



# Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12094

Entry Year 2018

Acreage: 1,482

County Dickinson

Management Area: Cassidy Creek

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**Revision Date:** 2016-08-20

**Stand Examiner:** Deb Goupell

**Legal Description:**

T40N R29W Sec 1, 12, 13

**Identified Planning Goals:**

Manage all forest cover types on a healthy sustainable rotation; encourage diversity within stands; protect all water bodies.

**Soil and topography:**

Rolling topography with shallow soils characterized by Pemene-Rock outcrop complex 6-18% slope.

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

Some private to north otherwise completely surrounded by State land. South half of compartment is primarily State Game Funded. Large power line runs across north portion of compartment.

**Unique Natural Features:**

None

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

None noted.

**Special Management Designations or Considerations:**

Snowmobile trail, ORV trail.

**Watershed and Fisheries Considerations:**

Cassidy Creek in south portion of compartment.

**Wildlife Habitat Considerations:**

This compartment is in the Cassidy Creek Management Area. Featured species for this area include: Blackburnian warbler, Northern Goshawk, Wood duck, White-tailed deer, and American woodcock. Much of this compartment has been managed intensively to provide habitat for game species. Some portions of this compartment are extremely rugged and were nominated as potential old growth, last entry year. This area provides mature forest condition that is important for featured species such as blackburnian warbler and northern goshawk. This area also provides refuge for deer and bear with less hunting pressure due to difficult access. In addition, un-fragmented forest blocks with large cavity, den and nest and refuge trees are critical habitat components that are in limited supply and necessary for several featured species, such as bear, goshawk, and wood duck. This area is nominated as SCA-Natural Area/Wild Area/Old Growth, depending on criteria. Let natural processes proceed, provide mature forest conditions and refuge with limited, difficult access. Not building roads and bridges into these stands will protect fragile ecosystems that exist in and around the area nominated.

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

Gravel is found in shallow deposits. The rock is generally non merchantable.

**Vehicle Access:**

Access is rather limited to Cassidy Creek trail on south.

**Survey Needs:**

None needed

**Recreational Facilities and Opportunities:**

ORV route and Snowmobile trail. Hunting, trapping.

**Fire Protection:**

Norway protection area.

**Additional Compartment Information:**

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

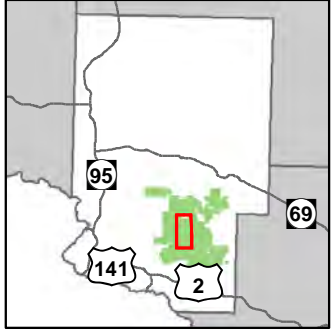
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

