develop the quality while maintaining diversity in hardwood types. Maintain health of conifer types and increase acreage where possible. Develop buffers on streams. Maintain and improve road system.

Soil and topography:

Karlin soils Mixed with Wabeno soils. Karlin soils are very deep, excessively drained to moderately well drained soils on outwash plains, stream terraces, ground moraines, and end moraines. These soils formed in loamy and sandy glacial till and outwash deposits. Slopes range from 0 to 35 percent. Wabeno soils are similar to Karlin, but are moderately deep to a fragipan. Permeability is moderate above the fragipan, moderately slow in the fragipan, and moderate in the substratum.

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

State lands mixed with blocks company lands and small private parcels. Lands used mainly for hunting and fishing.

Unique Natural Features:

Michigamme Reservoir, Michigamme River and Clark Creek.

Archeological, Historical, and Cultural Features:

None.

Special Management Designations or Considerations:

Watershed and Fisheries Considerations:

Michigamme River (warm large river) and an unnamed tributary (type 1 trout stream) is located within this compartment. Michigamme River should have 100' buffer plus 5' per 1% slope increase. For unnamed designated trout stream, a 300' buffer is recommended for those areas susceptible to Aspen regeneration. For areas not susceptible to Aspen regeneration, a 100' plus 5' per 1% increase in slope.

Wildlife Habitat Considerations:

Numerous bald eagle occurrences to the north. Potential for osprey, eagle, and loon to the north. Deer use in area so retaining conifer component is desired. Manage aspen for age class and species diversity to promote habitat for ruffed grouse and woodcock. Contains state game fund lands.

Mineral Resource and Development Concerns and/or Restrictions

Sand/gravel pits are not located in the area, and sand & gravel potential appears to be limited within the compartment. Abandoned iron mines are located in the area, and there has been extensive iron ore exploration as well as some exploration of kimberlites (for diamonds) in the area. There are some historic iron ore prospects near the southwest edge of the compartment, but otherwise, metallic mineral potential for the compartment appears to be low at this time. State mineral rights within the compartment have previously been leased for metallic mineral exploration. There is no known potential for economic oil and gas production in the UP. The state does not own all of the mineral rights within the compartment. Private mineral rights owners must be allowed reasonable access to the land should they choose to explore and/or develop the minerals.

Vehicle Access:

Access to most of compartment is through private property in which the State has no management easement.

Survey Needs:

4 corners in section 9.

Recreational Facilities and Opportunities:

Fire Protection:

Additional Compartment Information:

The following reports from the Inventory are attached:

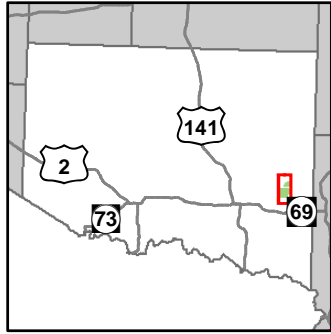
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

