



# Compartment Review Presentation

## Crystal Falls Forest Management Unit

Compartment 12181

Entry Year 2018

Acreage: 1,527

County Iron

Management Area: Michigamme Reservoir

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**Revision Date:** 2016-08-08

**Stand Examiner:** Ed Rice

**Legal Description:**

T46N R31W sections 24, 25, 36

**Identified Planning Goals:**

Optimize sustainable timber production while enhancing and protecting wildlife habitat. Continue to sustainably balance the aspen age class acres. Continue the hardwood stands on a 20 year alternating cutting cycle towards regulation. Protect the riparian areas and transition zones during management activity.

**Soil and topography:**

Soils are generally very fine sandy loams with cobble. Along the stream corridor there lays mucky loams. Several bog areas are peat soils. The topography ranges from flat to steep rolling hills.

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

The compartment is overall contiguous in state ownership with just a couple of private inholdings. Large blocks of private industrial forest ownership border the compartment, notably on the west side. The east side of the compartment into Marquette County is mainly private holdings.. Active forest management has occurred and will continue within and surrounding the compartment.

**Unique Natural Features:**

none identified

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

There are potential archeological features in the compartment.

**Special Management Designations or Considerations:**

none

**Watershed and Fisheries Considerations:**

The Michigan River flows completely through the compartment. The Michigan River is a good brook trout stream on its own, but it is also one of the Fence River's more important tributaries, regarding cold water refuge and natural reproduction. There also has been beaver issues in this area that was noted in Fish Collection System. 300 foot buffer recommended.

**Wildlife Habitat Considerations:**

Featured species include: black bear, pileated woodpecker, northern goshawk, ruffed grouse, and white-tailed deer. Compartment includes cold water streams with riparian corridors that should be retained.

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

**Vehicle Access:**

Overall poor. The north end of the compartment is accessible by the Smith Creek Road which is an improved gravel road. The remainder has no vehicle access. There are multiple old overgrown road systems within the compartment.

**Survey Needs:**

T46, 45N R 31W W1/16 sections 36, 1  
T46N R31W center 1/4 section 36  
SW 1/16 section 36  
S 1/16 section 25  
S 1/16 sections 23, 24  
1/4 sections 23, 24

**Recreational Facilities and Opportunities:**

Snowmobile trail

**Fire Protection:**

Access is limited but there are old road systems in place. There are stands of upland spruce/fir that have the potential for producing very active fire behavior. Lightning strikes have occurred in the past in this area. The compartment is very isolated and response time would be extended.

**Additional Compartment Information:**

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

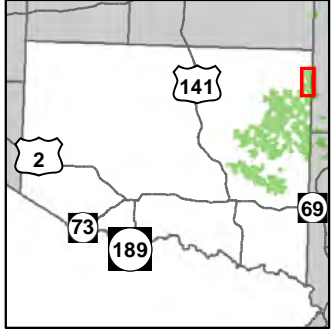
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

