



Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12171

Entry Year 2017

Acreage: 720

County Iron

Management Area: Peavy Moraine

Revision Date: 2015-07-30

Stand Examiner: Scott Sebero

Legal Description:

T41N-R31W sections 3, 4, 9 and 10

Identified Planning Goals:

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

Soil and topography:

Sarona fine sandy loam. Rolling areas on ground moraines and end moraines. Rolling hills with some swamp and drainages.

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

State lands mixed with company lands and private parcels. Land mainly used for hunting and fishing, but some year round residences and camps are present.

Unique Natural Features:

Michigamme Lake. The Menominee River is just to the south of the compartment..

Archeological, Historical, and Cultural Features:

None.

Special Management Designations or Considerations:

None.

Watershed and Fisheries Considerations:

Minimum buffers should be implemented. Streams, regardless of their size or frequency of flow, are connected to downstream waters and strongly influence their function. Additionally, wetlands and open waters in riparian areas and floodplains are physically, chemically, and biologically integrated with rivers via functions that improve downstream water quality. These systems act as effective buffers to protect downstream waters from pollution and are essential components of river food webs. BMP's should be implemented to control sediment sources from adjacent uplands. Fine sediments such as silt and sand negatively affect natural reproduction of fish, decrease the diversity of aquatic invertebrate and fish taxa, and result in lower overall fish populations.

Wildlife Habitat Considerations:

The primary featured species managed for in this compartment include bear and deer. This compartment is greater than 90% aspen and northern hardwood. It has 3 small drainages that provide critical habitat for bears, deer, amphibians and reptile and migrating songbirds. This compartment is part of the historical Camp 5 Deer Wintering Complex. The hemlock, cedar, pine and spruce/fire components of the are are critical to provide winter cover and enable deer to travel along transition zones through the uplands to obtain forage.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of an end moraine of coarse-textured till. The glacial drift thickness varies between 50 and 100 feet. The Proterozoic Michigamme Formation and Archean volcanic and sedimentary rocks subcrop below the glacial drift. There is not a current economic use for these rocks. Abandoned iron mines at Crystal Falls are located ten miles to the northwest. Land near this compartment was previously leased for metallic mineral exploration. There are no visibly active gravel pits in the area, but there is potential. There is no economic oil and gas production in the UP.

Vehicle Access:

Camp 5 Road, Lower Dam Road, Upper Dam Road and woods roads.

Survey Needs:

None.

Recreational Facilities and Opportunities:

Hunting.

Fire Protection:

Additional Compartment Information:

None.

The following reports from the Inventory are attached:

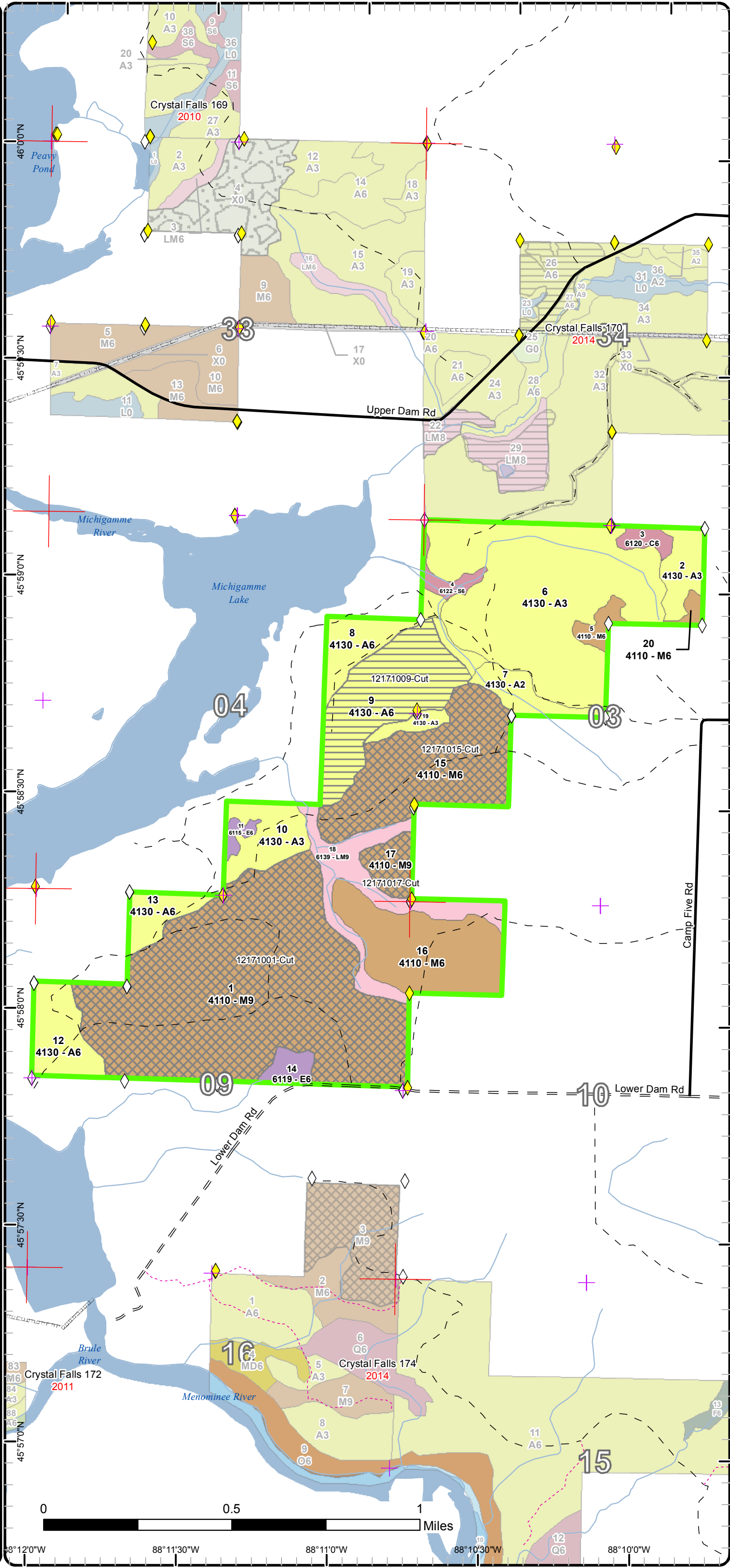
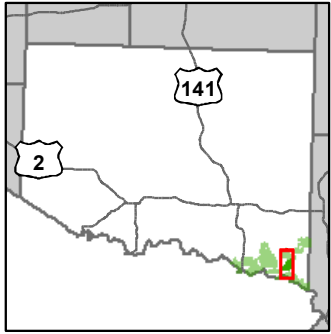
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

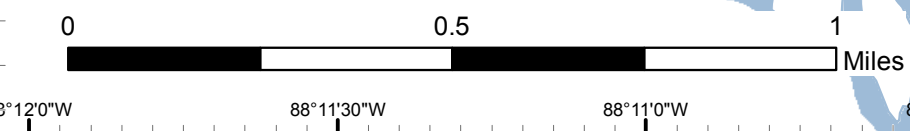
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments

Compartment: 171
 T41N R31W 03,04,09,10
 County: Iron
 Unit: Crystal Falls
 Mgmt Area: Peavy Moraine
 YOY: 2017
 Acres: 720 GIS Calculated
 Examiner: Scott Sebero
 Map Revised: 8/28/2015
 Map Phase: Pre-Review