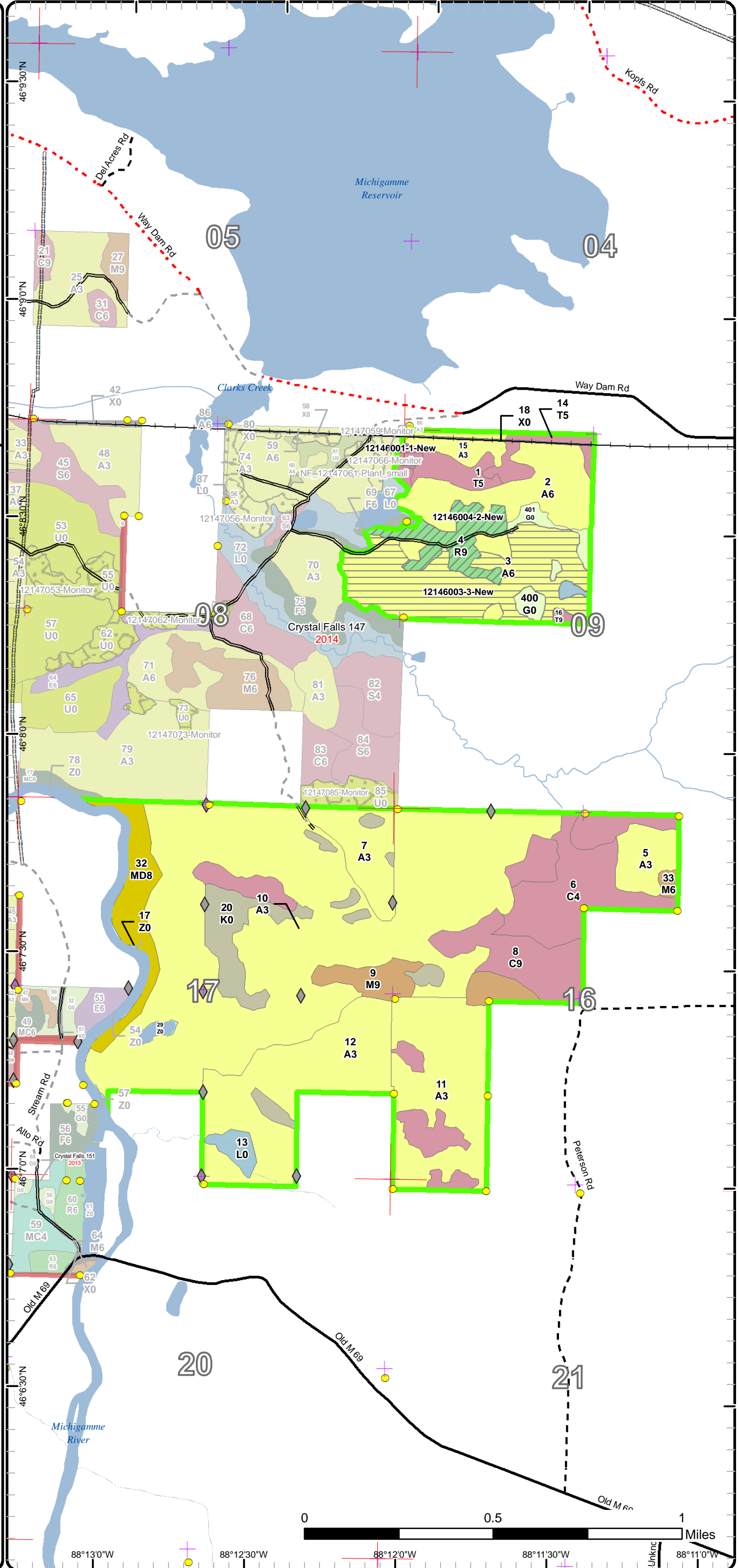
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 146
 T43N, R31W, Sec. 8, 9, 16, 17, 21
 County: Iron
 Unit: Crystal Falls
 Mgmt Area: Michigamme Reservoir
 YOE: 2020
 Acres: 866 GIS Calculated
 Examiner: Scott Sebero
 Map Revised: 12/17/2018
 Map Phase: Post-Review

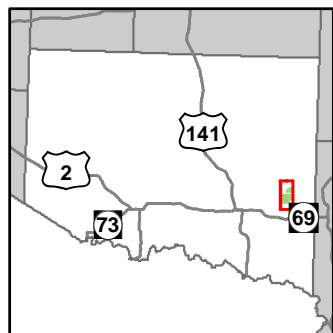


- Miris Corners
- ✚ Remonumented Section Corners
- Survey Grade Corners
- ◆ Field Grade Corners
- Counties
- DNR - Secondary Forest Road
- Federal / State / County - Paved Road
- - - Federal / State - Dirt / Gravel Road
- . - . County - Gravel Road
- - - Private - Dirt / Gravel Road
- Active Railroads
- Intermittent Stream
- Island in Lake or River
- Lake/Pond
- Perennial River
- Swamp
- Lakes and Rivers All
- Pipeline
- Compartment Boundary
- Clearcut (w/Reserves)
- Thinning (Crown, Low, Systematic)
- 411 - Northern Hardwood
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 612 - Lowland Coniferous Forest
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 500 - Water
- 622 - Lowland Shrub
- 720 - Exposed Rock
- Lakes