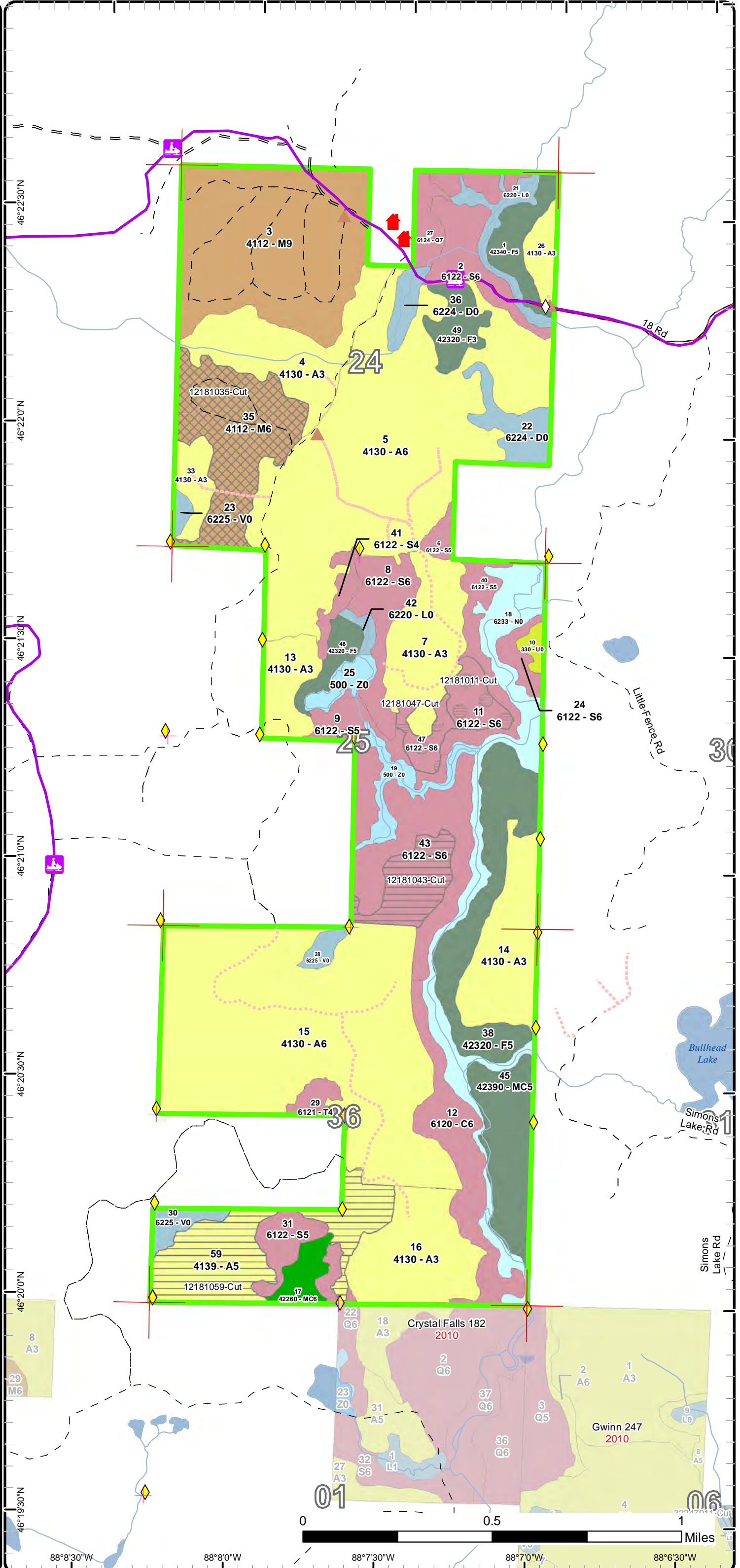
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

# Cover Type & Treatments Map

Compartment: 181  
 T46N R31W Sec. 24, 25, 36  
 County: Iron  
 Unit: Crystal Falls  
 Mgmt Area: Michigamme Reservoir  
 YOE: 2018  
 Acres: 1,527 GIS Calculated  
 Examiner: Ed Rice  
 Map Revised: 11/29/2016  
 Map Phase: Post-Review



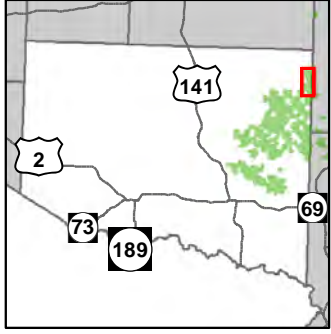
- Miris Corners
- Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- ▲ Berms
- Cabin
- Snowmobile Trails
- Designated Snowmobile Trails
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Closed Roads
- Rivers
- Compartment Boundary
- Patch/Strip Cut (Femelschlag)
- Selection (Group, Single Tree)
- Clearcut (w/Reserves)
- 411 - Northern Hardwood
- 413 - Aspen
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 612 - Lowland Coniferous Forest
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- Lakes



