



# Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12166

Entry Year 2019

Acreage: 640

County Iron

Management Area: Panola Plains

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**Revision Date:** 2017-08-18

**Stand Examiner:** Scott Sebero

**Legal Description:**

T42N-R31W SECTIONS 4, 8, 9, 16 & 21.

**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 lakes and streams. Maintain and improve road system.

**Soil and topography:**

Nearly level to hilly, excessively drained to well drained, loamy and sandy soils on ground moraines, end moraines and outwash plains.

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

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

**Unique Natural Features:**

Davison Creek and Larson Creek.

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

Multiple compartments were determined to have no known archaeological sites within them; we have no concerns for these compartments: 10, 14, 30, 50, 70, 75, 93, 112, 116, 138, 142, 144, 156, 166, and 186.

**Special Management Designations or Considerations:**

None.

**Watershed and Fisheries Considerations:**

This compartment contains streams that flow into the Michigamme River, including Davison Creek and Larson Creek. Larson Creek is a type 1 trout stream however multiple beaver impoundments are in this creek and is more warm water- ok to have 100 foot buffer along this stream, instead of the typical 300 foot. All other waterbodies within this compartment, including vernal pools and intermittent streams should have BMPs being followed.

**Wildlife Habitat Considerations:**

This compartment contains part of a DWC (deer wintering complex) that provides shelter and forage for deer in south Iron County. These deer wintering areas are some of the most diverse in the area. Featured species in this Management Area (Panola Plains MA) include; eastern bluebird, bear, grouse, woodcock and Kirtland warbler. Moose, eagles, osprey, herons, loons, turkeys, sandhill cranes and wolves all have been documented in this compartment. Management for deer winter cover, including transition zones, movement corridors and conifer component throughout the forage stands is critical in this compartment. Aspen age and stand size diversity are important management goals for deer, bear, grouse, woodcock and goshawks. The mature mixed pine component provides both winter cover for deer, and provides ideal habitat for black bears especially as refuge trees for cub rearing. Super canopy pine near rivers and Peavy Pond provide perching and nesting trees for eagles, ospreys. Mature forest conditions in several stands provide many wildlife trees with cavities, nesting and denning habitat. Oak in the compartment provides most important for most of the featured species identified for this MA.

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

An active gravel pit is located more three miles to the west, near Mansfield. There may be some sand and gravel potential in the compartment. Abandoned iron mines at Crystal Falls are located five miles to the northwest, and there does not appear to be iron ore potential within the compartment. There may be potential for other metallic minerals. There has been metallic mineral leasing in this area in the past but there are no currently active leases. There is no economic oil and gas production in the UP.

**Vehicle Access:**

Access through corporate land off Lake Mary Road and Frickeltons Road through connecting woods roads.

**Survey Needs:**

None.

**Recreational Facilities and Opportunities:****Fire Protection:****Additional Compartment Information:**

None.

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

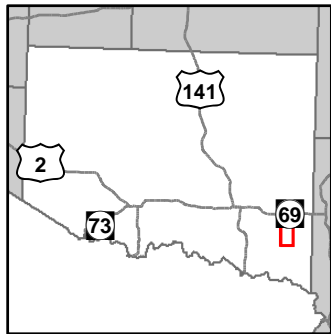
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

