



# Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12017

Entry Year 2018

Acreage: 3,610

County Dickinson

Management Area: Ralph Ground Moraine

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

**Stand Examiner:** Deb Goupell

**Legal Description:**

T44N R28W Sec 9-11, 13-17, 20-26

**Identified Planning Goals:**

Manage all forest types on a sustainable rotation by keeping it healthy.

**Soil and topography:**

Dominated by Pemene fine sandy loam in the uplands and Carbondale muck in the lowlands. Topography is rolling.

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

Primarily State owned with a couple parcels of private within. Surrounded by mostly State land.

**Unique Natural Features:**

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

None noted.

**Special Management Designations or Considerations:**

Primarily State Game Funded purchased land

**Watershed and Fisheries Considerations:**

McGregor and Schwartz Creek are high quality trout streams.

**Wildlife Habitat Considerations:**

This compartment is in the Ralph Ground Moraine Management Area which has the following featured species: American woodcock, black bear, northern goshawk, ruffed grouse, and white-tailed deer. Balancing the age classes of aspen to provide early successional habitat through mature aspen forest is a goal in this compartment. This compartment is included in a deer winter complex and associated winter cover stands and forage stands provide important habitat for deer. Lowland conifers and lowland hardwood types provide winter and summer cover and are essential for travel corridors for a many species of wildlife and provide essential habitat for riparian species. Mesic conifer in the uplands is promoted to provide structural diversity within stands which increases habitat value, as cover for wildlife. Mast production, such as oak, cherry and raspberry are encouraged to provide valuable forage for bear, deer, grouse and turkey. This compartment has maintained openings that provide herbaceous spring and summer forage particularly important for wildlife, and provide recreational opportunities for consumptive and non-consumptive wildlife users.

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

Surface sediments consist of medium-textured glacial till. There is insufficient data to determine the glacial drift thickness. The Cambrian Munising Formation and Archean granite/gneiss subcrop below the glacial drift. There is not a current economic use for these rocks, although they have building/dimension stone potential. Republic Iron mine is located approximately fourteen miles to the northwest. Gravel pits are not located in the area, but there could be potential. Part of this area was previously leased for metallic exploration and potential may still exist. There is no economic oil and gas production in the UP.

**Vehicle Access:**

Most of the uplands are accessible via county gravel road or state two-tracks.

**Survey Needs:**

Several corners needed.

**Recreational Facilities and Opportunities:**

Trapping, hunting, fishing. Snowmobile trail #32 runs on county road in north half of compartment.

**Fire Protection:**

**Additional Compartment Information:**

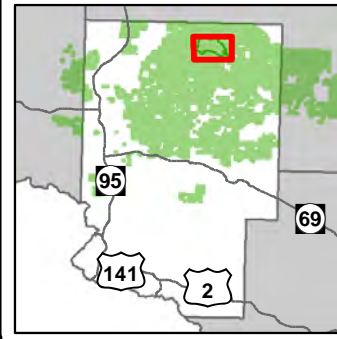
**The following reports from the Inventory are attached:**

- 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**

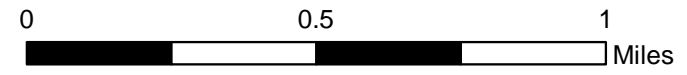
**The following information is displayed, where pertinent, on the attached compartment maps:**

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

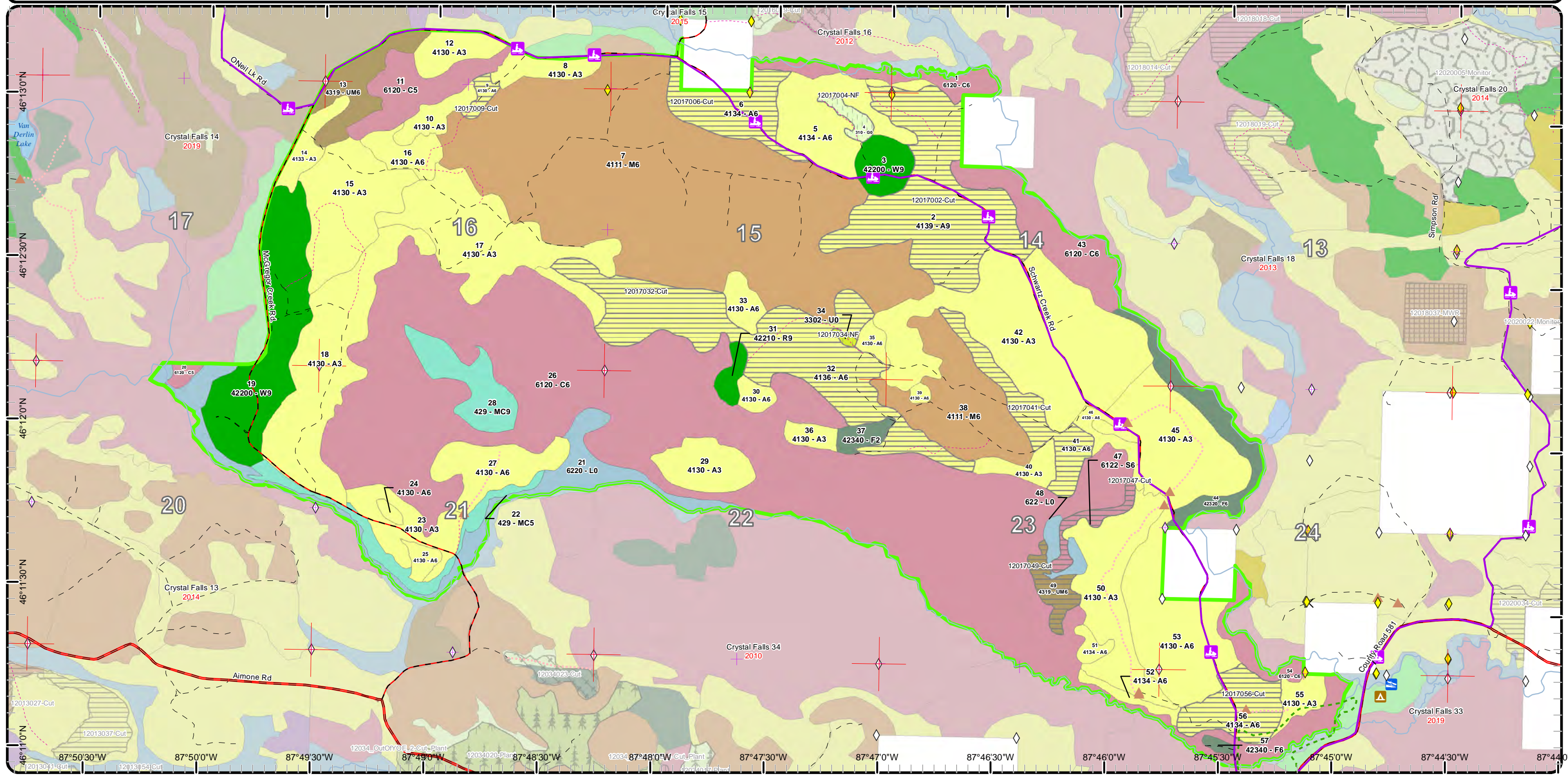
# Cover Type & Treatments Map



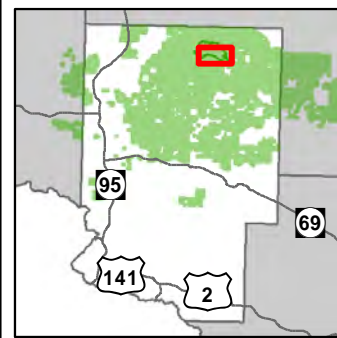
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 Mgmt Area: Ralph Ground  
 Moraine  
 YOE: 2018  
 Acres: 3,610 GIS Calculated  
 Examiner: Deb Goupell  
 Map Revised: 11/21/2016  
 Map Phase: Post-Review