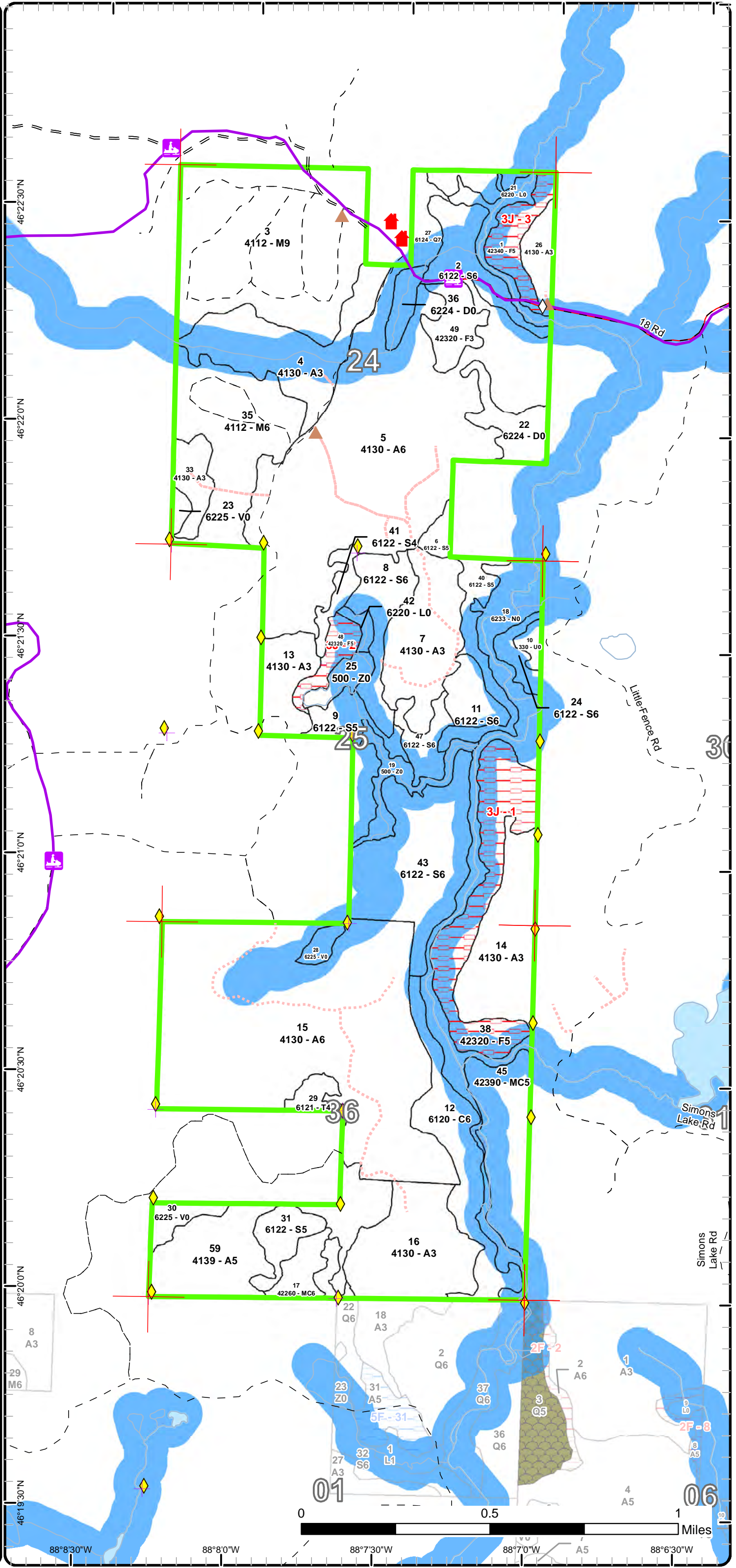


# Special Conservation Areas & Site Conditions Map

Compartment: 181  
 T46N R31W Sec. 24, 25, 36  
 County: Iron  
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- Miris Corners
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- ▲ Berms
- Cabin
- Snowmobile Trails
- Designated Snowmobile Trails
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- - - Closed Roads
- Rivers
- Compartment Boundary
- - - Unavailable
- - - 3J: Water quality / BMPs (stream, river, or lake)
- Stand Boundaries
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Potential Old Growth



