



Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12084

Entry Year 2018

Acreage: 1,288

County Dickinson

Management Area: Groveland

Revision Date: 2016-08-08

Stand Examiner: Ed Rice

Legal Description:

T41N R29W sections 27, 34

Identified Planning Goals:

Optimize sustainable timber production while enhancing and protecting wildlife habitat. Continue to sustainably balance the aspen age class acres. Protect the riparian areas and transition zones during management activity.

Soil and topography:

Soils are generally fine sandy loams with large rock outcrops throughout the compartment. Areas of muck soils are in the low ground areas with multiple drainages. The topography is consistently wet, ash and cedar drainages in the lower areas moving to steep rock ledge and outcrop.

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

The compartment is contiguous state ownership. There are several private parcels bordering the compartment in the southwest side. Active forest management has occurred and will continue within and surrounding the compartment.

Unique Natural Features:

none identified

Archeological, Historical, and Cultural Features:

none identified

Special Management Designations or Considerations:

Several SCAs and a ERA of dry mesic northern forest.

Watershed and Fisheries Considerations:

Eastern arm of Rock Lake and Scott Lake. Carney Lake Outlet cuts across the southern portion of the compartment.

Wildlife Habitat Considerations:

Steep terrain makes great refuge areas for wildlife. Featured species include black bear, blackburnian warbler, northern goshawk, white-tailed deer, and wood duck. This compartment includes state game purchased lands and conditional deer yard. MNFI-wet meadows, bald eagle, and common loon.

Mineral Resource and Development Concerns and/or Restrictions

Vehicle Access:

Extremely poor to none.

Survey Needs:

none

Recreational Facilities and Opportunities:

Carney Lake cross country ski trails are just north of the compartment

Fire Protection:

Equipment access is extremely limited to none in the interior of the compartment. High bluffs and rock outcrops lend to potential for lightning strike starts. Conifer fuels are readily available. There are areas of very wet drainages and young aspen that would likely prevent the development of large fires.

Additional Compartment Information:

The following reports from the Inventory are attached:

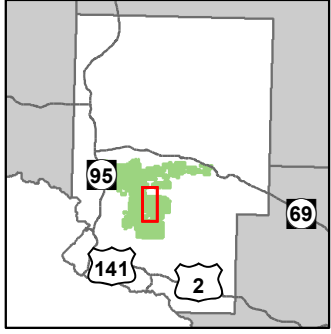
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

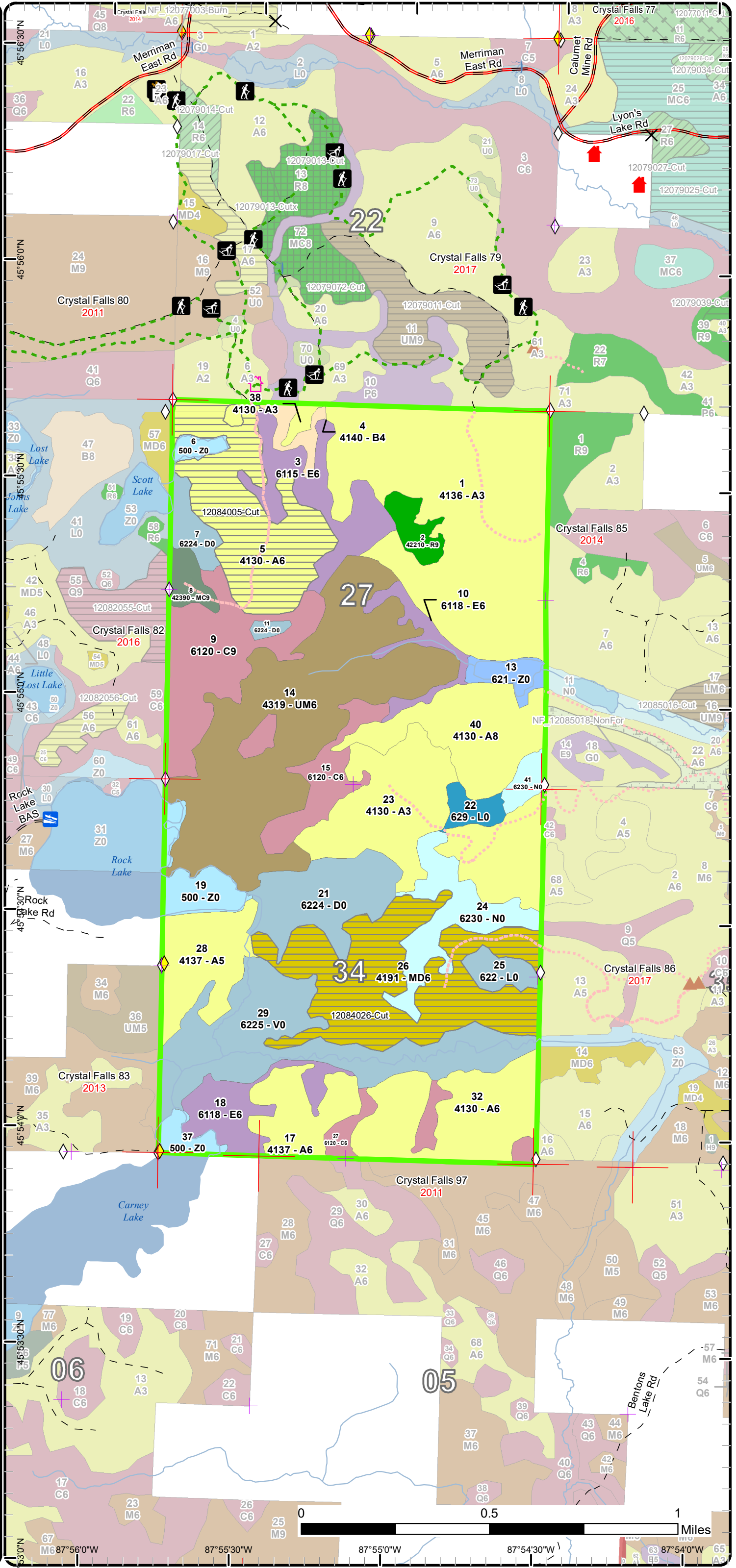
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 84
 T41N R29W Sec. 27, 34
 County: Dickinson
 Unit: Crystal Falls
 Mgmt Area: Groveland
 YOE: 2018
 Acres: 1,288 GIS Calculated
 Examiner: Ed Rice
 Map Revised: 11/29/2016
 Map Phase: Pre-Review