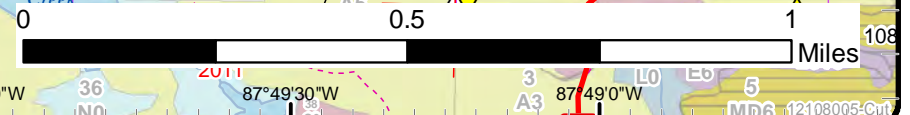
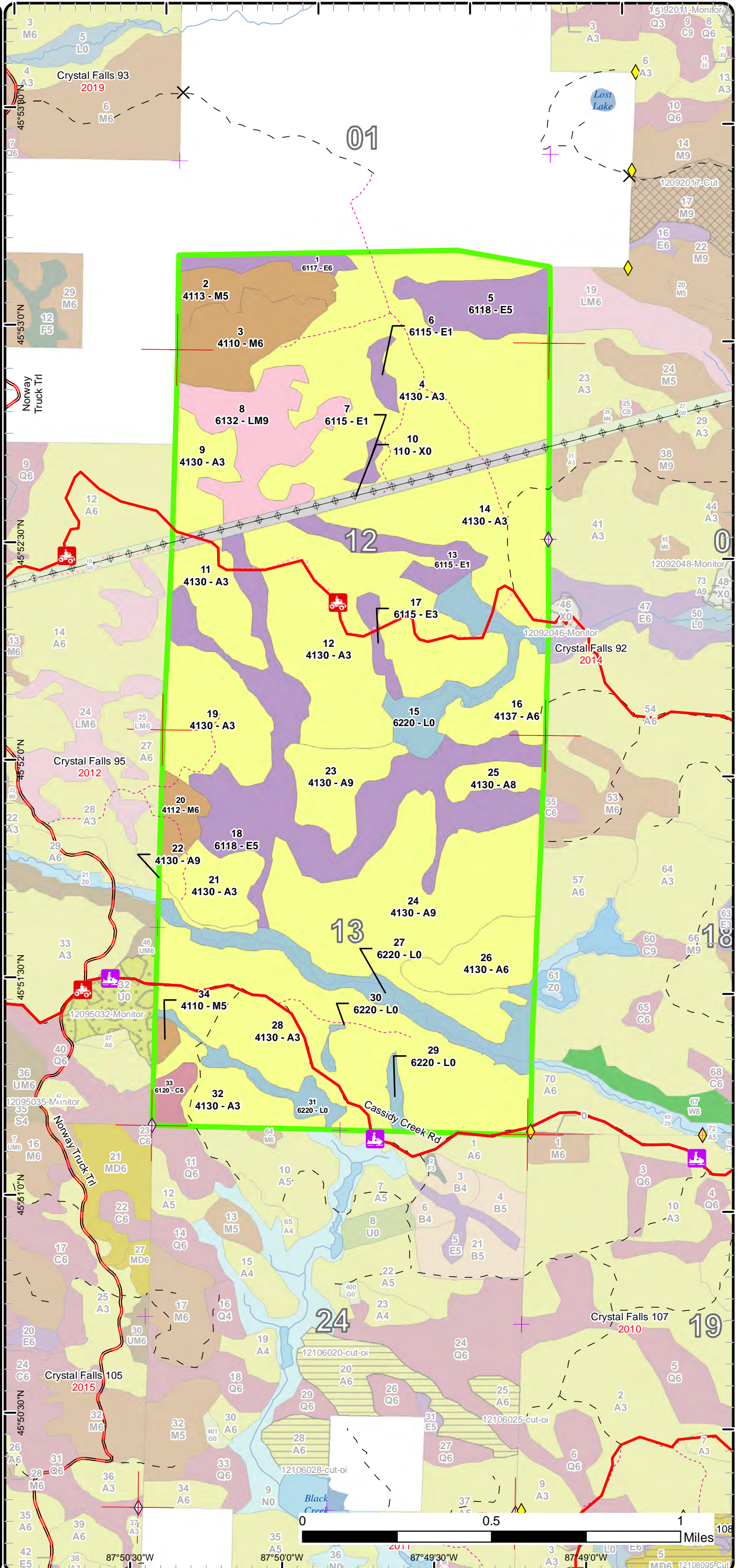
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

# Cover Type & Treatments Map

Compartment: 94  
 T40N R29W Sec. 01, 12, 13  
 County: Dickinson  
 Unit: Crystal Falls  
 Mgmt Area: Cassidy Creek  
 YOE: 2018  
 Acres: 1,482 GIS Calculated  
 Examiner: Deb Goupell  
 Map Revised: 11/21/2016  
 Map Phase: Post-Review

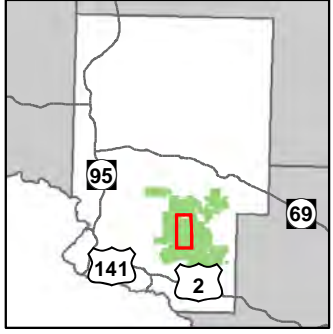


- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- ✕ Gate
- Bridges
- 🛵 ORV Trails
- 🛷 Snowmobile Trails
- Designated ATV
- Designated Snowmobile Trails
- County Gravel Roads
- - Poor Dirt Roads
- - - Trail (Non-Recreation)
- - - - Closed Roads
- Rivers
- ⊕ Powerline
- Compartment Boundary
- 411 - Northern Hardwood
- 413 - Aspen
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 110 - Low Intensity Urban
- 622 - Lowland Shrub
- Lakes