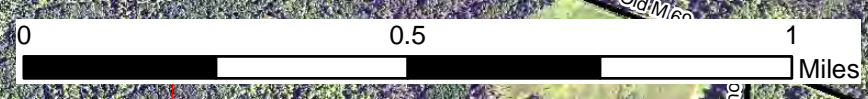
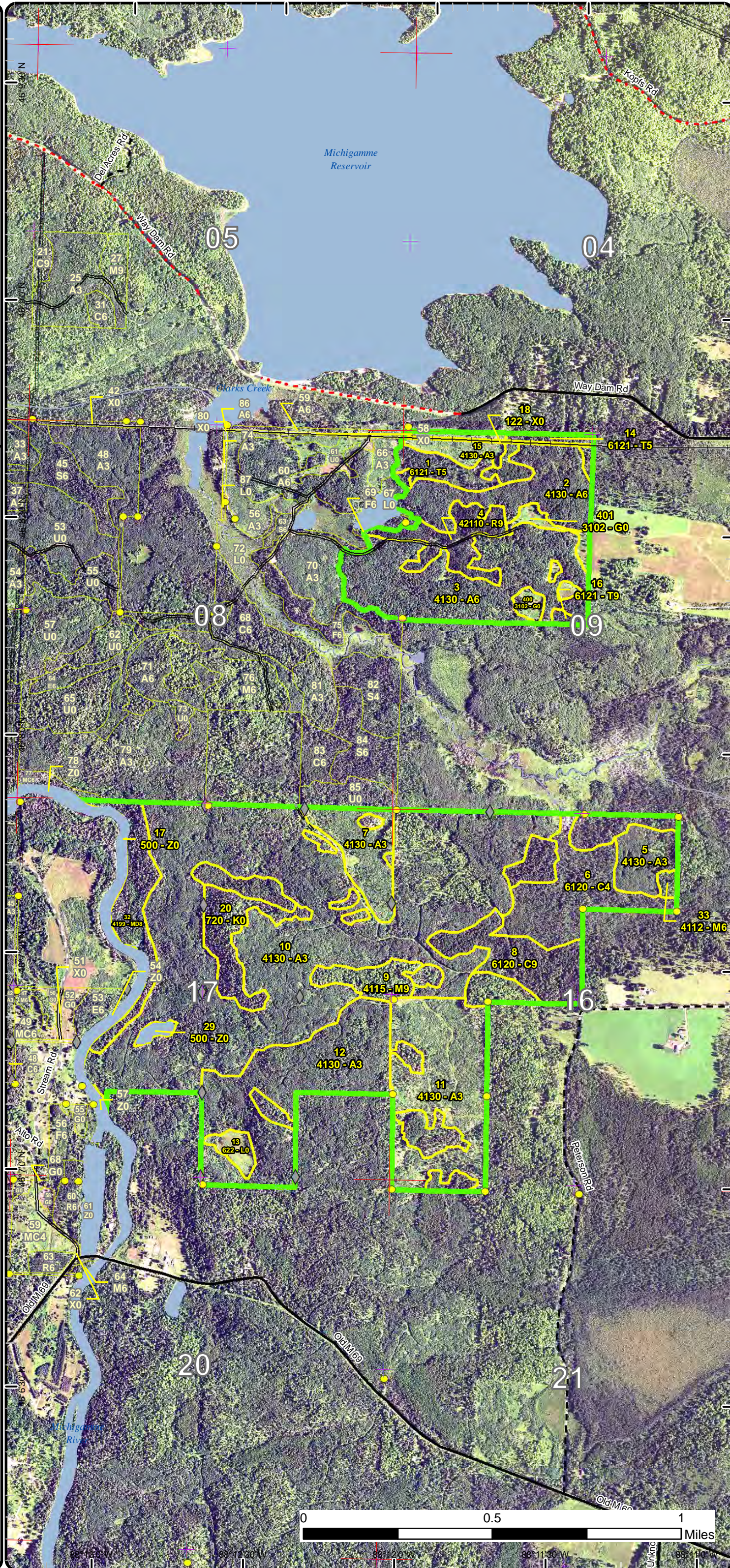


Stand Boundary Map

Compartment: 146
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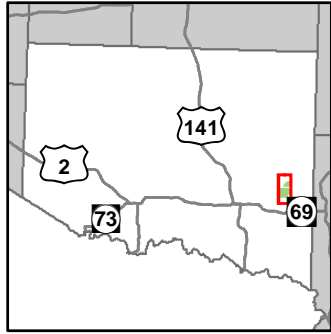