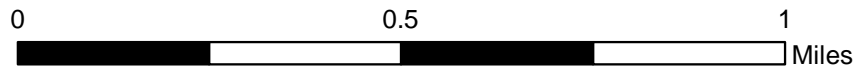
- Miris Corners
- Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
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- ▲ Berms
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- Trail (Non-Recreation)
- Closed Roads
- Rivers
- Compartment Boundary
- Clearcut (w/Reserves)
- Opening Maintenance
- 411 - Northern Hardwood
- 413 - Aspen
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
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- 612 - Lowland Coniferous Forest
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 622 - Lowland Shrub
- Lakes



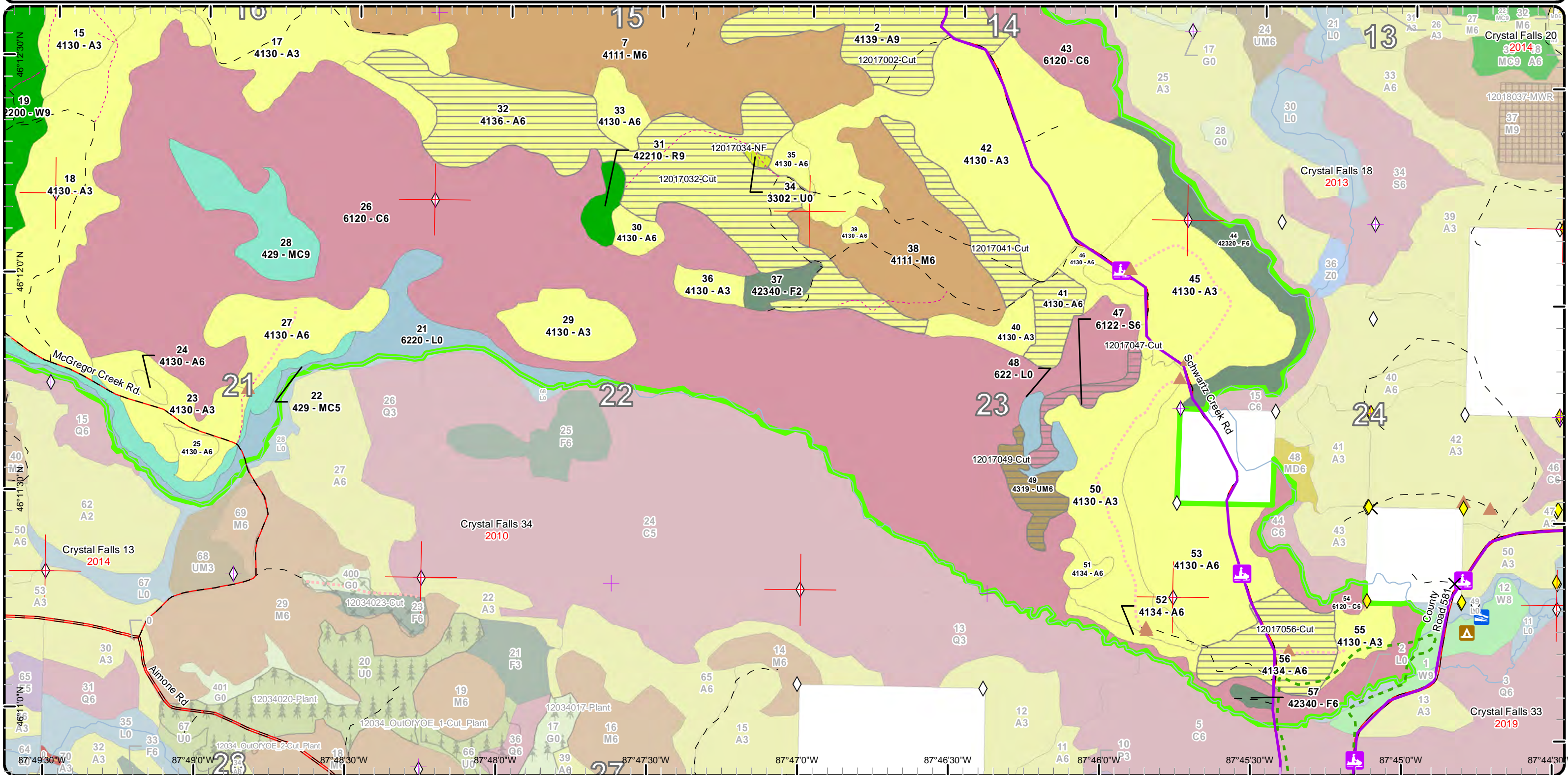
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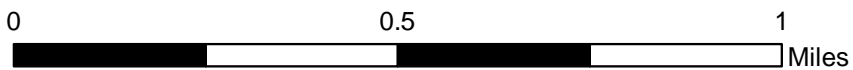
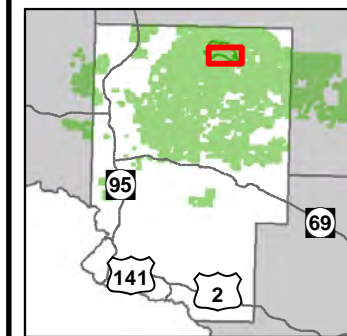


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|---|--|---|
| <ul style="list-style-type: none"> <li>— Miris Corners</li> <li>— Remonumented Section Corners</li> <li>◆ Survey Grade GPS Corners</li> <li>◇ Field Grade GPS Corners</li> <li>✕ Gate</li> <li>▲ Berms</li> <li>🚤 Boating Access Site</li> <li>🏕 Campground</li> <li>🛷 Snowmobile Trails</li> <li>— Designated Hiking Trails</li> <li>— Designated Snowmobile Trails</li> <li>— County Gravel Roads</li> <li>- - Poor Dirt Roads</li> </ul> | <ul style="list-style-type: none"> <li>— County Poor Dirt Roads</li> <li>- - Trail (Non-Recreation)</li> <li>- - Closed Roads</li> <li>— Rivers</li> <li>▭ Compartment Boundary</li> <li>▭ Clearcut (w/Reserves)</li> <li>▭ Opening Maintenance</li> <li>■ 411 - Northern Hardwood</li> <li>■ 413 - Aspen</li> <li>■ 422 - Natural Pines</li> <li>■ 423 - Other Upland Conifers</li> <li>■ 429 - Mixed Upland Conifers</li> <li>■ 430 - Upland Mixed Forest</li> <li>■ 612 - Lowland Coniferous Forest</li> <li>■ 330 - Low Density Trees</li> </ul> | <ul style="list-style-type: none"> <li>■ 622 - Lowland Shrub</li> </ul> |
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# Stand Boundary Map