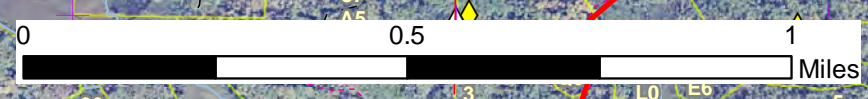
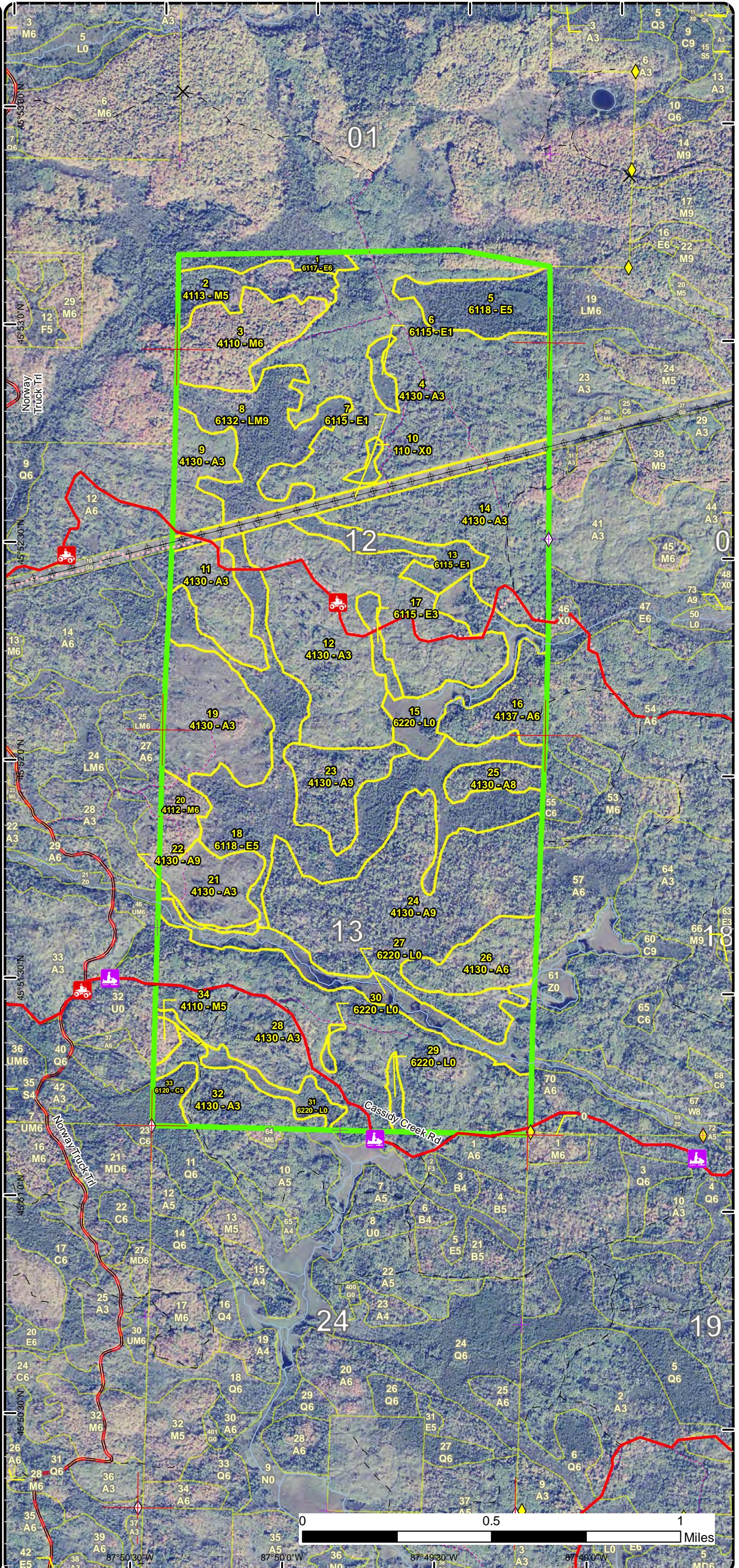