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	177	0	300	223	0	0	0	58	0	0	0	0	0	0	0	0	0	758
Bog	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Cedar	0	0	0	0	0	0	0	0	0	0	0	0	0	41	0	0	0	0	41
Low-Density Trees	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Lowland Conifers	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	10
Lowland Shrub	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Lowland Spruce/Fir	0	0	0	0	8	18	75	91	36	0	0	0	0	0	0	0	0	0	228
Marsh	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	11
Northern Hardwood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	194	194
Tamarack	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Treed Bog	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Upland Conifers	0	0	0	0	0	0	0	0	0	0	0	0	40	0	0	0	0	0	40
Upland Spruce/Fir	0	0	0	0	16	0	10	70	0	0	0	0	0	0	0	0	0	0	96
Water	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
<b>Total</b>	<b>144</b>	<b>177</b>	<b>0</b>	<b>300</b>	<b>254</b>	<b>18</b>	<b>95</b>	<b>161</b>	<b>94</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>40</b>	<b>41</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>194</b>	<b>1529</b>



## Report 2 – Treatment Summary

Crystal Falls Mgt. Unit  
Year of Entry: 2018

Acres of Harvest

Compartment 181  
Total Compartment Acres: 1,527

Commercial Harvest - 169  
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	58	0	0	0	0	0	0	0	0	58
Lowland Spruce/Fir	24	0	23	0	0	0	0	0	0	47
Northern Hardwood	0	64	0	0	0	0	0	0	0	64
<b>Total</b>	<b>82</b>	<b>64</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>169</b>

### Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	169	0	0	0	0	0	0	0	0	169
Next Step	0	0	0	0	0	0	169	0	0	169
<b>Total</b>	<b>169</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>169</b>	<b>0</b>	<b>0</b>	<b>338</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
11	12181011-Cut	13.4	6122 - Black Spruce	Poletimber Well	67	51-80	Harvest	Strip/Patch/Gap Cut (Femelschlag)	612 - Lowland Coniferous Forest	Even-Aged	Draft Field Boundary

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

Prescription alternate strip cut: cut 60 - 70' wide, leave 60 - 70' wide. within cut strips, remove b spruce, tamarack, and fir 1 stick tall and larger. no cedar or  
Specs: w pine.

winter or extremely dry summer cut. follow all BMP's for water course.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable spruce, fir, tamarack

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

35	12181035-Cut	64.4	4112 - Maple, Beech, Cherry Association	Poletimber Well	68	111-140	Harvest	Single Tree Selection	411 - Northern Hardwood	Uneven-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription thin northern hardwood to 70 BA, concentrate removals on r maple. leave any basswood and y birch. protect vernal areas  
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable northern hardwood

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

43	12181043-Cut	23.6	6122 - Black Spruce	Poletimber Well	52	51-80	Harvest	Clearcut with Retention	6139 - Mixed Lowland Forest	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription cut higher ground areas: remove aspen, spruce and fir 1 stick tall and larger. leave w pine. follow BMP guidelines to stream courses  
Specs:

Next Step ; Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen, spruce, fir

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

47	12181047-Cut	9.9	6122 - Black Spruce	Poletimber Well	75	Unspecified	Harvest	Strip/Patch/Gap Cut (Femelschlag)	613 - Lowland Mixed Forest	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription cut spruce, aspen, fir, tamarack 1 stick tall and larger. leave seed tree patches approx. 50' in diameter, spaced approx. 200' apart. leave cedar,  
Specs: w pine, cherry and w birch. follow BMPs with water courses

Next Step Monitoring, Artificial Regen(1yr)

Treatments:

Acceptable spruce, fir, tamarack with small aspen component

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017





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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
59 12181059-Cut	57.9	4139 - Aspen, Mixed Deciduous	Poletimber Medium	77	81-110	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary

**Habitat Cut: No**

**Site Condition:**

Prescription cut aspen, maple, w birch, spruce/fir 1 stick tall and larger. leave w pine, r pine, cherry, any oak. leave 1 w birch per cruise point where possible.