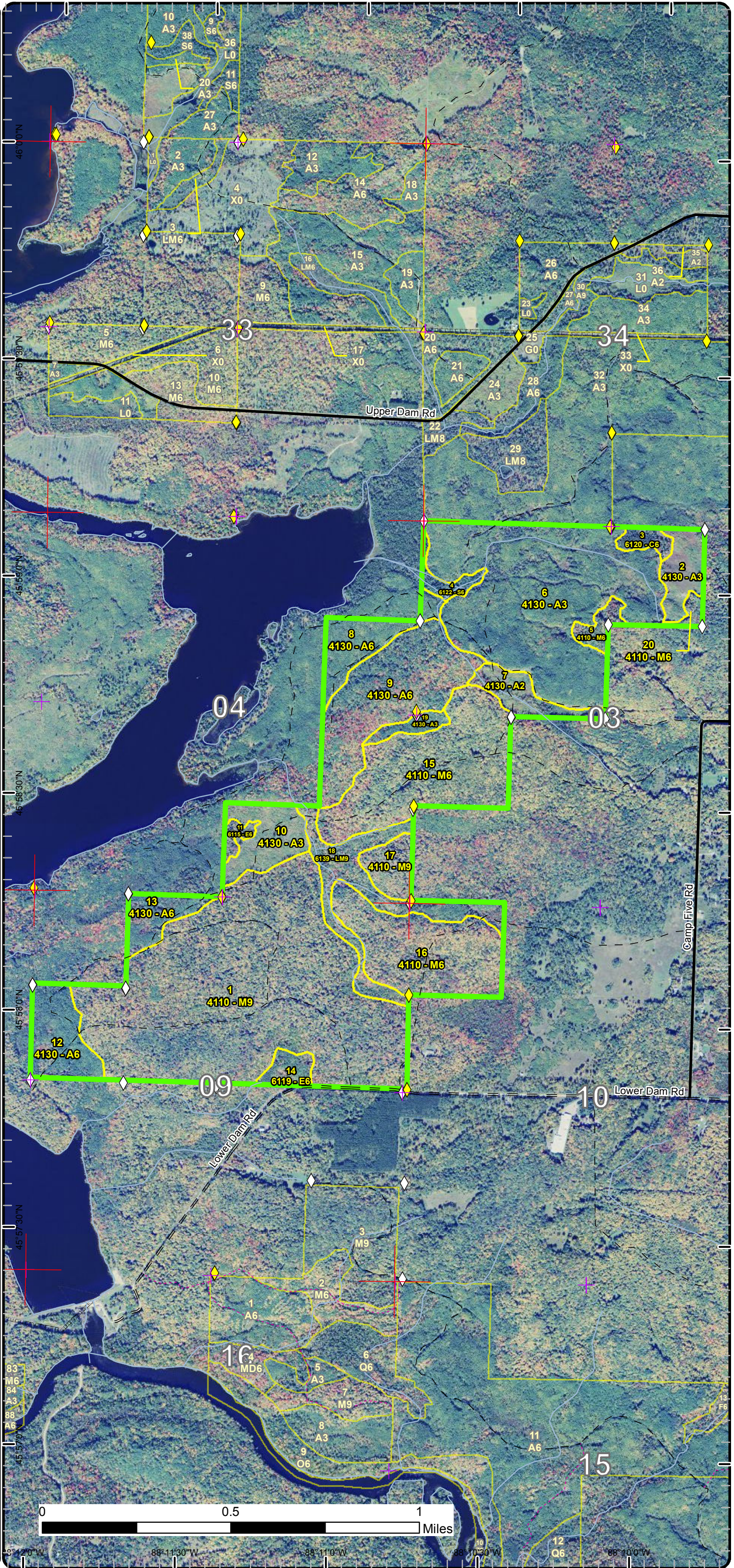
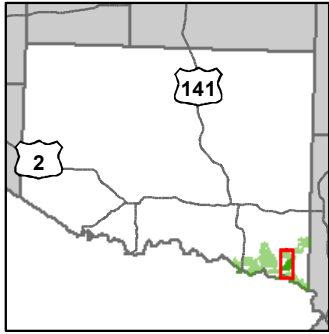


- ✚ Remonumented Section Corner
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Miris Corners
- Paved Roads
- Gravel Roads
- Poor Dirt Roads
- Trail (Non-Recreation)
- Rivers
- Lakes
- Pipeline
- Treatments**
- ▨ Selection (Group, Single Tree)
- ▨ Clearcut (w/Reserves)
- Forest Covertypes**
- 411 - Northern Hardwood
- 413 - Aspen
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