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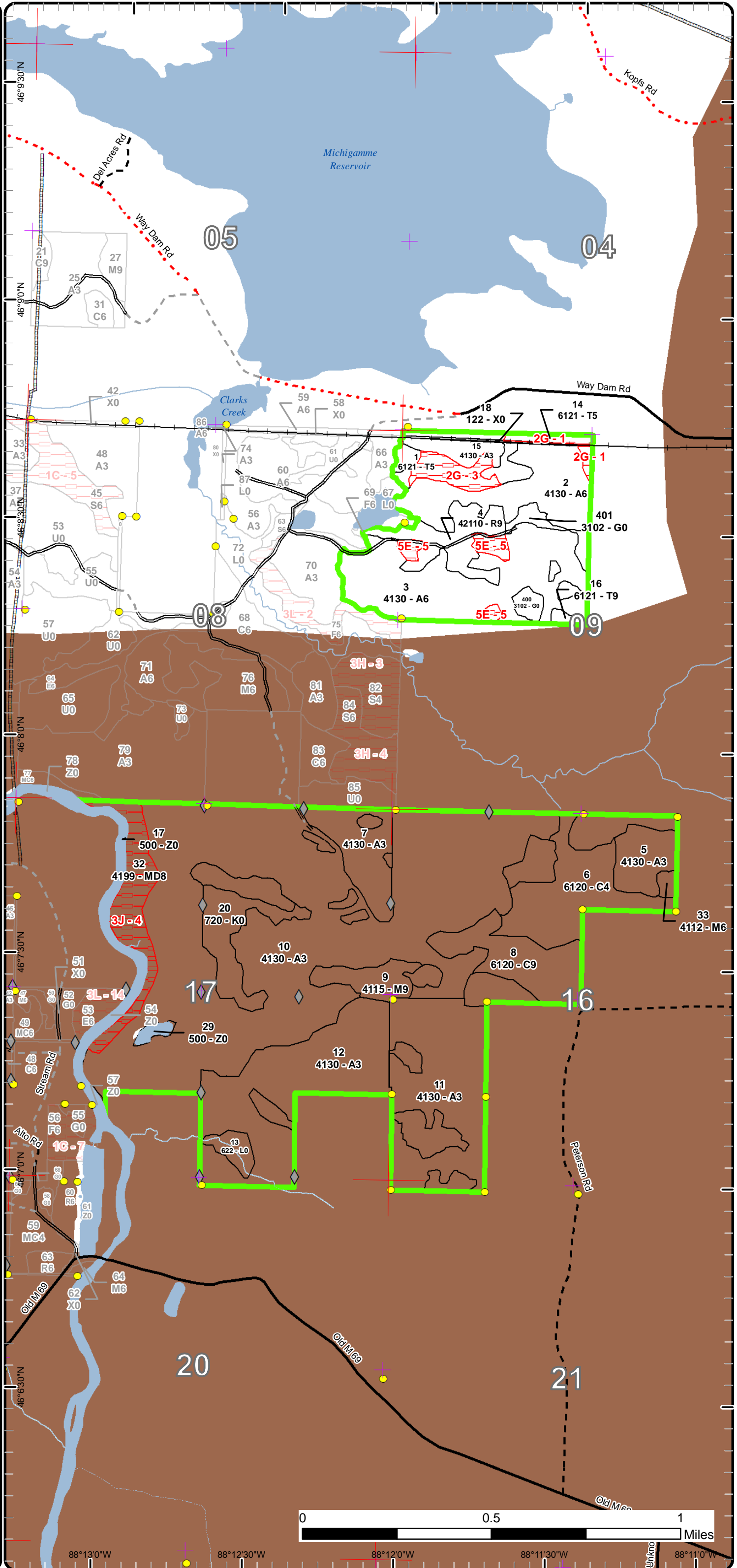


Special Conservation Areas & Site Conditions Map

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- Island in Lake or River
- Lake/Pond
- Perennial River
- Swamp
- Lakes and Rivers All
- Pipeline
- Compartment Boundary
- Unavailable
- 2G: Too wet (sensitive soils, does not include access issues)
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- Deer Winter Range



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	101	16	371	39	74	0	0	0	0	0	0	0	0	0	0	0	0	601
Cedar	0	0	0	0	0	0	0	0	0	117	0	0	0	0	0	0	0	0	117
Exposed Rock	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
Herbaceous Openland	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Lowland Shrub	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	26
Northern Hardwood	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	22
Red Pine	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	20
Tamarack	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	19
Urban	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Water	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Total	61	101	16	371	39	74	20	0	0	184	0	0	0	0	0	0	0	0	866



Report 2 – Treatment Summary

Crystal Falls Mgt. Unit
Year of Entry: 2020

Acres of Harvest

Compartment 146
Total Compartment Acres: 866

Commercial Harvest - 90
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	68	0	0	0	0	0	0	0	0	68
Red Pine	0	0	0	0	20	0	0	0	0	20
Tamarack	3	0	0	0	0	0	0	0	0	3
Total	70	0	0	0	20	0	0	0	0	90

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	90	0	0	0	0	0	0	0	0	90
Next Step	0	0	0	0	0	70	0	0	0	70
Total	90	0	0	0	0	70	0	0	0	161



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
1	12146001-1- New	2.5	6121 - Tamarack	Poletimber Medium	89	51-80	Harvest	Clearcut with Retention	6121 - Tamarack	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Cut all trees with one or more pulpwood sticks, 4" DBH, except cedar and hemlock, if present.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Mix of tamarack and spruce.