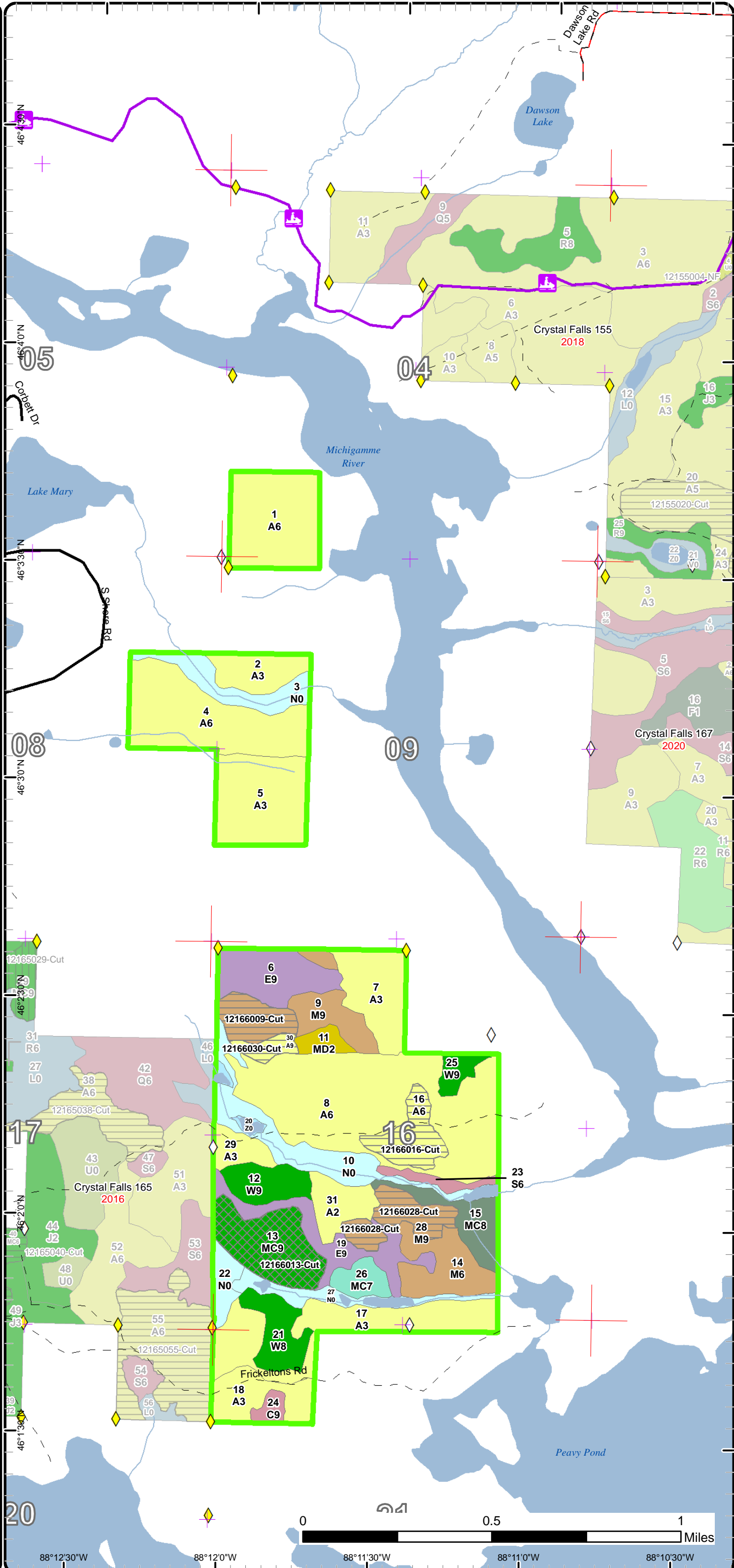
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

# Cover Type & Treatments Map

Compartment: 166  
 T42N, R31W, Sec. 4, 8, 9, 16, 21  
 County: Iron  
 Unit: Crystal Falls  
 Mgmt Area: Panola Plains  
 YOE: 2019  
 Acres: 639.7 GIS Calculated  
 Examiner: Scott Sebero  
 Map Revised: 11/30/2017  
 Map Phase: Post-Review



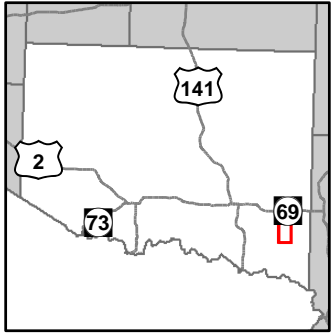
- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◆ Field Grade GPS Corners
- Counties
- Snowmobile Trails
- Designated Snowmobile Trails
- Paved Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Streams
- Lakes and Rivers All
- Compartment Boundary
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- 411 - Northern Hardwood
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 500 - Water
- 623 - Emergent Wetland
- Lakes