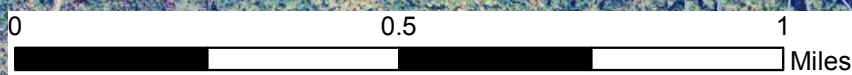


Stand Boundary Map

Compartment: 171
 T41N R31W 03,04,09,10
 County: Iron
 Unit: Crystal Falls
 Mgmt Area: Peavy Moraine
 YOE: 2017
 Acres: 720 GIS Calculated
 Examiner: Scott Sebero
 Map Revised: 8/28/2015
 Map Phase: Pre-Review



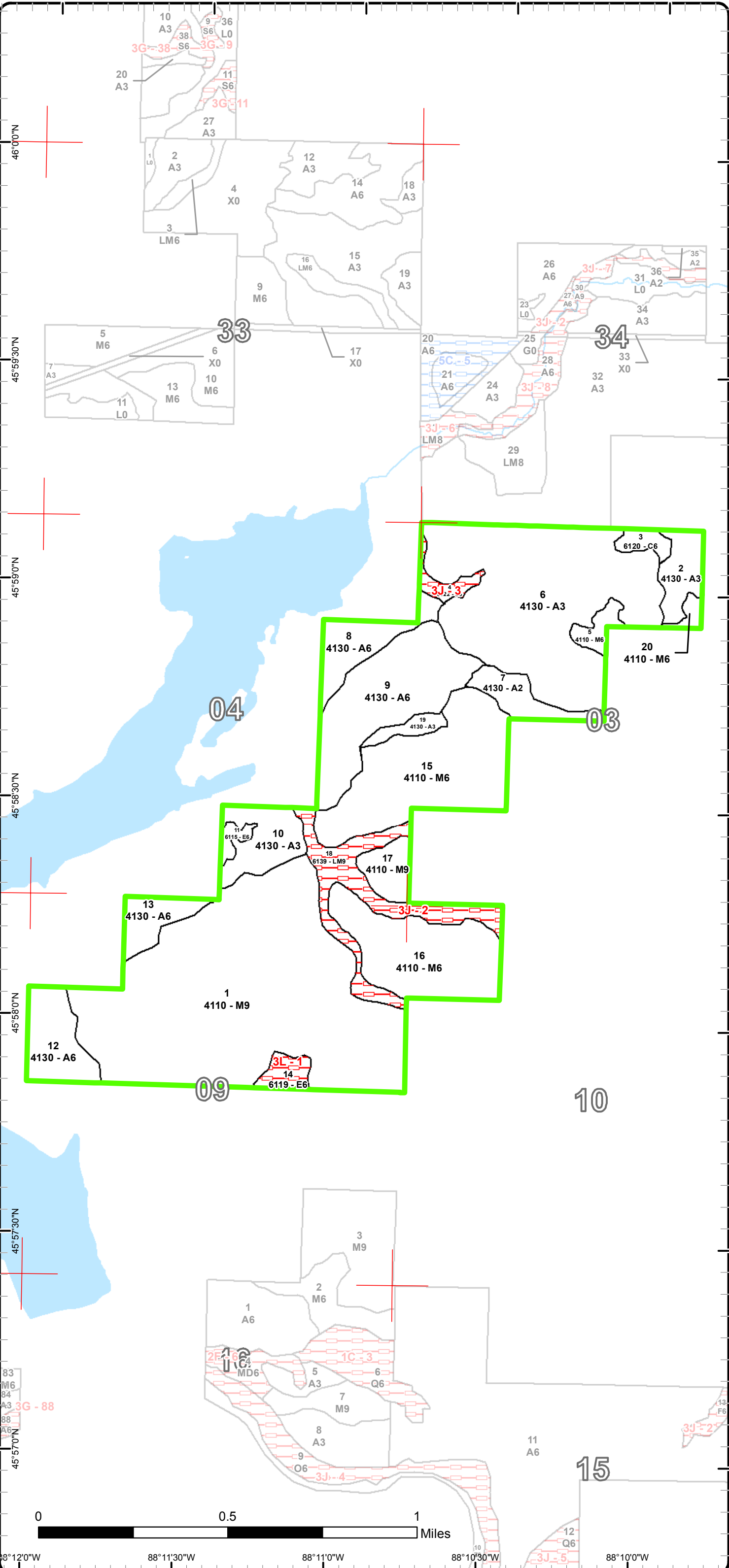
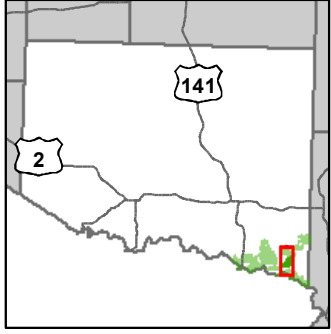
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- 411 - Northern Hardwood
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88°12'0" W 88°11'30" W 88°11'0" W 88°10'30" W 88°10'0" W