Specs: access likely is from private land to the north

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: aspen, spruce/fir, maple

Other

Comment: r maple is mainly multiple stemmed - pulpwood quality. small pockets of spruce/fir poletimber. aspen is 8 - 10 sticks tall. stand is interspersed with areas higher stocked to aspen, then areas higher stocked to r maple. steep narrow ridges having higher percentage of h maple poletimber/saplngs. dense fir saplngs along S line with larger w pine

Proposed Start Date: 10/01/2017

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**Total Treatment Acreage Proposed: 169.2**

**Availability for Management**

Total Acres    Acres    *Acres Avail*    Acres  
Acres    Available    *With Condition*    Not Available

**Dominant Site Conditions**

3J

758	758	0	0	Aspen	
15	15	0	0	Bog	
41	41	0	0	Cedar	
4	4	0	0	Low-Density Trees	
10	10	0	0	Lowland Conifers	
16	16	0	0	Lowland Shrub	
228	228	0	0	Lowland Spruce/Fir	
62	62	0	0	Marsh	
11	11	0	0	Natural Mixed Pines	
194	194	0	0	Northern Hardwood	
7	7	0	0	Tamarack	
25	25	0	0	Treed Bog	
40	40	0	0	Upland Conifers	
96	16	0	80	Upland Spruce/Fir	80
22	22	0	0	Water	
1,527	1,447		80	Total Forested Acres	80
	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	3J: Water quality / BMPs (stream, river, or lake)	53	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	10	2F: Too steep	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

3	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	18	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> 300'aspen management buffer to Mitchigan River							

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

Conservation Area	Type	Description
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	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42340 - Upland Spruce/Fir	Poletimber Medium	17.5	62	51-80	scattered fir 14 - 16" dbh. buffer to Michigan River
2	6122 - Black Spruce	Poletimber Well	31.5	65	51-80	very scattered balm/aspen in areas through the stand. stand overall is lowland with dispersed upland knobs especially in the SE. remainder of stand is lowland b spruce. multiple feeder creeks into Michigan River.
3	4112 - Maple, Beech, Cherry Association	Sawtimber Well	129.1	75	81-110	very successful h maple regen from previous thinning. overall good to high quality h maple, fair r maple - defect prevalent
4	4130 - Aspen	Sapling Well	50.8	25	Immature	semi open areas in E of stand where a higher stocking of b cherry saplings is occurring.
5	4130 - Aspen	Poletimber Well	223.0	32	Immature	Aspen 2 - 4 sticks tall with occasional larger aspen 8" dbh 5 - 6 sticks tall. this 8" diameter aspen occur in pockets throughout.
6	6122 - Black Spruce	Poletimber Medium	5.1	65	Unspecified	
7	4130 - Aspen	Sapling Well	44.7	7	Immature	scattered fir left from previous cut and small inclusion of b spruce poletimber in the SW
8	6122 - Black Spruce	Poletimber Well	24.4	70	51-80	lowland b spruce with interspersed upland b spruce and aspen. overall well formed 7 - 10" dbh 5 - 6 sticks tall. mid S end has more high ground.
9	6122 - Black Spruce	Poletimber Medium	22.3	67	51-80	E end is lowland b spruce with steep high ground ridge - aspen and w birch scattered along high ground areas in the stand. E end b spruce is small diameter 5 - 6' dbh but transitions to 6 - 10" dbh as stand progresses W and in the S.
11	6122 - Black Spruce	Poletimber Well	13.4	67	51-80	high quality b spruce swamp - deep sphagnum and Labrador tea
12	6120 - Lowland Cedar	Poletimber Well	40.6	126	51-80	interspersed upland w spruce/aspen along W and N edges of stand. majority of stand is lowland conifer with large cedar. pockets of extremely dense fir.
13	4130 - Aspen	Sapling Well	21.3	7	Immature	
14	4130 - Aspen	Sapling Well	47.6	5	Immature	newly regenerating aspen cut
15	4130 - Aspen	Poletimber Well	236.4	26	Immature	dense w pine saplings along road edges and old landing locations. scattered upland tamarack along road edges
16	4130 - Aspen	Sapling Well	52.2	4	Immature	aspen 6 - 10' tall
17	42260 - Natural Pine, Mixed Deciduous	Poletimber Well	10.9	90	81-110	extremely dense fir saplings. aspen/w birch has mainly fallen out of stand. very steep ridge complex through stand