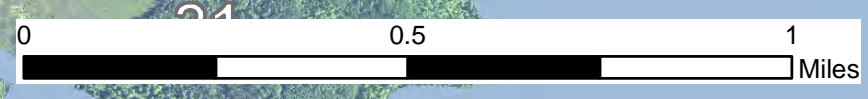
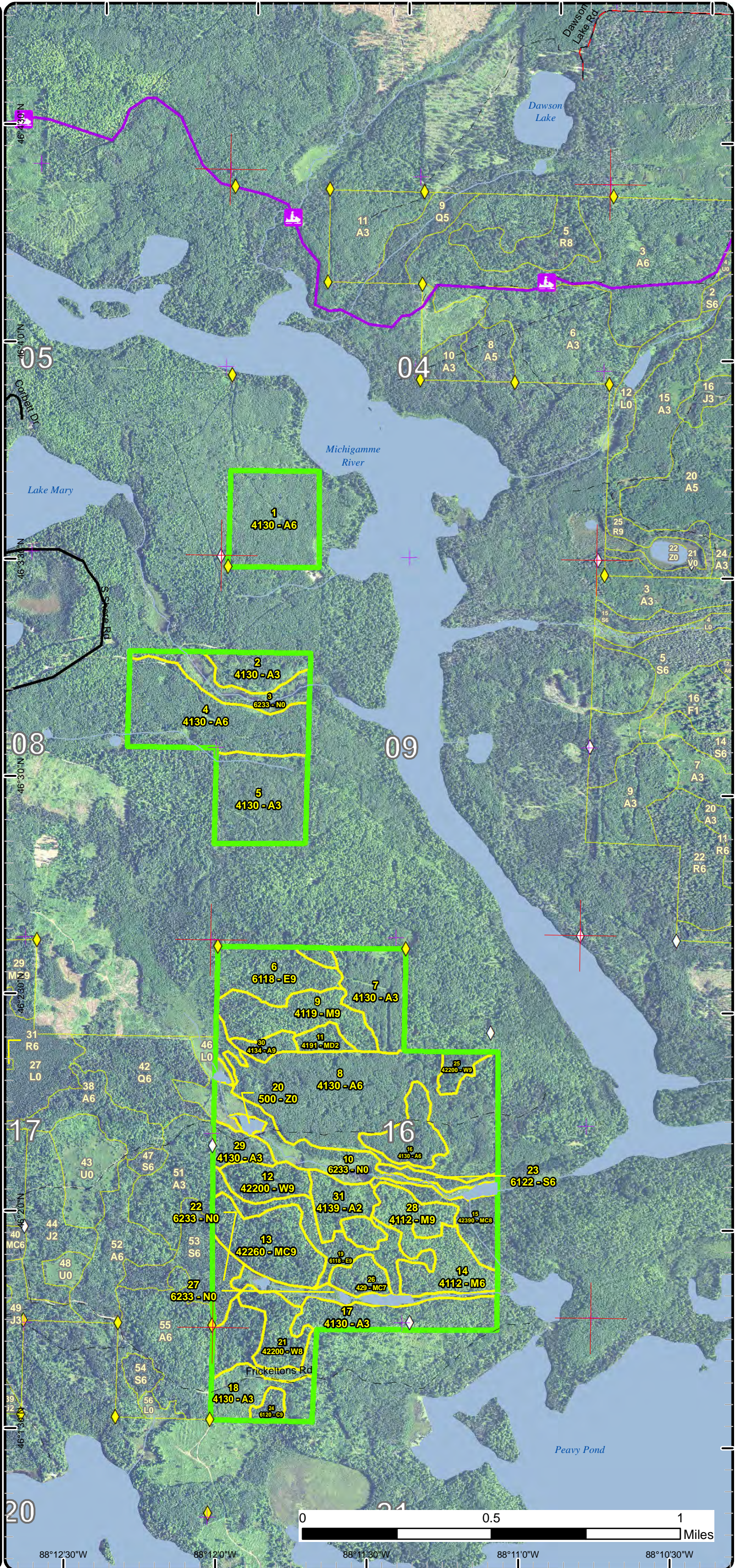
88°12'30"W    88°12'0"W    88°11'30"W    88°11'0"W    88°10'30"W