Special Conservation Areas & Site Conditions Map

Compartment: 171
 T41N R31W 03,04,09,10
 County: Iron
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- Miris Corners
- Stand Boundaries
- Site Condition
- Unavailable
- Unavailable Factors**
- 3J: Water quality / BMPs (stream, river, or lake)
- 3L: Other wildlife concerns
- Special Conservation Areas
- 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	48	0	136	54	0	0	58	0	0	0	0	0	0	0	0	0	0	296
Cedar	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
Lowland Deciduous	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	10
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	35
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
Northern Hardwood	0	0	0	0	0	0	0	0	0	368	0	0	0	0	0	0	0	0	368
Total	0	48	0	136	54	0	0	58	0	423	0	0	0	0	0	0	0	0	719



Report 2 – Treatment Summary

Crystal Falls Mgt. Unit
Year of Entry: 2017

Acres of Harvest

Compartment 171
Total Compartment Acres: 720

Commercial Harvest - 359
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	54	0	0	0	0	0	0	0	0	54
Northern Hardwood	0	304	0	0	0	0	0	0	0	304
Total	54	304	0	0	0	0	0	0	0	359

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	359	0	0	0	0	0	0	0	0	359
Next Step	0	0	0	0	0	359	0	0	0	359
Total	359	0	0	0	0	359	0	0	0	717



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	12171001-Cut	219.4	4110 - Sugar Maple Association	Sawtimber Well	85	111- 140	Harvest	Single Tree Selection	411 - Northern Hardwood	Even-Aged	Proposal

Habitat Cut: No**Site Condition:**

Prescription Reduce BA to 80 sq. ft./acre favoring best tree in place, refer to complete marker. Remove in order of priority: large ash, maple with cancers, crop tree competitors and finally BA. Any oak, cedar, pine or hemlock present in stand will be retained. Regeneration gaps will be established when large crown trees are removed and all trees greater than 2" DBH within these gaps will be marked to be removed. Leave several yellow birch and trees with cavities per acre.

Next Step
Treatments:

Acceptable A combination of maple, birch, basswood and mixed conifers.
Regen:

Other Follow BMP guidelines for buffer along unnamed creek. Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

9	12171009-Cut	54.3	4130 - Aspen	Poletimber Well	64	111- 140	Harvest	Clearcut with Retention	4134 - Aspen, Spruce/Fir	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Cut all aspen and mixed hardwood, except oak greater than 2" DBH. Cut all spruce, balsam, tamarack and jack pine with one or more pulpwood stick. Leave all red and white pine, cedar, hemlock and oak.

Next Step
Treatments:

Acceptable Mix of aspen, mixed softwood and mixed hardwood.
Regen:

Other Retention will be along intermittent stream on NE side of stand and small low pocket along west side of stand. 100 foot buffer along creek
Comment: reflected in treatment boundary. Protect small wet area along west side of stand. Old next step comments:

Proposed Start Date: 10/1 /2016

15	12171015-Cut	73.7	4110 - Sugar Maple Association	Poletimber Well	85	141- 170	Harvest	Single Tree Selection	411 - Northern Hardwood	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Reduce BA to 80 sq. ft./acre favoring best tree in place, refer to complete marker. Remove in order of priority: large ash, maple with cancers, crop tree competitors and finally BA. Any oak, cedar or hemlock present in stand will be retained. Regeneration gaps will be established when large crown trees are removed and all trees greater than 2" DBH within these gaps will be marked to be removed. Leave several yellow birch and trees with cavities per acre.