# Stand Boundary Map

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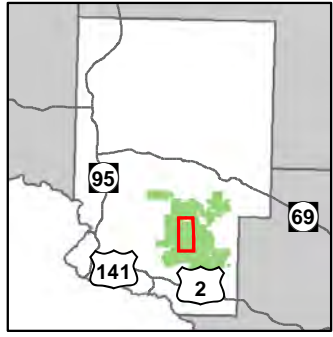


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- ◇ Field Grade GPS Corners
- X Gate
- Bridges
- 🚙 ORV Trails
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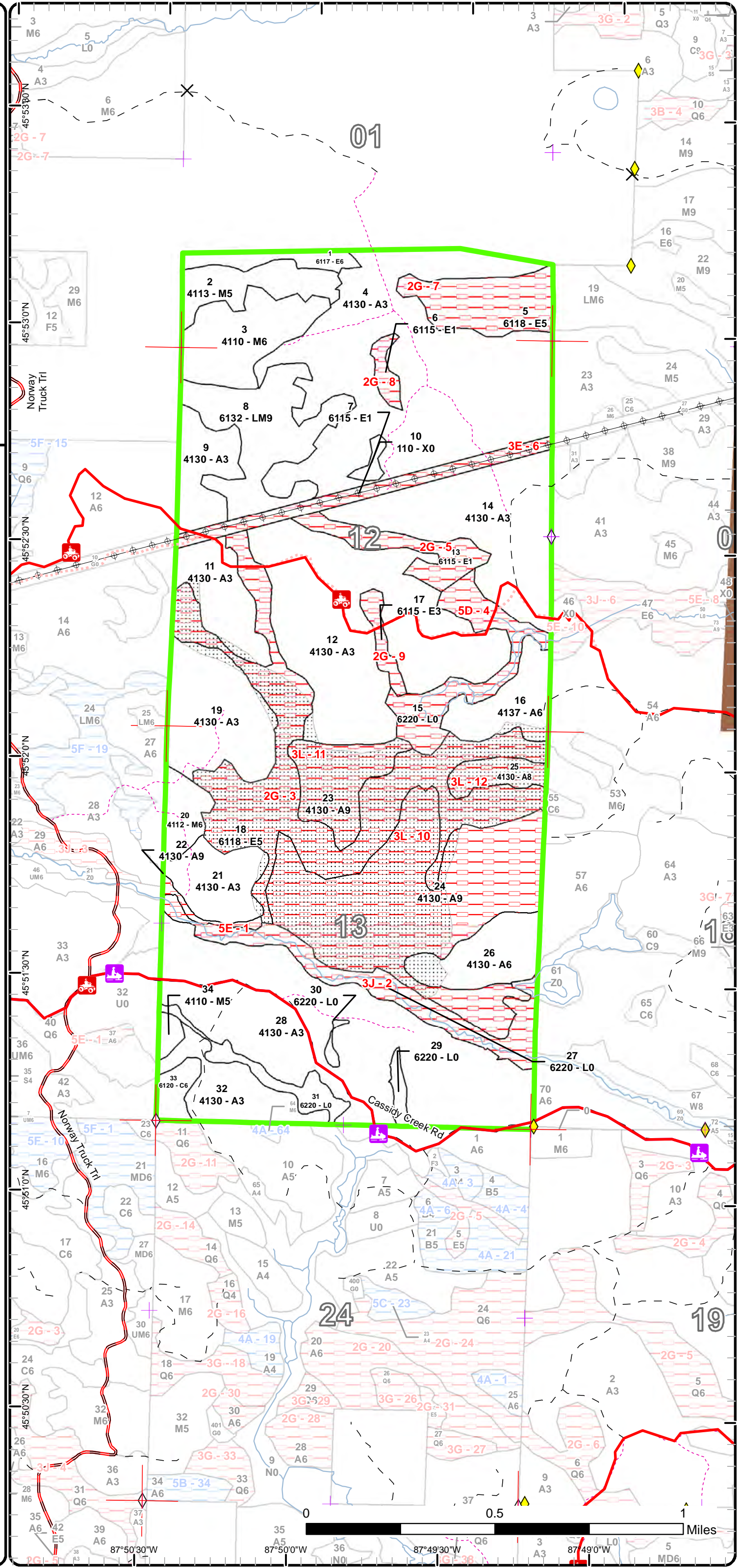