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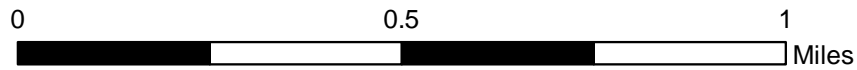
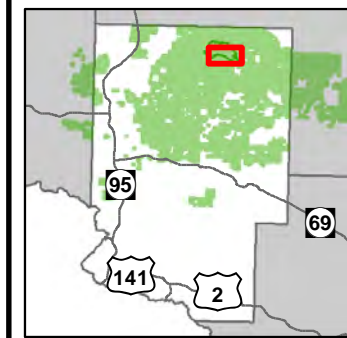


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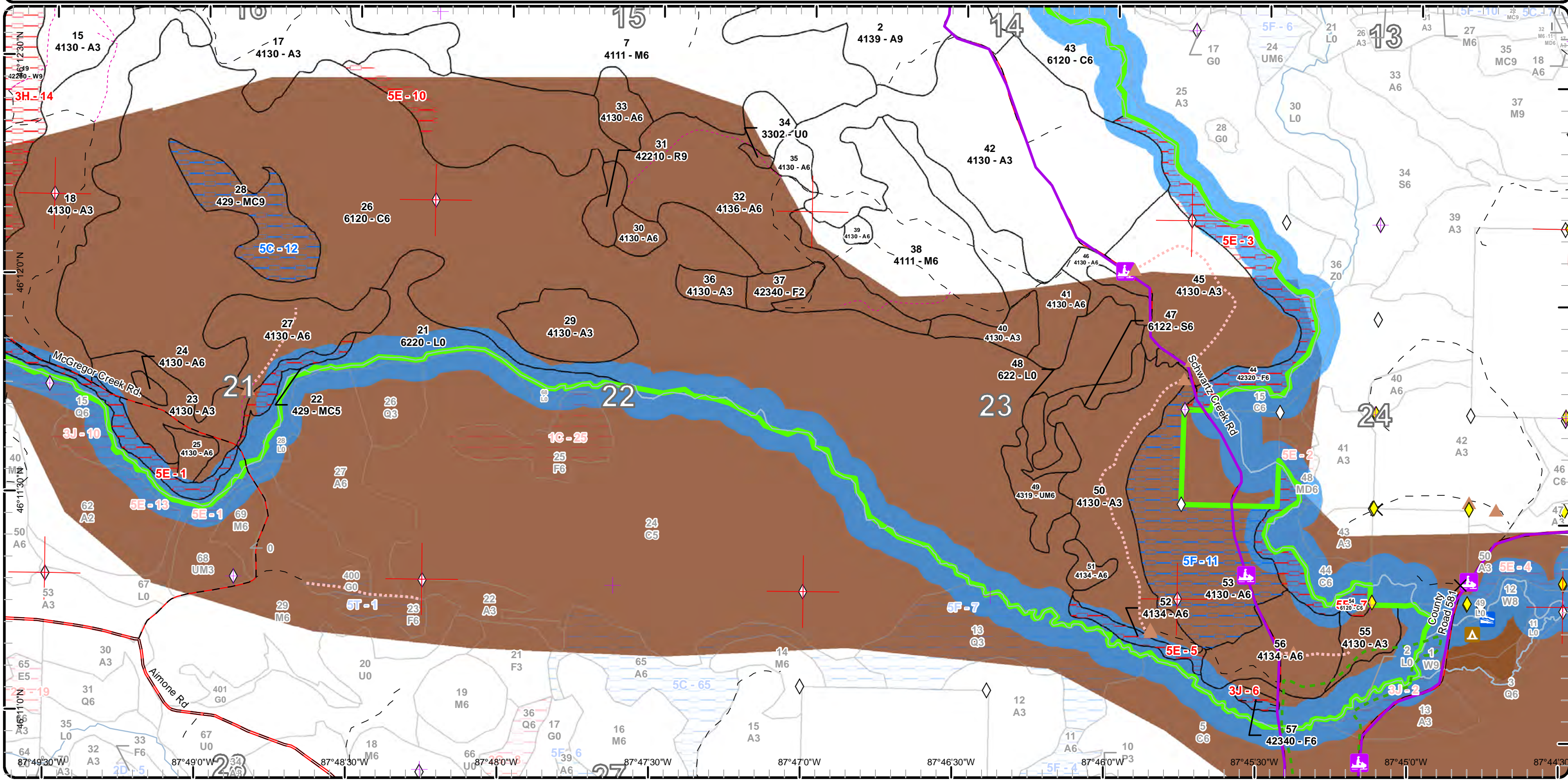


# Special Conservation Areas & Site Conditions Map

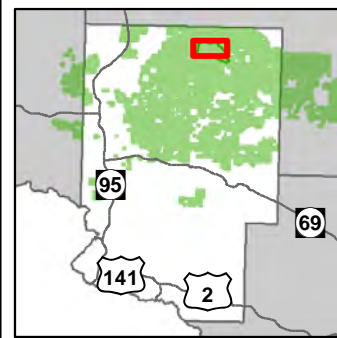
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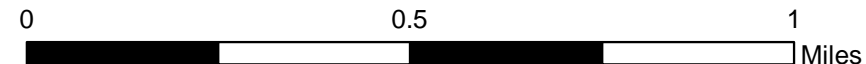
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- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 3H: Deer Wintering Areas
- 3J: Water quality / BMPs (stream, river, or lake)
- 5E: Long-Term Retention
- Stand Boundaries
- Cold Water Streams
- High Priority Trout Stream Buffer
- Deer Winter Range
- State Forest Campground