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
24	6122 - Black Spruce	Poletimber Well	7.6	57	1-50	spruce swamp along Michigan River.
26	4130 - Aspen	Sapling Well	11.1	5	Immature	scattered pockets of spruce/fir left from previous cut
27	6124 - Lowland Spruce-Fir	Sawtimber Poor	10.2	51	51-80	very wet soils - muck areas. much of overstory has fallen out - h maple and r maples saplings growing in. multiple creeks run out of stand to feed Michigan River
29	6121 - Tamarack	Poletimber Poor	6.7	37	Unspecified	E end is semi open grass marsh with scattered tamarack and b spruce
31	6122 - Black Spruce	Poletimber Medium	18.4	41	Unspecified	deep sphagnum b spruce swamp with small portion of open bog
33	4130 - Aspen	Sapling Well	12.7	25	Immature	
35	4112 - Maple, Beech, Cherry Association	Poletimber Well	64.4	68	111-140	E edge has moderately stocked, suppressed fir saplings and higher stocked r maple. stand overall has fair form - eutypella present. scattered vernal areas throughout. low incidence of y birch. pockets of very good h maple regen 10 - 20' tall
38	42320 - Upland Spruce	Poletimber Medium	52.7	67	Unspecified	very dense areas of fir 2 - 6" dbh. areas of semi open where understory has fallen out. scattered inclusions of tag alder with b spruce notably in transition areas to water courses. stand was left as buffer strip to Michigan River
40	6122 - Black Spruce	Poletimber Medium	18.4	67	1-50	fairly dense fir understory. stand transitioning from good quality b spruce to low site quality bog/marsh
41	6122 - Black Spruce	Poletimber Poor	8.0	31	Immature	tag alder thicket with scattered tamarack, b spruce
43	6122 - Black Spruce	Poletimber Well	67.1	52	51-80	typical b spruce swamp - heavy sphagnum. N edge has higher stocking of tamarack as stand transitions to drainage/bog. interior inclusions of higher ground to semi high ground holding aspen, w spruce, upland b spruce - windthrow occurring
45	42390 - Mixed Non-Pine Upland Conifers	Poletimber Medium	39.8	110	81-110	upland pockets in NE and S parts of the stand with w birch, w pine, upland b spruce, and w spruce mixed among lowland conifers (cedar) and very scattered balm. dense fir saplings.
47	6122 - Black Spruce	Poletimber Well	12.0	75	Unspecified	higher ground short ridges run intersect low ground. E edge has higher stocked spruce/fir saplings. very scattered b cherry
48	42320 - Upland Spruce	Poletimber Medium	9.8	57	Unspecified	scattered lowland tag alder inclusions notably along W end. component of r maple, w birch, b cherry poletimber on higher ground. narrow, steep ridge runs along E side. S end of stand is entirely a steep slope to the adjacent pond.
49	42320 - Upland Spruce	Sapling Well	15.6	35	Unspecified	small bog inclusion in N of stand.

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Crystal Falls Mgt. Unit

Report 7 – Forested Stands

Compartment: 181  
Year of Entry: 2018



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
59	4139 - Aspen, Mixed Deciduous	Poletimber Medium	57.9	77	81-110	r maple is mainly multiple stemmed - pulpwood quality. small pockets of spruce/fir poletimber. aspen is 8 - 10 sticks tall. stand is interspersed with areas higher stocked to aspen, then areas higher stocked to r maple. steep narrow ridges having higher percentage of h maple poletimber/saplgs. dense fir saplings along S line with larger w pine





Stand	Cover Type	Acres	Managed Site	General Comments:
10	330 - Low-Density Trees	4.0	No	scattered trees from previous cut
18	6233 - Wet Meadow	61.6	No	Michigan River corridor and associated feeder streams. tag alder/swamp grass/meadow, cedar lowlands
19	500 - Water	14.3	No	bog slough edged with leatherleaf. associated tamarack saplings with scattered, small diameter b spruce poletimber.
21	6220 - Alder/willow	12.9	No	tag alder lowlands along Michigan River
22	6224 - Treed Bog	16.8	No	sparse b spruce, tamarack in bog
23	6225 - Bog	2.8	No	
25	500 - Water	7.9	No	shallow water bog pond
28	6225 - Bog	4.6	No	small bog opening
30	6225 - Bog	7.9	No	bog opening with scattered tamarack and b spruce
36	6224 - Treed Bog	8.0	No	very wet bog/marsh with standing water. tag alder edges
42	6220 - Alder/willow	3.1	No	tag alder thicket with small creek. scattered tamarack, b spruce