# Special Conservation Areas & Site Conditions Map

Compartment: 94  
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- Bridges
- ORV Trails
- Snowmobile Trails
- Designated ATV
- Designated Snowmobile Trails
- County Gravel Roads
- - - Poor Dirt Roads
- - - Trail (Non-Recreation)
- - - Closed Roads
- Rivers
- Powerline
- Compartment Boundary
- - - Unavailable
- 2G: Too wet (sensitive soils, does not include access issues)
- 3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)
- 3J: Water quality / BMPs (stream, river, or lake)
- 3L: Other wildlife concerns
- 5D: Unproductive Forest Land
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams



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	81	196	275	230	28	0	0	4	0	192	0	0	0	0	0	0	0	1006
Cedar	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9
Lowland Deciduous	0	0	0	0	0	0	0	0	12	205	0	0	0	0	0	0	0	0	217
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	54	0	0	0	0	0	0	0	54
Lowland Shrub	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93
Northern Hardwood	0	0	0	0	0	0	0	0	0	25	54	0	0	0	0	0	0	4	83
Urban	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
<b>Total</b>	<b>116</b>	<b>81</b>	<b>196</b>	<b>275</b>	<b>230</b>	<b>28</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>230</b>	<b>309</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1485</b>



## Report 2 – Treatment Summary

**Crystal Falls Mgt. Unit**  
**Year of Entry: 2018**

**Compartment 94**  
**Total Compartment Acres: 1,482**

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### Acres of Harvest

Commercial Harvest -  
Harvests with Site Condition - 0  
Next Step Harvest - 0  
Habitat Cut - 0

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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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#Type!

**Habitat Cut:**

**Site Condition:**

Prescription

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date:

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**Total Treatment  
Acreage Proposed: 0.0**



## Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Deb Goupell : Examiner

Compartment: 94

Year of Entry: 2018

### Availability for Management

Total Acres	Acres Available	Acres Avail		Dominant Site Conditions	Dominant Site Conditions					
		With Condition	Not Available		2G	3E	3J	3L	5D	5E
1004	809	0	195	Aspen				192		3
9	9	0	0	Cedar						
216	15	0	201	Lowland Deciduous	201					
54	54	0	0	Lowland Mixed Forest						
93	19	0	74	Lowland Shrub			40		33	
83	83	0	0	Northern Hardwood						
23	0	0	23	Urban		23				
1,482	989		493	Total Forested Acres	201	23	40	192	33	3
	67%		33%	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	Dominant Site Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	5E: Long-Term Retention	4	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>								
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	40	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>								
This is the Cassidy Creek and floodplain								
3	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	134	3L: Other wildlife concerns	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>								
Mature forest condition, sensitive ecosystem and very wet conditions.								

## Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Deb Goupell : Examiner

Compartment: 94

Year of Entry: 2018

4	<b>Unavailable</b>	<b>5D: Unproductive Forest Land</b>	33	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
5	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	21	5D: Unproductive Forest Land	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
6	<b>Unavailable</b>	<b>3E: Easement / lease, non-military (e.g.- Consumers Power red pine, etc)</b>	23	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> powerline ROW							
7	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	34	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
8	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	6	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
9	<b>Unavailable</b>	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	7	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							

## Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Deb Goupell : Examiner

Compartment: 94

Year of Entry: 2018

10	<b>Unavailable</b>	<b>3L: Other wildlife concerns</b>	148	2G: Too wet (sensitive soils, does not include access issues)	3A: Potential old growth / biodiversity	Unspecified	Unspecified
<p><b>Comments:</b> WLD- for mature forest conditions and age class diversity in compartment as well as access issues because of rock outcrops, sensitive ecosystems and wet lowland conditions</p>							
11	<b>Unavailable</b>	<b>3L: Other wildlife concerns</b>	31	3A: Potential old growth / biodiversity	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	Unspecified	Unspecified
<p><b>Comments:</b> WLD- for mature forest conditions and age class diversity in compartment as well as access issues because of rock outcrops, sensitive ecosystems and wet lowland conditions</p>							
12	<b>Unavailable</b>	<b>3L: Other wildlife concerns</b>	12	3A: Potential old growth / biodiversity	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified
<p><b>Comments:</b> WLD- for mature forest conditions and age class diversity in compartment as well as access issues because of rock outcrops, sensitive ecosystems and wet lowland conditions</p>							



**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
State Game Fund	Habitat Areas or Corridors	Other Habitat Area	Proposed SCA	270
<b>Comments</b>				
Mature forest conditions and age class diversity in compartment as well as access issues because of rock outcrops, sensitive ecosystems and wet lowland conditions				



**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.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6117 - Lowland Deciduous, Mixed Coniferous	Poletimber Well	11.6	74	51-80	Bed and bank found in far west end. Birch is concentrated in northwest. Very wet stand
2	4113 - R.Maple, Conifer	Poletimber Medium	24.6	85	51-80	Balm of gilead, white pine and white spruce over 3 sticks were cut in 1992 (No Name TS). Poor quality stand, appears to have been an open area slowly filling in. Not much volume to remove at this time; cut next entry with adjacent hardwood.
3	4110 - Sugar Maple Association	Poletimber Well	40.2	92	81-110	Heavy grass layer. Hawk Haven thinned 1999. Average BA is 100. Red maple, yellow birch found on north and south edges of stand.
4	4130 - Aspen	Sapling Well	192.0	25	Immature	St Onge Camp TS cut 1991. There are wet pockets throughout this stand
5	6118 - Lowland Deciduous with Cedar	Poletimber Medium	33.9	86	Unspecified	OPIC - FMD: OI Stand Year Origin was 1930
6	6115 - Lowland Ash	Sapling Poor	5.6	81	Unspecified	Very poorly stocked ash and very wet
7	6115 - Lowland Ash	Sapling Poor	3.3	81	Unspecified	Very poorly stocked ash and very wet
8	6132 - Mixed Lowland Forest with Cedar	Sawtimber Well	54.4	90	Unspecified	cedar is concentrated in center of stand; all fingers are primarily ash, red maple with a trace of birch. Red maple and Balm of gilead along northwest edge; very wet
9	4130 - Aspen	Sapling Well	25.3	19	Immature	Very rocky!
11	4130 - Aspen	Sapling Well	29.1	14	Immature	Kermitage TS cut 2002. Very rocky and low swales scattered all over this stand.
12	4130 - Aspen	Sapling Well	141.3	14	Immature	Kermitage TS cut 2002. Very rocky and swales throughout. ORV trail (closed) runs through here.
13	6115 - Lowland Ash	Sapling Poor	20.7	81	Unspecified	
14	4130 - Aspen	Sapling Well	82.6	25	Immature	St Onge TS cut 1991. There is a small hardwood knob in northeast on the east line of the compartment. Stand has rocky outcrops and wet swales throughout.
16	4137 - Aspen, Birch	Poletimber Well	27.8	40	Unspecified	The east central part of this stand was cut in 1977 except for the mixed hardwood, "due to markets." As a result, there are some larger aspen and red maple in far west on rock knob, along with overmature birch along the edges. Cut this stand next entry when there's more volume in the younger aspen.
17	6115 - Lowland Ash	Sapling Well	7.2	81	Unspecified	Very wet