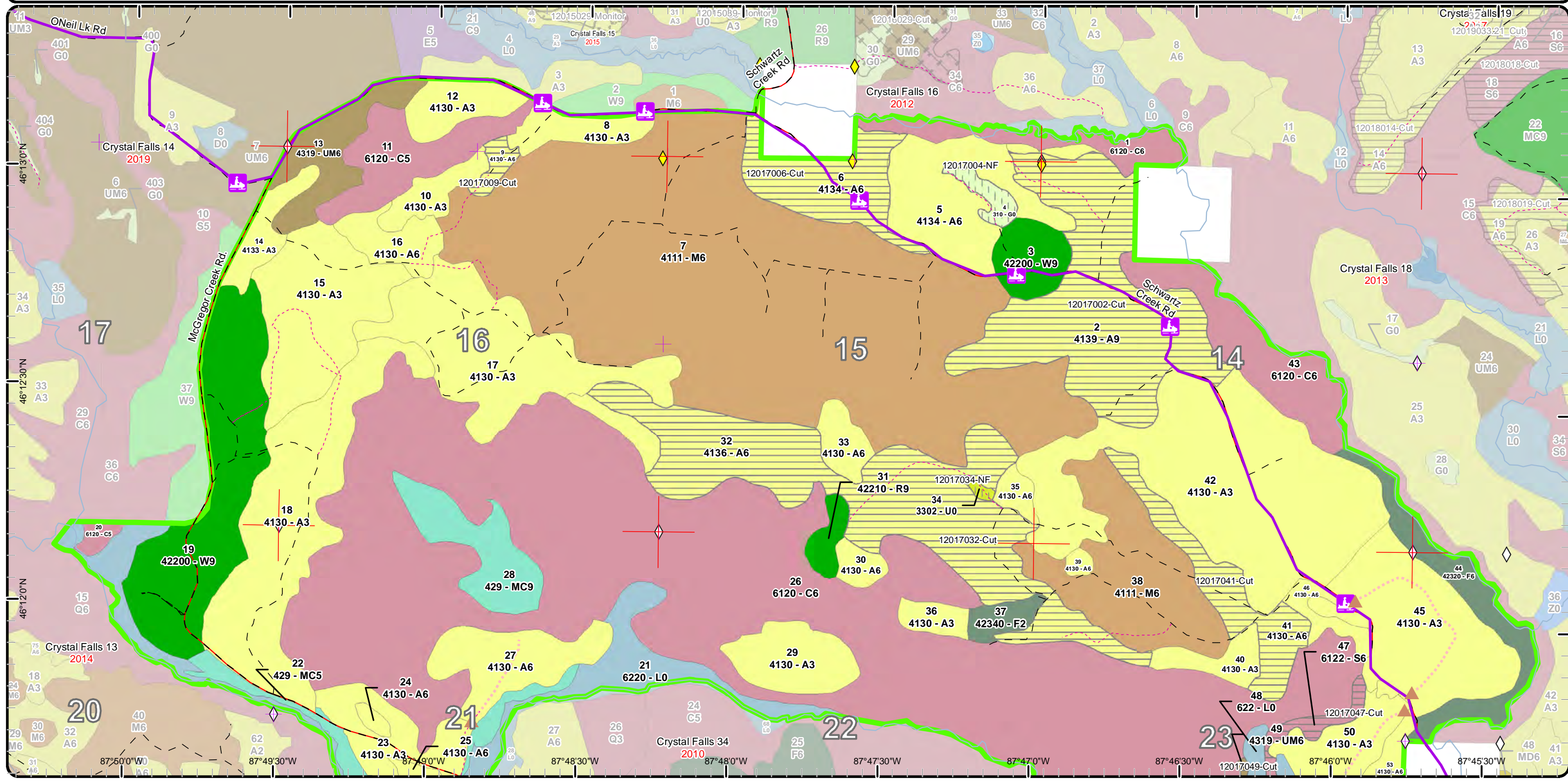
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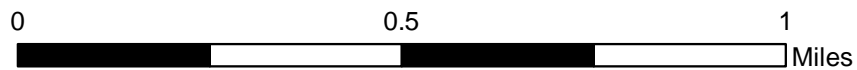
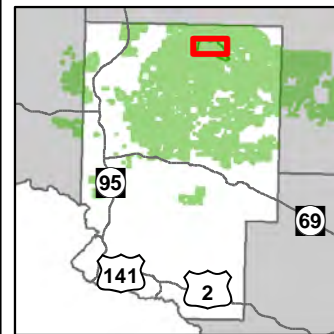


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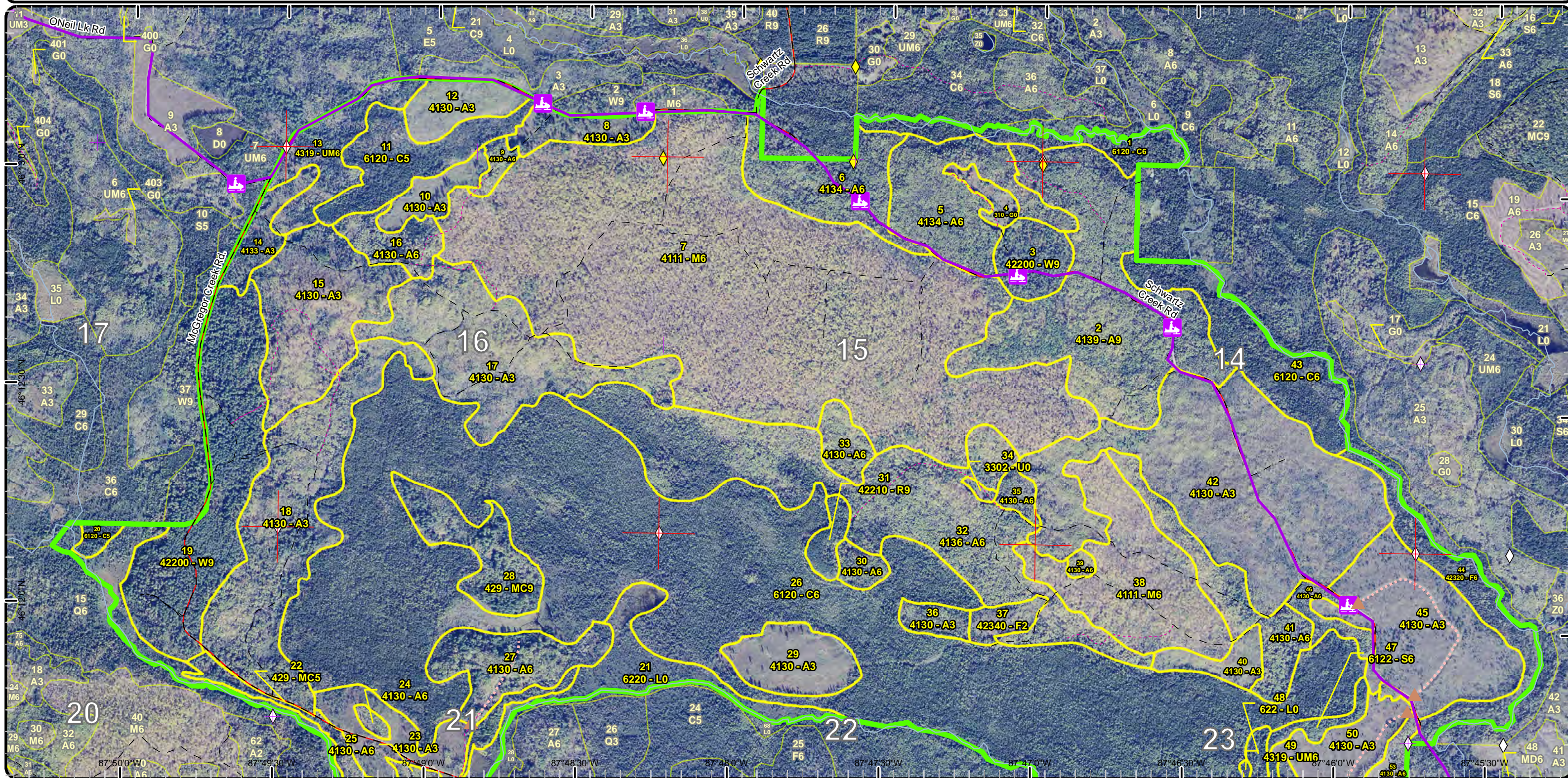