# Stand Boundary Map

Compartment: 166  
 T42N, R31W, Sec. 4, 8, 9, 16, 21  
 County: Iron  
 Unit: Crystal Falls  
 Mgmt Area: Panola Plains  
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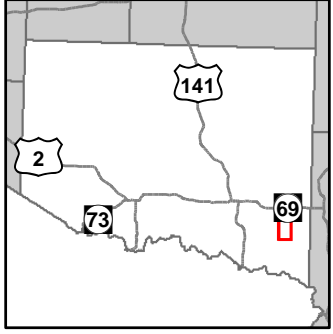
- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Counties
- Snowmobile Trails
- Designated Snowmobile Trails
- Paved Roads
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- Streams
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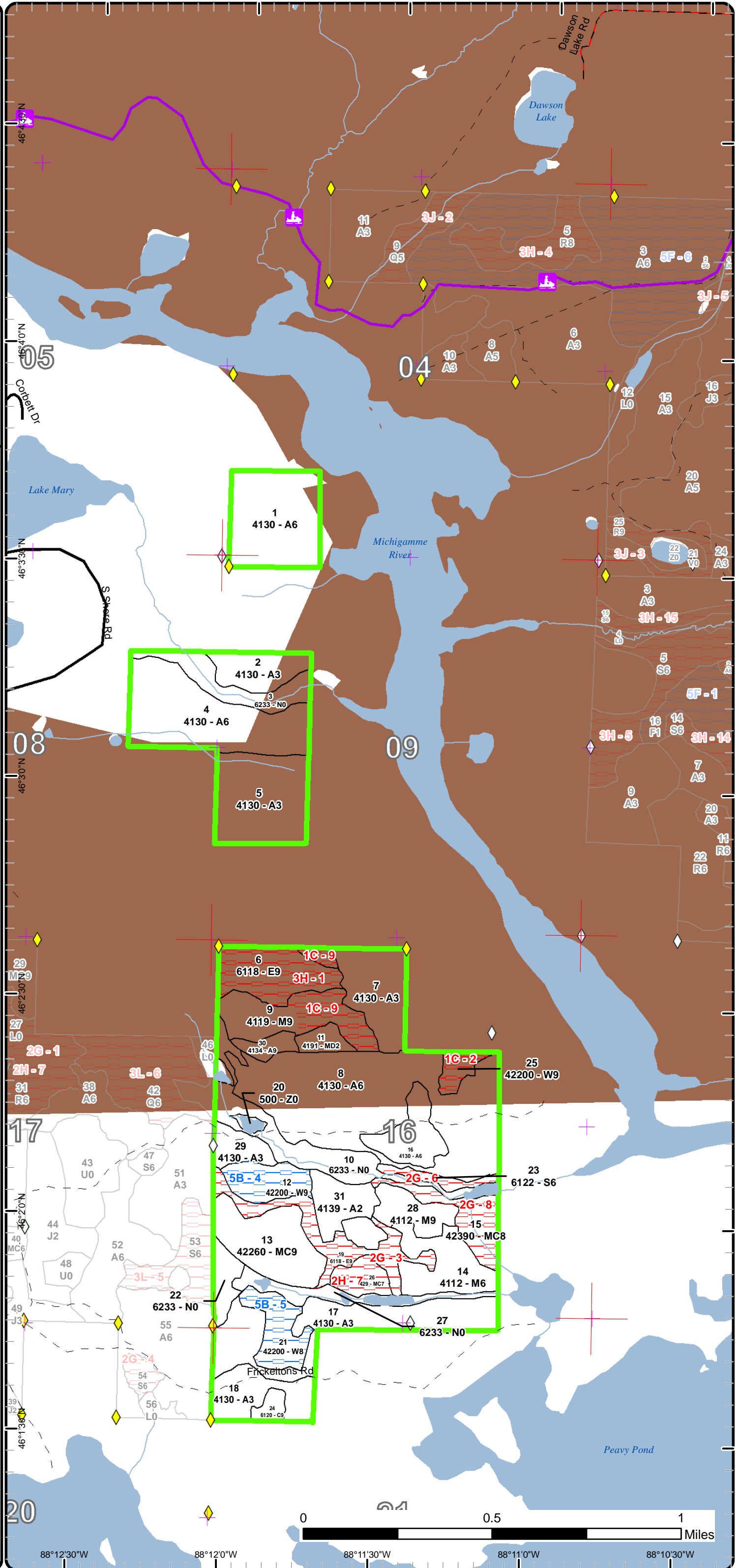
88°12'30"W    88°12'0"W    88°11'30"W    88°11'0"W    88°10'30"W