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
18	6118 - Lowland Deciduous with Cedar	Poletimber Medium	133.9	86	Unspecified	This stand is very wet! WLD: Recommends that this stand be included in Natural Area/Wild Area Designation with stands : 23, 24, & 25. WLD: Recommends removal of treatment: Featured species: Bear, Blackburnian Warbler, Pileated woodpecker, Marten and Fisher, Wood Duck. Mature forest condition, Large diameter trees providing cavities for dens and nests, mast production, mature conifer habitat, Nominate as SCA-Natural Area/Wild Area/Old Growth-Remove Treatment: Let natural processes proceed, provide mature forest conditions and refuge without access. Surrounded by young forest, access difficult and fragile ecosystems protected.
19	4130 - Aspen	Sapling Well	53.4	7	Immature	Rough Rock Asp TS cut 2009. Hardwood inclusion ~2 acres in northeast, which had aspen cut out.
20	4112 - Maple, Beech, Cherry Association	Poletimber Well	13.9	90	51-80	Rough Rock Aspen TS thinned 2009. Not high quality whatsoever.
21	4130 - Aspen	Sapling Well	27.3	7	Immature	Rough Rock TS cut 2009. White pine and conifer left on rock knobs; rocky and wet stand.
22	4130 - Aspen	Sawtimber Well	3.5	76	Unspecified	Retention for stand to north.
23	4130 - Aspen	Sawtimber Well	31.3	94	Unspecified	Most of white birch and merchantable conifer are dead. Rocky knobs, plenty of blowdown. Stand is overmature. West is a bit lower but still harvestable.
24	4130 - Aspen	Sawtimber Well	148.2	91	Unspecified	White pine and dead conifer (mostly unmerchantable) close to Cassidy Creek. Much of conifer is dead; aspen is very old and breaking up. Some narrow, low areas. Rocky terrain but harvestable. Birch is also breaking up. Leave oak, pine, cedar. Access will be interesting; lots of road building.
25	4130 - Aspen	Sawtimber Medium	12.3	94	Unspecified	Lots of blowdown in here; most of white spruce is standing dead. Rocky terrain; stand is fully regenerating where trees have blown down.
26	4130 - Aspen	Poletimber Well	30.5	36	Unspecified	The only unit cut of a timber sale ~1980. Rocky stand
28	4130 - Aspen	Sapling Well	169.9	30	Immature	There are many rock knobs with balm of gilead types between them and close to lowland swales. SBW is present; little mortality but mostly 1 stick conifer or less. Pocket of poor quality hardwood (mostly basswood/ironwood) along road. Far northwest piece of this stand just south of Cassidy Creek too small to type separately, has some large spruce/maple/balsam/aspen, too steep to harvest as it slopes toward creek.
32	4130 - Aspen	Sapling Well	30.0	30	Immature	Rocky and swales. SBW is in here but little to no mortality; mostly in submerchantable conifers.
33	6120 - Lowland Cedar	Poletimber Well	8.7	96	Unspecified	Nice thick stand

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Crystal Falls Mgt. Unit

Report 7 – Forested Stands

Compartment: 94  
Year of Entry: 2018



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	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
<b>34</b>	4110 - Sugar Maple Association	Poletimber Medium	4.0	94	81-110	Steep draw running east/west north part of stand. Solid grass layer. Not much for quality; consider shelterwood or clearcut next entry or 2 with adjacent aspen.

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Stand	Cover Type	Acres	Managed Site	General Comments:
10	110 - Low Intensity Urban	22.9	No	Power Transmission Line ROW
15	6220 - Alder/willow	33.4	No	OPIC - FMD: OI Stand Year Origin was 1926
27	6220 - Alder/willow	40.3	No	Floodplain of Cassidy Creek
29	6220 - Alder/willow	4.1	No	There are some balm of gilead/aspen stems but not enough for forested cover type
30	6220 - Alder/willow	1.6	No	Some balm of gilead clumps
31	6220 - Alder/willow	13.2	No	Far west piece has more balm of gilead/aspen with a little spruce but is wet; far east has some cedar/balm of gilead but this swale definitely flows into the bog to the compartment south.