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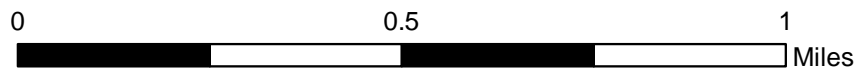
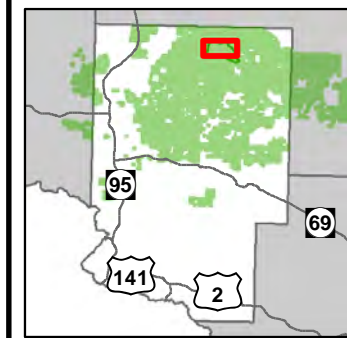
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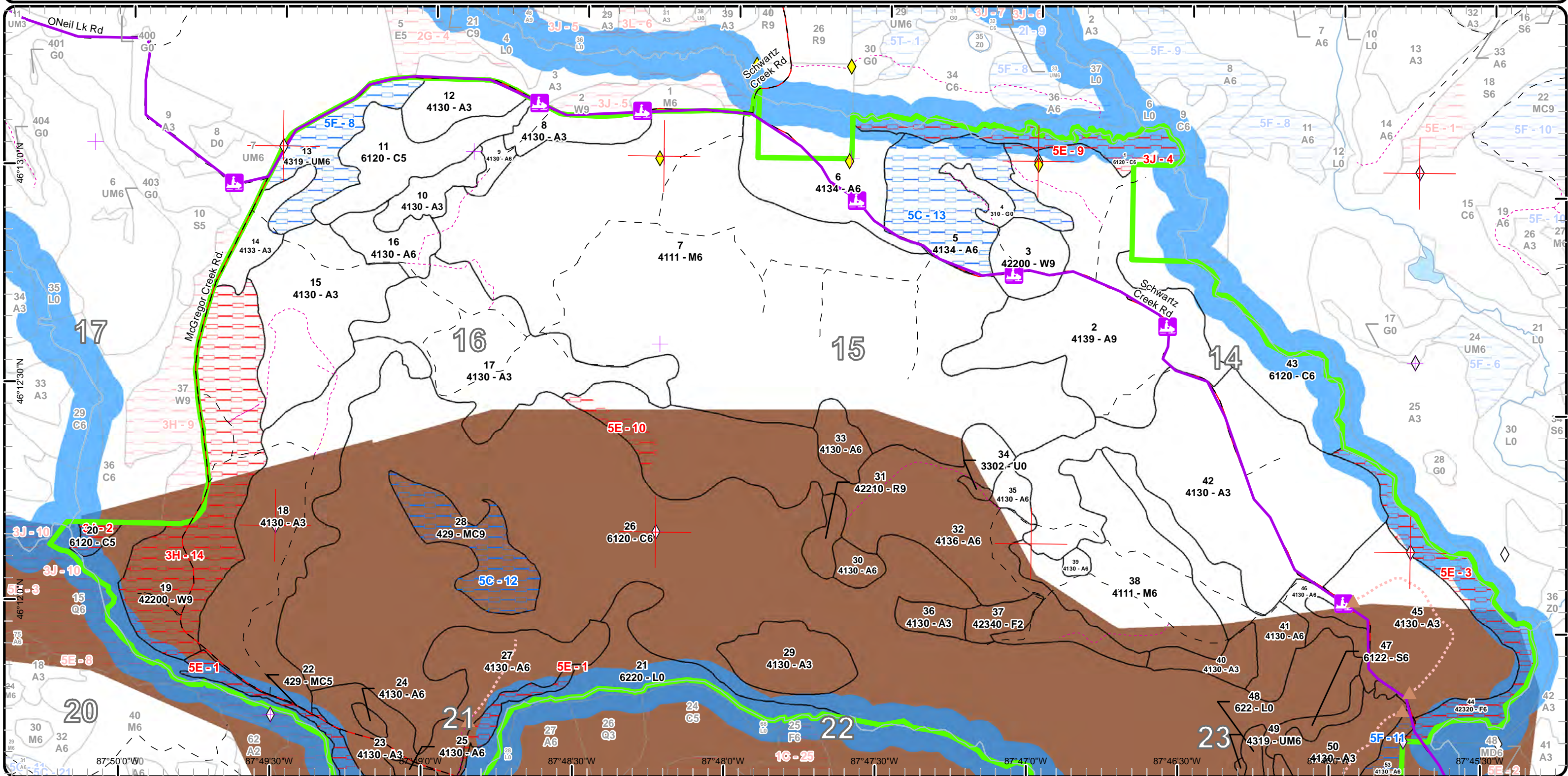


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Report 1 – Total Acres by Cover Type and Age Class



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	212	204	413	100	183	254	219	0	0	0	0	0	0	0	0	0	0	1584
Cedar	0	0	0	0	0	0	0	0	0	0	88	853	0	61	0	0	0	0	1002
Herbaceous Openland	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Low-Density Trees	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Lowland Shrub	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	11
Northern Hardwood	0	0	0	0	0	0	0	0	0	0	606	0	0	0	0	0	0	0	606
Red Pine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9
Upland Conifers	0	0	0	0	38	0	29	0	0	0	0	0	0	0	0	0	0	0	67
Upland Mixed Forest	0	0	0	0	35	0	16	0	0	0	0	0	0	0	0	0	0	0	51
Upland Spruce/Fir	0	0	0	10	0	3	0	41	0	0	0	0	0	0	0	0	0	0	54
White Pine	0	0	0	0	0	0	0	0	0	0	108	0	0	0	0	0	0	22	130
<b>Total</b>	<b>96</b>	<b>212</b>	<b>204</b>	<b>423</b>	<b>173</b>	<b>186</b>	<b>299</b>	<b>260</b>	<b>0</b>	<b>11</b>	<b>802</b>	<b>853</b>	<b>0</b>	<b>61</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>31</b>	<b>3610</b>



## Report 2 – Treatment Summary

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

**Acres of Harvest**

**Compartment 17**  
**Total Compartment Acres: 3,610**

Commercial Harvest - 478  
 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
<b>Aspen</b>	452	0	0	0	0	0	0	0	0	<b>452</b>
<b>Lowland Spruce/Fir</b>	11	0	0	0	0	0	0	0	0	<b>11</b>
<b>Upland Mixed Forest</b>	16	0	0	0	0	0	0	0	0	<b>16</b>
<b>Total</b>	<b>479</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>479</b>

### Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
<b>Current</b>	479	0	0	0	0	0	0	10	0	<b>488</b>
<b>Next Step</b>	0	169	0	0	0	479	0	0	0	<b>648</b>
<b>Total</b>	<b>479</b>	<b>169</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>479</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>1136</b>



Stand Name	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
2	12017002-Cut	146.9	4139 - Aspen, Mixed Deciduous	Sawtimber Well	59	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary

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

Prescription Cut all stems 2" dbh and greater except cedar, oak and pine (hemlock if found). Retention may be focused around the thicker clump of red/white pine in southeast lobe. Additional retention will be the 300 ft buffer to Schwartz Ck., (treatment reflects buffer). Submerchantable conifer will be retained.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: maple, birch, mixed softwood, pine

Other

SBW is having a devastating effect on the subcanopy (mostly submerchantable)

Comment: WLD-Featured Species: Deer, Bear, Grouse and Grouse. Balancing the age classes of aspen to provide early successional habitat through mature aspen forest is a goal in this compartment. Mesic conifer in the uplands is promoted to provide structural diversity within stands which increases habitat value, as cover for wildlife. Retention of White Pine, hemlock, and cedar component for refuge trees and cover for bear and deer is desirable. This compartment is in DWC-transitions from lowlands are critical for wintering deer to access upland and reach forage in uplands and winter cut is recommended to provide winter forage for deer. Mast production, such as oak, cherry and raspberry are encouraged to provide valuable forage for bear, deer, and grouse. Drainages and associated ash should be protected as critical bear habitat.