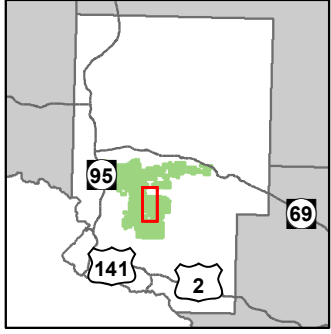


- Miris Corners
- + Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- ✕ Gate
- ▲ Berms
- Culverts
- Unspecified Structures
- Cabin
- Boating Access Site
- P Parking Lot
- ★ Trailhead
- Hiking Trails
- Ski Trails
- - - Designated Hiking Trails
- - - Designated Ski Trails
- County Gravel Roads
- Gravel Roads
- - - Poor Dirt Roads
- - - Closed Roads
- Rivers
- Compartment Boundary
- Clearcut (w/Reserves)
- 413 - Aspen
- 414 - Other Upland Deciduous
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 500 - Water
- 621 - Floating Aquatic
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 629 - Mixed non-forested wetland
- Lakes

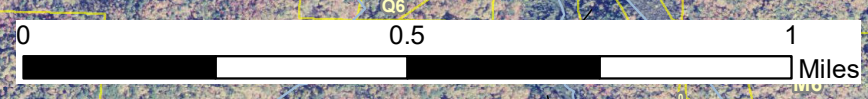
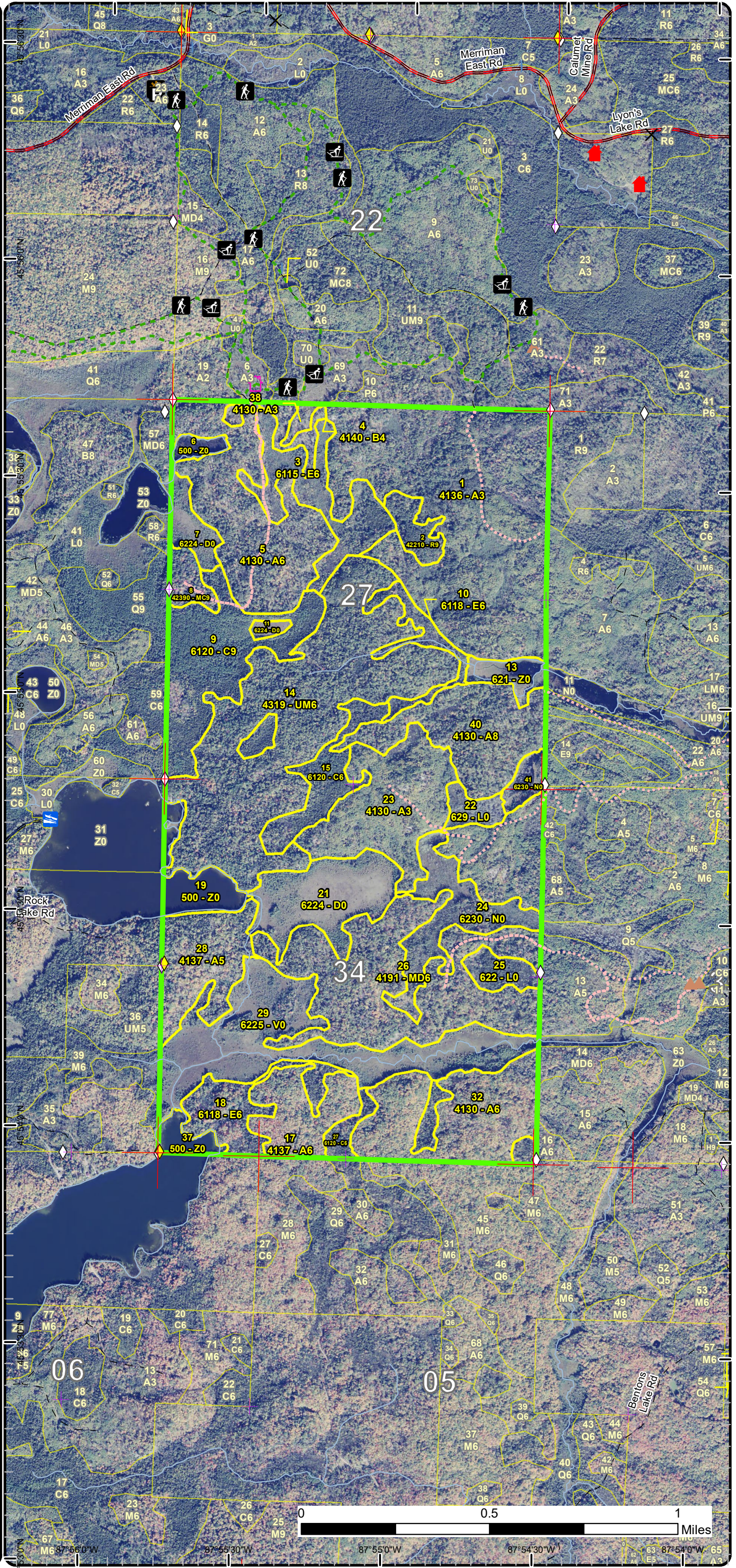


Stand Boundary Map

Compartment: 84
 T41N R29W Sec. 27, 34
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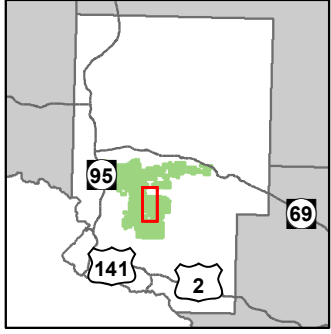
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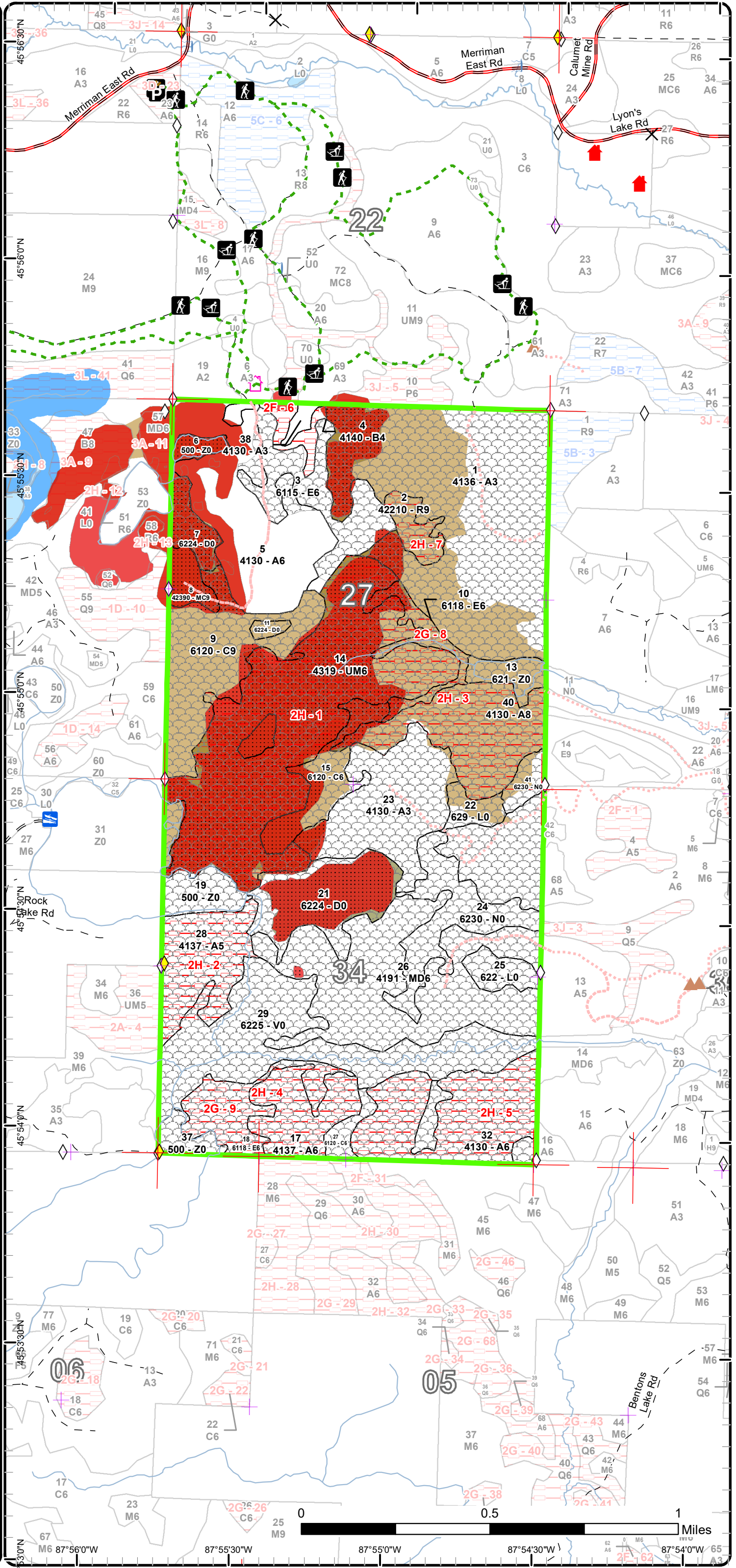
45° 53' 0" N 77° 52' 30" W 87° 55' 30" W 87° 55' 0" W 87° 54' 30" W 87° 54' 0" W 65° 53' 0" N 63° 52' 30" N 63° 52' 0" N 63° 51' 30" N 63° 51' 0" N