# Special Conservation Areas & Site Conditions Map

Compartment: 166  
 T42N, R31W, Sec. 4, 8, 9, 16, 21  
 County: Iron  
 Unit: Crystal Falls  
 Mgmt Area: Panola Plains  
 YOE: 2019  
 Acres: 639.7 GIS Calculated  
 Examiner: Scott Sebero  
 Map Revised: 11/30/2017  
 Map Phase: Post-Review



- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Counties
- Snowmobile Trails
- Designated Snowmobile Trails
- Paved Roads
- County Poor Dirt Roads
- Poor Dirt Roads
- Streams
- Lakes and Rivers All
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5B: Maintain for regeneration purposes
- 1C: Other dept or div proc/practices
- 2G: Too wet (sensitive soils, does not include access issues)
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- 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	18	21	157	147	15	0	0	5	0	0	0	0	0	0	0	0	0	363
Cedar	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4
Lowland Deciduous	0	0	0	0	0	0	0	0	0	0	45	0	0	0	0	0	0	0	45
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5
Marsh	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64
Mixed Upland Deciduous	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	29	0	0	0	0	0	29
Northern Hardwood	0	0	0	0	0	0	0	0	0	22	45	0	0	0	0	0	0	0	67
Upland Conifers	0	0	0	0	0	0	0	0	0	0	15	0	8	0	0	0	0	0	22
Water	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
White Pine	0	0	0	0	0	0	0	0	0	0	0	6	28	0	0	0	0	0	34
<b>Total</b>	<b>67</b>	<b>18</b>	<b>21</b>	<b>162</b>	<b>147</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>22</b>	<b>114</b>	<b>6</b>	<b>65</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>641</b>



## Report 2 – Treatment Summary

Crystal Falls Mgt. Unit  
Year of Entry: 2019

Acres of Harvest

Compartment 166  
Total Compartment Acres: 640

Commercial Harvest - 78  
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	20	0	0	0	0	0	0	0	0	20
Natural Mixed Pines	0	29	0	0	0	0	0	0	0	29
Northern Hardwood	29	0	0	0	0	0	0	0	0	29
<b>Total</b>	<b>49</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>78</b>

### Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	78	0	0	0	0	0	0	0	0	78
Next Step	0	29	0	0	0	0	49	0	0	78
<b>Total</b>	<b>78</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>49</b>	<b>0</b>	<b>0</b>	<b>156</b>



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
9	12166009-Cut	12.7	4119 - Mixed Northern Hardwoods	Sawtimber Well	96	111-140	Harvest	Clearcut with Retention	4191 - Mixed Upland Deciduous with Conifer	Even-Aged	Approved Proposal

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

Prescription Cut all aspen and mixed hardwood, except oak and black ash, that are 2" DBH or greater. Cut all spruce and balsam with two or more pulpwood sticks. No cedar, hemlock, red or white pine, black ash or oak will be cut. Leave all trees marked as wildlife trees.

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

Acceptable Mix of maple, aspen, birch and softwood.  
Regen:

Other Winter Cut.