Next Step
Treatments:

Acceptable Combination of maple, birch, basswood and mixed softwood.
Regen:

Other Buffer broad wing hawk nest. Follow BMP guidelines for buffer along unnamed creek. Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016

17	12171017-Cut	11.4	4110 - Sugar Maple Association	Sawtimber Well	85	111- 140	Harvest	Single Tree Selection	411 - Northern Hardwood	Even-Aged	Proposal
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Habitat Cut: No**Site Condition:**

Prescription Reduce BA to 80 sq. ft./acre favoring best tree in place, refer to complete marker. Remove in order of priority: large ash, maple with cancers, crop tree competitors and finally BA. Any oak, cedar or hemlock present in stand will be retained. Regeneration gaps will be established when large crown trees are removed and all trees greater than 2" DBH within these gaps will be marked to be removed. Leave several yellow birch and trees with cavities per acre.

Next Step
Treatments:

Acceptable Mix of maple, birch, basswood and mixed conifers.
Regen:

Other Follow BMP guidelines for buffer on unnamed creek. Old next step comments:
Comment:

Proposed Start Date: 10/1 /2016



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Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
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Total Treatment Acreage Proposed: 358.7

Report 5 – Site Conditions

Crystal Falls Mgt. Unit
Scott Sebero : Examiner

Compartment: 171
Year of Entry: 2017

Dominant Site Conditions

	3J	3L
Aspen		
Cedar		
Lowland Deciduous		7
Lowland Mixed Forest	35	
Lowland Spruce/Fir	5	
Northern Hardwood		
Total Forested Acres	40	7
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 Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	3L: Other wildlife concerns	7	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments: Minor forest type in this management area. Important habitat for black bear.							
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	35	3L: Other wildlife concerns	Unspecified	Unspecified	Unspecified
Comments: Stand contains several small intermittent creeks and pockets of black ash that are important black bear habitat.							
3	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	5	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
Comments: Stand has small stream running through it. Remainder of stand is wet.							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 6 – 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 7 – 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.



Stand	Crystal Falls Mgt. Unit		Report 8 – Forested Stands			Compartment: 171 Year of Entry: 2017	
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	
1	4110 - Sugar Maple Association	Sawtimber Well	219.4	85	111-140		
2	4130 - Aspen	Sapling Well	14.0	5	Immature		
3	6120 - Lowland Cedar	Poletimber Well	5.1	85	81-110		
4	6122 - Black Spruce	Poletimber Well	5.1	85	81-110		
5	4110 - Sugar Maple Association	Poletimber Well	6.3	85	81-110		
6	4130 - Aspen	Sapling Well	130.6	26	1-50		
7	4130 - Aspen	Sapling Medium	13.8	6	1-50		
8	4130 - Aspen	Poletimber Well	18.8	34	51-80		
9	4130 - Aspen	Poletimber Well	58.0	64	111-140		
10	4130 - Aspen	Sapling Well	19.9	6	1-50		
11	6115 - Lowland Ash	Poletimber Well	3.4	86	81-110		
12	4130 - Aspen	Poletimber Well	22.7	34	51-80		
13	4130 - Aspen	Poletimber Well	12.8	34	51-80		
14	6119 - Mixed Lowland Deciduous Forest	Poletimber Well	7.0	85	81-110		
15	4110 - Sugar Maple Association	Poletimber Well	73.7	85	141-170	Clumps of log sized hemlock in SE portion of stand.	
16	4110 - Sugar Maple Association	Poletimber Well	53.6	85	81-110		
17	4110 - Sugar Maple Association	Sawtimber Well	11.4	85	111-140		
18	6139 - Mixed Lowland Forest	Sawtimber Well	35.1	85	81-110	wet drainage with intermittent creek.	

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Crystal Falls Mgt. Unit

Report 8 – Forested Stands

Compartment: 171
Year of Entry: 2017



S t a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	4130 - Aspen	Sapling Well	5.5	26	1-50	
20	4110 - Sugar Maple Association	Poletimber Well	3.2	85	111-140	



Stand Cover Type

Acres

Managed
Site

General Comments:

#Type!