Regen:

Other Red line out any low, wet areas without trees.

Comment:

Proposed Start Date: 10/1 /2019

3	12146003-3- New	67.7	4130 - Aspen	Poletimber Well	48	81-110	Harvest	Clearcut with Retention	4134 - Aspen, Spruce/Fir	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Cut all aspen and maple 2" DBH or greater. Cut all spruce, balsam, tamarack, jack pine and red pine with one or more pulpwood sticks, 4"

Specs: DBH. Mark 3 to 5 red pine per acre for retention. No white pine or oak will be cut.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Mix of aspen, spruce, balsam and pine.

Regen:

Other Mark out several pockets within stand, 5 to 10 percent, as reserve. This is already reflected in treatment.

Comment:

Proposed Start Date: 10/1 /2019

4	12146004-2- New	20.1	42110 - Planted Red Pine	Sawtimber Well	52	141- 170	Harvest	Crown Thinning	4211 - Planted Red Pine	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Thin red pine to 100 BA. Remove porcupine damaged trees first. White pine will not be cut. Protect sub merchantable spruce and balsam.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/1 /2019

**Total Treatment
Acreage Proposed: 90.3**

Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Scott Sebero : Examiner

Compartment: 146

Year of Entry: 2020

Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions		
		With Condition	Not Available		2G	3J	5E
601	595	0	6	Aspen			6
117	117	0	0	Cedar			
32	32	0	0	Exposed Rock			
9	9	0	0	Herbaceous Openland			
7	7	0	0	Lowland Shrub			
26	0	0	26	Mixed Upland Deciduous		26	
22	22	0	0	Northern Hardwood			
20	20	0	0	Red Pine			
18	4	0	14	Tamarack	14		
2	2	0	0	Urban			
11	11	0	0	Water			
866	820		46	Total Forested Acres	14	26	6
	95%		5%	Relative Percent			

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	5	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Scott Sebero : Examiner

Compartment: 146

Year of Entry: 2020

4	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	26	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Buffer for Michigamme River.							
5	Unavailable	5E: Long-Term Retention	6	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
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.
SCA	Habitat Area	An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6121 - Tamarack	Poletimber Medium	11.9	89	51-80	
2	4130 - Aspen	Poletimber Well	38.9	31	51-80	Some pockets of 8" to 10" aspen.
3	4130 - Aspen	Poletimber Well	73.9	48	81-110	
4	42110 - Planted Red Pine	Sawtimber Well	20.1	52	141-170	
5	4130 - Aspen	Sapling Well	16.1	14	Immature	
6	6120 - Lowland Cedar	Poletimber Poor	40.3	89	1-50	
7	4130 - Aspen	Sapling Well	23.7	5	Immature	Rock outcrops within stand.
8	6120 - Lowland Cedar	Sawtimber Well	76.6	89	81-110	
9	4115 - Y.Birch, Hemlock NH	Sawtimber Well	20.1	89	81-110	
10	4130 - Aspen	Sapling Well	293.5	22	Immature	Lots of rock outcrops scattered throughout stand.
11	4130 - Aspen	Sapling Well	66.8	5	Immature	OPIC - FMD: Rough rocky ground with wet areas. Scattered pockets of cedar. Winter cut. Buffer ash and cedar pockets and mark out drainages as much as possible. No cut spec on cedar and ash. Retention will be in clumps around pockets of cedar and ash within stand.
12	4130 - Aspen	Sapling Well	77.7	25	Immature	Lots of rock outcrops scattered throughout stand.
14	6121 - Tamarack	Poletimber Medium	4.7	89	51-80	
15	4130 - Aspen	Sapling Well	10.4	5	Immature	
16	6121 - Tamarack	Sawtimber Well	1.6	89	51-80	
32	4199 - Other Mixed Upland Deciduous	Sawtimber Medium	25.8	80	1-50	rock ridge with rock outcrops. Balsam and spruce almost all dead. Large red maple and aspen scattered along with some cedar.
33	4112 - Maple, Beech, Cherry Association	Poletimber Well	2.1	89	81-110	



Stand	Cover Type	Acres	Managed Site	General Comments:
13	622 - Lowland Shrub	7.3	No	
17	500 - Water	8.8	No	Michigamme River
18	122 - Road/Parking Lot	1.8	No	OPIC - FMD: Escanaba & Lake Superior R.R.
20	720 - Exposed Rock	31.9	No	
29	500 - Water	2.4	No	Pond.
400	3102 - Grass	4.2	No	OPIC - FMD: grass opening.
401	3102 - Grass	5.2	No	OPIC - FMD: grass opening.