Comment:

Proposed Start Date: 10/01/2018

13	12166013-Cut	28.6	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	110	141-170	Harvest	Group Selection	4210 - Planted White Pine	Two-Aged	Approved Proposal
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**Habitat Cut: No****Site Condition:**

Prescription Cut all aspen with one or more pulpwood stick. Cut all spruce and balsam with two or more pulpwood sticks. Cut all maple and paper birch with three or more pulpwood sticks. No cedar, hemlock, oak, yellow birch, black ash, red or white pine will be cut unless marked with orange paint. In areas of heavy red and white pine, some pine may be marked, but a minimum of 70 % canopy closure will be retained. Favor white pine. Leave all trees marked as wildlife trees.

Next Step SitePrep, Scarification  
Treatments:

Acceptable White and red pine mixed with other species.  
Regen:

Other Winter cut.

Comment:

Proposed Start Date: 10/01/2018

16	12166016-Cut	15.1	4130 - Aspen	Poletimber Well	49	81-110	Harvest	Clearcut with Retention	4134 - Aspen, Spruce/Fir	Even-Aged	Approved Proposal
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**Habitat Cut: No****Site Condition:**

Prescription Cut all aspen and mixed hardwood, except oak, that are 2" DBH or greater. Cut all spruce and balsam with one or more pulpwood sticks. No cedar, hemlock, red or white pine or oak will be cut..

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

Acceptable Mix of aspen, balsam and spruce.  
Regen:

Other

Comment:

Proposed Start Date: 10/01/2018

28	12166028-Cut	16.3	4112 - Maple, Beech, Cherry Association	Sawtimber Well	95	111-140	Harvest	Clearcut with Retention	4117 - Mixed N. Hardwood - Pine	Even-Aged	Approved Proposal
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**Habitat Cut: No****Site Condition:**

Prescription Cut all aspen and mixed hardwood, except oak, that are 2" DBH or greater. Mark 3 to 5 large diameter maple per acre to reserve for wildlife trees. Cut all spruce and balsam with two or more pulpwood sticks. No cedar, hemlock, red or white pine or oak will be cut. Mark out any pockets of small pole maple to reserve for wildlife.

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

Acceptable Mix of hardwood, aspen and pine.  
Regen:

Other Winter cut.

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
30	12166030-Cut	5.1	4134 - Aspen, Spruce/Fir	Sawtimber Well	70	111- 140	Harvest	Clearcut with Retention	4134 - Aspen, Spruce/Fir	Even-Aged	Approved Proposal

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

Prescription Cut all aspen and mixed hardwood, except oak, that are 2" DBH or greater. Cut all spruce and balsam with one or more pulpwood sticks. No  
Specs: cedar, hemlock, red or white pine or oak will be cut.

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

Acceptable Mix of aspen, hardwood, spruce, balsam and pine.  
Regen:

Other  
Comment:

Proposed Start Date: 10/01/2018

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**Total Treatment  
 Acreage Proposed: 77.8**

## Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Scott Sebero : Examiner

Compartment: 166

Year of Entry: 2019

### Availability for Management

Total Acres	Acres Available	Acres Available With Condition	Acres Not Available
363	363	0	0

### Dominant Site Conditions

	Total Acres	Acres Available	Acres Available With Condition	Acres Not Available	Dominant Site Conditions					
					5B	1C	2G	2H	3H	
363	363	0	0	0						
4	4	0	0	0						
45	0	0	45	45			21			24
5	0	0	5	5			5			
64	64	0	0	0						
5	5	0	0	0						
29	29	0	0	0						
67	51	0	16	16		16				
22	0	0	22	22			15	8		
3	3	0	0	0						
33	0	28	6	6	28	6				
640	519	28	93	93	28	21	40	8		24
	81%	4%	15%							

*\*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	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	24	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
2	Unavailable	1C: Other dept or div proc/practices	6	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Wildlife Division asked to retain this stand.							

## Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Scott Sebero : Examiner

Compartment: 166

Year of Entry: 2019

3	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	21	3H: Deer Wintering Area - habitat is incompatible with harvest at this time	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
4	<b>Available</b>	<b>5B: Maintain for regeneration purposes</b>	13	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Retain until regen is large enough to stand up during a harvest of the over story.							
5	<b>Available</b>	<b>5B: Maintain for regeneration purposes</b>	15	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> All species except pine and oak where previously removed from stand.							
6	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	5	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
7	<b>Unavailable</b>	<b>2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)</b>	8	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Stand on large rock.							
8	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	15	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

## Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Scott Sebero : Examiner

Compartment: 166

Year of Entry: 2019

9	Unavailable	1C: Other dept or div proc/practices	16	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Wildlife Division asked to retain this portion of the stand.							

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

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**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

<b>Conservation Area</b>	<b>Type</b>	<b>Description</b>
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	Crystal Falls Mgt. Unit		Report 7 – Forested Stands			Compartment: 166 Year of Entry: 2019	
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	
1	4130 - Aspen	Poletimber Well	38.6	27	1-50		
2	4130 - Aspen	Sapling Well	14.5	24	Immature		
4	4130 - Aspen	Poletimber Well	49.9	34	51-80		
5	4130 - Aspen	Sapling Well	36.8	24	Immature		
6	6118 - Lowland Deciduous with Cedar	Sawtimber Well	23.6	96	111-140		
7	4130 - Aspen	Sapling Well	24.5	24	Immature		
8	4130 - Aspen	Poletimber Well	97.2	33	51-80		
9	4119 - Mixed Northern Hardwoods	Sawtimber Well	28.5	96	111-140		
11	4191 - Mixed Upland Deciduous with Conifer	Sapling Medium	5.4	24	Immature	Stump sprout red maple. Fairly wet site.	
12	42200 - Natural White Pine	Sawtimber Well	12.9	110	81-110	Aspen, fir and maple cut out of stand in 2000. Very nice pine regeneration.	
13	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	28.6	110	141-170	Needs to be treated. Protect pockets of pine regen.	
14	4112 - Maple, Beech, Cherry Association	Poletimber Well	21.7	80	81-110	Most of spruce and balsam dead from budworm. Most of aspen and paper birch dead from old age.	
15	42390 - Mixed Non- Pine Upland Conifers	Sawtimber Medium	14.5	90	51-80		
16	4130 - Aspen	Poletimber Well	15.1	49	81-110		
17	4130 - Aspen	Sapling Well	42.6	23	Immature		
18	4130 - Aspen	Sapling Well	17.5	8	Immature		
19	6118 - Lowland Deciduous with Cedar	Sawtimber Well	21.1	95	81-110		
21	42200 - Natural White Pine	Sawtimber Medium	14.8	110	81-110	Aspen and most of maple cut out of stand in 1994.	



S t a n d	Crystal Falls Mgt. Unit		Report 7 – Forested Stands			Compartment: 166 Year of Entry: 2019	
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	
23	6122 - Black Spruce	Poletimber Well	4.8	95	1-50		
24	6120 - Lowland Cedar	Sawtimber Well	3.7	95	81-110		
25	42200 - Natural White Pine	Sawtimber Well	5.6	106	81-110		
26	429 - Mixed Upland Conifers	Sawtimber Poor	7.9	110	51-80		
28	4112 - Maple, Beech, Cherry Association	Sawtimber Well	16.3	95	111-140	Should harvest. Aspen and birch mostly gone. Maple starting to break up.	
29	4130 - Aspen	Sapling Well	8.4	17	Immature		
30	4134 - Aspen, Spruce/Fir	Sawtimber Well	5.1	70	111-140		
31	4139 - Aspen, Mixed Deciduous	Sapling Medium	12.9	17	Immature	OPIC - FMD: OI Stand Year Origin was 2000	





Stand	Cover Type	Acres	Managed Site	General Comments:
3	6233 - Wet Meadow	15.5	No	Davison Creek and beaver pond.
10	6233 - Wet Meadow	28.4	No	
20	500 - Water	3.0	No	Beaver pond.
22	6233 - Wet Meadow	7.6	No	Creek with beaver ponds.
27	6233 - Wet Meadow	12.6	No	Creek with beaver ponds.