Proposed Start Date: 10/01/2017

4	12017004-NF	7.7	310 - Herbaceous Openland	Nonstocked		Unspecified	NonForestMgt	Herbaceous/Crop /Grass Planting	310 - Herbaceous Openland		Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Herbaceous opening maintenance

Specs:

Next Step

Treatments:

Acceptable Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

6	12017006-Cut	47.5	4134 - Aspen, Spruce/Fir	Poletimber Well	58	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Clearcut 2" and up except pine, oak and cedar. Retention will likely be along piece northeast of road where it is a little wetter.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: spruce, fir, pine, mixed hardwood

Other

WLD: Featured species: Grouse, Deer, Bear. Maintenance of diverse species for structural diversity such as refuge, cover and den trees is

Comment: important numerous wildlife species in addition to the featured species named. Mast production, such as oak, cherry and raspberry are encouraged to provide valuable forage for bear, deer, and grouse. WLD-Featured Species: Deer, Bear, Grouse and Grouse. Balancing the age classes of aspen to provide early successional habitat through mature aspen forest is a goal in this compartment. Mesic conifer in the uplands is promoted to provide structural diversity within stands which increases habitat value, as cover for wildlife. Retention of White Pine, hemlock, and cedar component for refuge trees and cover for bear and deer is desirable. This compartment is in DWC-transitions from lowlands are critical for wintering deer to access upland and reach forage in uplands. Winter cut spec is not probable due to snowmobile trail. Mast production, such as oak, cherry and raspberry are encouraged to provide valuable forage for bear, deer, grouse. Drainages and associated ash should be protected as critical bear habitat.

Proposed Start Date: 10/01/2017



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
9	12017009-Cut	5.9	4130 - Aspen	Poletimber Well	56	Unspecified	Harvest	Clearcut	413 - Aspen	Even-Aged	Draft Field Boundary

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

Prescription Cut all stems 2" dbh and greater except pine and oak; no other retention due to stand size

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable pine, mixed hardwood, mixed softwood

Regen:

Other WLD: Featured species: Grouse, Deer, Bear. Maintenance of diverse species for structural diversity such as refuge, cover and den trees is important numerous wildlife species in addition to the featured species named. Mast production, such as oak, cherry and raspberry are encouraged to provide valuable forage for bear, deer, and grouse. WLD-Featured Species: Deer, Bear, Grouse and Grouse. Balancing the age classes of aspen to provide early successional habitat through mature aspen forest is a goal in this compartment. Mesic conifer in the uplands is promoted to provide structural diversity within stands which increases habitat value, as cover for wildlife. Retention of White Pine, hemlock, and cedar component for refuge trees and cover for bear and deer is desirable. This compartment is in DWC-transitions from lowlands are critical for wintering deer to access upland and reach forage in uplands. Mast production, such as oak, cherry and raspberry are encouraged to provide valuable forage for bear, deer, grouse. Drainages and associated ash should be protected as critical bear habitat.

Proposed Start Date: 10/01/2017

32	12017032-Cut	169.3	4136 - Aspen, Mixed Conifer	Poletimber Well	61	81-110	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Cut all stems 2" dbh and greater except cedar, pine and oak and all sugar maple saplings 4" dbh and smaller. Far west piece is very heavy to upland cedar and retention will be extended around this pocket. Submerchantable conifer will be retained particularly within 2 chains of the south cutting boundary.

Specs:

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

Treatments:

Acceptable mixed softwood, mixed hardwood, pine

Regen:

Other WLD: This compartment is in DWC-transitions from lowlands are critical for wintering deer to access upland and reach forage in uplands: Winter specs are not feasible due to snowmobile trail. Leave 6" on stump spruce/fir to provide vertical structure as well. Cherry provides valuable forage for bears and numerous other wildlife, leave representative sample of cherry for mast production. Drainages and associated ash should be protected as critical bear habitat. Trees showing potential for nesting bird, and providing nesting and denning cavities should be retained.

Proposed Start Date: 10/01/2017

34	12017034-NF	1.8	3302 - Low Density Conifer Trees	Nonstocked			Unspecified	NonForestMgt	Herbaceous/Crop /Grass Planting	310 - Herbaceous Openland	Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Herbaceous opening maintenance

Specs:Next StepTreatments:AcceptableRegen:OtherComment:

Proposed Start Date: 10/01/2017



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
41	12017041-Cut	40.6	4130 - Aspen	Poletimber Well	60	Unspec ified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary

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

Prescription Cut all stems 2" dbh and greater except cedar and pine (hemlock if found).

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable mixed softwood, mixed hardwood, pine

Regen:

Other Close to 50% of conifer is standing dead or on the ground

Comment: WLD-Featured Species: Deer, Bear, Grouse. Balancing the age classes of aspen to provide early successional habitat through mature aspen forest is a goal in this compartment. Mesic conifer in the uplands is promoted to provide structural diversity within stands which increases habitat value, as cover for wildlife. Retention of White Pine, hemlock, and cedar component for refuge trees and cover for bear and deer is desirable. This compartment is in DWC-transitions from lowlands are critical for wintering deer to access upland and reach forage in uplands Mast production, such as oak, cherry and raspberry are encouraged to provide valuable forage for bear, deer, grouse.

Proposed Start Date: 10/01/2017

47	12017047-Cut	11.0	6122 - Black Spruce	Poletimber Well	85	Unspec ified	Harvest	Clearcut	613 - Lowland Mixed Forest	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Cut all stems 2" and greater except cedar and pine. No other retention due to small, narrow acreage .East edges are seeing windthrow.

Specs:

Next Step Monitoring, Natural Regen (Intermediate)

Treatments:

Acceptable tamarack, white spruce, black spruce, balm of gilead, red maple, aspen

Regen:

Other WLD: Featured species: Black Bear, deer, other wildlife species: moose, marten, spruce grouse, and black-backed woodpecker. Perpetuating this stand as black spruce instead of other acceptable regeneration listed is recommended to maintain habitat for the above species. Winter cut spec for wintering deer.

Proposed Start Date: 10/01/2017

49	12017049-Cut	15.7	4319 - Mixed Upland Forest	Poletimber Well	55	Unspec ified	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary
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**Habitat Cut: No****Site Condition:**

Prescription Cut all trees 2" dbh and greater except pine and cedar.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen, balm of gilead, spruce, fir, mixed hardwood, pine

Regen:

Other There is upland white spruce/black spruce on west and south lobes.

Comment: WLD-Featured Species: Deer, Bear, Grouse. Balancing the age classes of aspen to provide early successional habitat through mature aspen forest is a goal in this compartment. Mesic conifer in the uplands is promoted to provide structural diversity within stands which increases habitat value, as cover for wildlife. Retention of White Pine, hemlock, and cedar component for refuge trees and cover for bear and deer is desirable. This compartment is in DWC-transitions from lowlands are critical for wintering deer to access upland and reach forage in uplands Mast production, such as oak, cherry and raspberry are encouraged to provide valuable forage for bear, deer, grouse.

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
56 12017056-Cut	41.6	4134 - Aspen, Spruce/Fir	Poletimber Well	58	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary

**Habitat Cut: No**

**Site Condition:**

Prescription Cut all stems 2" and up except pine and cedar. 300 foot buffer to McGregor Ck.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Regen: spruce, fir, pine, aspen, maple

Other Comment: WLD-Featured Species: Deer, Bear, Grouse. Balancing the age classes of aspen to provide early successional habitat through mature aspen forest is a goal in this compartment. Mesic conifer in the uplands is promoted to provide structural diversity within stands which increases habitat value, as cover for wildlife. Retention of White Pine, hemlock, and cedar component for refuge trees and cover for bear and deer is desirable. This compartment is in DWC-transitions from lowlands are critical for wintering deer to access upland and reach forage in uplands. Mast production, such as oak, cherry and raspberry are encouraged to provide valuable forage for bear, deer, grouse.

Proposed Start Date: 10/01/2017

**Total Treatment Acreage Proposed: 488.0**

## Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Deb Goupell : Examiner

Compartment: 17

Year of Entry: 2018

### Availability for Management

Total Acres	Acres Available	Acres Available With Condition	Acres Not Available
1584	1414	151	19
1001	952	0	50
8	8	0	0
2	2	0	0
86	86	0	0
11	11	0	0
606	606	0	0
9	9	0	0
67	0	38	29
51	16	35	0
54	10	0	44
130	22	0	108
3,610	3,136	224	249
	87%	6%	7%

### Dominant Site Conditions

	Acres Available	Acres Available With Condition	Acres Not Available	Dominant Site Condition	Dominant Site Conditions				
					5C	5F	3H	3J	5E
1584	1414	151	19	Aspen	62	89			19
1001	952	0	50	Cedar				32	17
8	8	0	0	Herbaceous Openland					
2	2	0	0	Low-Density Trees					
86	86	0	0	Lowland Shrub					
11	11	0	0	Lowland Spruce/Fir					
606	606	0	0	Northern Hardwood					
9	9	0	0	Red Pine					
67	0	38	29	Upland Conifers	38				29
51	16	35	0	Upland Mixed Forest		35			
54	10	0	44	Upland Spruce/Fir				3	41
130	22	0	108	White Pine			108		
3,610	3,136	224	249	Total Forested Acres	100	124	108	35	106
	87%	6%	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 Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	5E: Long-Term Retention	29	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	5	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							



## Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Deb Goupell : Examiner

Compartment: 17

Year of Entry: 2018

3	Unavailable	5E: Long-Term Retention	41	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
4	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	28	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
5	Unavailable	5E: Long-Term Retention	8	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
6	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	3	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
7	Unavailable	5E: Long-Term Retention	17	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
8	Available	5F: Evaluated for Forest Health Considerations	35	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
There is barely one stick of merchantable conifer; MO is aspen and mixed upland							

## Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Deb Goupell : Examiner

Compartment: 17

Year of Entry: 2018

9	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	3	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
10	<b>Unavailable</b>	<b>5E: Long-Term Retention</b>	9	5A: Not able to obtain desirable regeneration	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
11	<b>Available</b>	<b>5F: Evaluated for Forest Health Considerations</b>	89	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Stand is only 45 years old. Larger spruce have died out. Much of the conifer is understory 2 sticks or less.							
12	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	38	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b> Not sure why this needs to be site conditioned; this is a 34 year old aspen/mixed softwood with pine overstory.							
13	<b>Available</b>	<b>5C: Delay treatment for age/size class diversity or exceptional site quality</b>	62	Unspecified	Unspecified	Unspecified	Unspecified
<b>Comments:</b>							
14	<b>Unavailable</b>	<b>3H: Deer Wintering Areas</b>	108	3L: Other wildlife concerns	Unspecified	Unspecified	Unspecified
<b>Comments:</b> State Game Fund: DWC retain canopy closure, Mature forest condition for northern goshawk, blackburnian warbler, American marten, fisher, bear habitat.							

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	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.
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	6120 - Lowland Cedar	Poletimber Well	27.8	99	Unspecified	Stand is within 300ft buffer of Schwartz Creek
2	4139 - Aspen, Mixed Deciduous	Sawtimber Well	150.6	59	Unspecified	Many, if not most, of larger white spruce are standing dead. SBW is having a devastating effect on understory conifer. South of Schwartz Ck Rd and along the Schwartz Crk is heavier to red maple. Southeast part of stand is younger but merchantable. Southwest has a solid pocket of white pine with some red pine that will be left.
3	42200 - Natural White Pine	Sawtimber Well	22.3	96	81-110	The stand is white pine overstory with M3/F3 underneath. Pine BA is at good range; nothing to cut for volume at this time.
5	4134 - Aspen, Spruce/Fir	Poletimber Well	61.8	48	Unspecified	Most (~50%) of submerchantable conifer (1 stick or less) is dead from SBW. Some steep knobs and draws are heavy to conifer.
6	4134 - Aspen, Spruce/Fir	Poletimber Well	47.9	58	Unspecified	Much mortality/sparse canopy in submerchantable conifer. Needs to be cut; leave all white pine, red pine, oak. Focus retention around wetter pockets just SE/E of private.
7	4111 - S.Maple, Hard Mast Association	Poletimber Well	520.2	92	81-110	Lucky 3 TS cut between 2009 and 2012. No new regen; maple stump sprouts chewed.
8	4130 - Aspen	Sapling Well	18.9	6	Immature	Star Tracks timber sale cut 2010
9	4130 - Aspen	Poletimber Well	5.9	56	Unspecified	No retention other than oak and pine.
10	4130 - Aspen	Sapling Well	15.6	6	Immature	Star Tracks TS cut 2010
11	6120 - Lowland Cedar	Poletimber Medium	43.6	120	Unspecified	
12	4130 - Aspen	Sapling Well	22.1	17	Immature	Schwartz Creek Clay TS cut 1999
13	4319 - Mixed Upland Forest	Poletimber Well	35.2	34	1-50	Sentinel Pine Ts cut 1982. Aspen dbh ranges from 4-9" (clean cut?) There is a tag alder swale through the center of stand. Black spruce saplings on southeast edge of stand.
14	4133 - Aspen, Mixed Pine	Sapling Well	17.4	6	Immature	Star Tracks TS cut 2010; south part of this cut is now with white pine stand to south.
15	4130 - Aspen	Sapling Well	78.6	16	Immature	This is a very mixed stand of regeneration: aspen, maple, some oak, birch, white pine, spruce and balsam. Birch Ridge TS cut 2000
16	4130 - Aspen	Poletimber Well	19.8	34	Immature	Snow White TS cut 1982. Some larger (10") trees on far north edge (42 years old)



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	4130 - Aspen	Sapling Well	99.6	25	Immature	Center Section 16 TS cut 1991. Some white birch along road, 1-2" dbh. Far east finger heavier to red maple/A3 (2"dbh). Great variety of diverse regenerating species.
18	4130 - Aspen	Sapling Well	118.8	25	Immature	Grandfather Block TS cut 1991. Spruce budworm terrorizing the unmerchantable spruce/fir. Aspen ranges from 4-9" dbh, more consistent to 4-6" dbh in north half.
19	42200 - Natural White Pine	Sawtimber Well	108.0	95	141-170	Grandfather Block TS cut 1991 removed everything but pine. Very little merchantability in understory. Recommend thinning white pine to 90 BA and whatever else is merchantable. Within the next 10-20 years, consider seed tree or shelterwood and disk for scarification.
20	6120 - Lowland Cedar	Poletimber Medium	4.6	90	51-80	
22	429 - Mixed Upland Conifers	Poletimber Medium	28.6	50	Unspecified	Stand is within 300 feet of McGregor Ck. SBW is present in understory
23	4130 - Aspen	Sapling Well	36.3	6	Immature	Star Tracks TS cut 2010
24	4130 - Aspen	Poletimber Well	3.0	40	51-80	
25	4130 - Aspen	Poletimber Well	7.3	40	51-80	
26	6120 - Lowland Cedar	Poletimber Well	852.8	105	Unspecified	Diverse swamp; some lower stocked areas and some very heavy cedar pockets.
27	4130 - Aspen	Poletimber Well	42.3	34	Immature	Spruce Block TS cut 1982 WLD- Treat openings/opening maintenance
28	429 - Mixed Upland Conifers	Sawtimber Well	38.2	34	111-140	This was cut with Spruce Block TS 1982.
29	4130 - Aspen	Sapling Well	32.7	4	Immature	Horsetail Island TS cut 2012
30	4130 - Aspen	Poletimber Well	7.9	36	Unspecified	
31	42210 - Natural Red Pine	Sawtimber Well	9.3	91	81-110	Red pine heaviest BA in far south/southwest 4 acres. North 1/4 of the stand is M3 understory.
32	4136 - Aspen, Mixed Conifer	Poletimber Well	178.2	61	81-110	This stand is rocky and fairly shallow soiled. Far west piece is heavy to upland cedar and will be excluded from treatment as retention (as will all other cedar be retained). The oak and sugar maple are located more on the north edge, along the hardwood stand. Will leave all pine, oak, cedar and sugar maple less than 4" dbh.



Stand	Crystal Falls Mgt. Unit		Report 7 – Forested Stands			Compartment: 17 Year of Entry: 2018	
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	
33	4130 - Aspen	Poletimber Well	13.5	36	Unspecified		
35	4130 - Aspen	Poletimber Well	6.9	36	Unspecified		
36	4130 - Aspen	Sapling Well	9.4	36	Unspecified	Stand is nearly an A6; much of submerchantable conifer is dead.	
37	42340 - Upland Spruce/Fir	Sapling Medium	10.1	25	Immature	Schwartz Ck Rd TS cut 1991. Aspen is concentrated on far east 1/4 of stand	
38	4111 - S.Maple, Hard Mast Association	Poletimber Well	85.7	93	81-110	Loop TS cut 2003. BAs overall do not justify thinning; higher BAs are in oak or BTA pockets. Nicer maple on ridge between roads. Oak on ridge and south half of stand.	
39	4130 - Aspen	Poletimber Well	2.8	42	Unspecified	OPIC - FMD: OI Stand Year Origin was 1974	
40	4130 - Aspen	Sapling Well	14.3	15	Immature	Box Road TS cut 2001	
41	4130 - Aspen	Poletimber Well	40.6	60	Unspecified	More red maple on far north end of stand. At least 50% of conifer in this stand is dead and/or on the ground (not likely SBW?)	
42	4130 - Aspen	Sapling Well	194.8	25	Immature	Schwartz Creek Rd TS cut 1991. This stand has suffered some slight pockets of mortality a few years ago, in the north on west side of the road.	
43	6120 - Lowland Cedar	Poletimber Well	55.5	95	Unspecified	There is a narrow upland ridge full of balsam regeneration (2-4" dbh) and a couple old aspen/birch. Most of stand is within 300 ft buffer to McGregor Ck.	
44	42320 - Upland Spruce	Poletimber Well	40.9	65	Unspecified	This stand is the 300 ft buffer to McGregor Ck. SBW has decimated this stand and needs to be site conditioned.	
45	4130 - Aspen	Sapling Well	89.2	15	Immature	Good thick stand. West Branch TS cut 2001	
46	4130 - Aspen	Poletimber Well	12.0	42	Unspecified	Stand is a little wetter on west end but not quite lowland	
47	6122 - Black Spruce	Poletimber Well	11.0	85	Unspecified	Smaller diameter black spruce in sliver between Lowland tag and stand 50, will be left for retention	
49	4319 - Mixed Upland Forest	Poletimber Well	15.7	55	Unspecified	There is heavy black and white upland spruce mix located northwest of tag and south portion of stand.	
50	4130 - Aspen	Sapling Well	77.9	7	Immature	Cotter Pin TS cut 2009	



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
51	4134 - Aspen, Spruce/Fir	Poletimber Well	6.4	42	Unspecified	
52	4134 - Aspen, Spruce/Fir	Poletimber Well	7.7	56	Unspecified	Retention for stand to north and 300 foot buffer to McGregor Ck
53	4130 - Aspen	Poletimber Well	89.2	45	Unspecified	Not a great aspen site; stand has many open areas that are filling in with young aspen. There is a good variability of density and dbh throughout this stand
54	6120 - Lowland Cedar	Poletimber Well	17.1	120	Unspecified	Far south piece of this is retention from stand 55. Entire stand is within 300 ft buffer to Schwartz Ck
55	4130 - Aspen	Sapling Well	13.6	7	Immature	Cotter Pin TS cut 2009
56	4134 - Aspen, Spruce/Fir	Poletimber Well	41.6	58	Unspecified	Spruce and fir are getting hit hard by SBW. Fair aspen site.
57	42340 - Upland Spruce/Fir	Poletimber Well	3.0	49	Unspecified	





Stand	Cover Type	Acres	Managed Site	General Comments:
4	310 - Herbaceous Openland	7.7	No	small conifers are starting to encroach; also some oak in far north.
21	6220 - Alder/willow	76.4	No	OPIC - FMD: OI Stand Year Origin was
34	3302 - Low Density Conifer Trees	1.8	Yes	OPIC - FMD: Opening maintenance. See locked comments. OI Stand Year Origin was
48	622 - Lowland Shrub	10.0	No	OPIC - FMD: OI Stand Year Origin was