Special Conservation Areas & Site Conditions Map

Compartment: 84
 T41N R29W Sec. 27, 34
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- Rivers
- Compartment Boundary
- SCA Removal
- Unavailable
- 2F: Too steep
- 2G: Too wet (sensitive soils, does not include access issues)
- 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
- Stand Boundaries
- Ecological Reference Areas
- Forest Habitat Core Interior
- 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	5	0	277	0	0	0	0	80	187	0	0	0	0	0	0	0	0	548
Bog	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93
Cedar	0	0	0	0	0	0	0	0	0	0	0	103	0	0	0	0	0	0	103
Lowland Deciduous	0	0	0	0	0	38	40	0	0	0	0	0	0	0	0	0	0	0	78
Lowland Shrub	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
Marsh	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	0	109	0	0	0	0	0	0	0	0	108
Paper Birch	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	8
Red Pine	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	11
Treed Bog	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58
Upland Conifers	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	167	0	0	0	0	0	0	0	0	167
Water	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41
Total	254	5	0	277	0	38	40	8	80	463	11	103	0	9	0	0	0	0	1285



Report 2 – Treatment Summary

Crystal Falls Mgt. Unit
Year of Entry: 2018

Acres of Harvest

Compartment 84
Total Compartment Acres: 1,288

Commercial Harvest - 188
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	80	0	0	0	0	0	0	0	0	80
Mixed Upland Deciduous	109	0	0	0	0	0	0	0	0	109
Total	188	0	0	0	0	0	0	0	0	188

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	188	0	0	0	0	0	0	0	0	188
Next Step	0	0	0	0	0	0	188	0	0	188
Total	188	0	0	0	0	0	188	0	0	376

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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
5 12084005-Cut	79.6	4130 - Aspen	Poletimber Well	75	Unspecified	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription cut aspen, r maple, spruce, fir and live w birch 1 stick tall and larger. no cedar, hemlock, w pine, r pine, cherry, b ash or oak. mark out/reserve
Specs: from harvest area any b ash drainages/swamps. follow BMP guidelines when nearby small lake. winter cut should be a last option due to established cross country ski trails

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen, spruce/fir, pine, maple

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

26 12084026-Cut	108.5	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	82	51-80	Harvest	Clearcut with Retention	4319 - Mixed Upland Forest	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription cut aspen, w birch, maple, white ash, and spruce/fir 1 stick tall and larger. leave 1 w birch and/or maple per cruise point for diameter/species
Specs: diversity. mark out/reserve all b ash lowlands from harvest. Cut no red or white pine, cedar, or oak. follow BMP guidelines for creek on S end of stand. access will be from the E through an old road system - 1 culvert/short bridge installation will be required. winter cut

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen, maple, spruce/fir, pine

Regen:

Other high percentage of dead standing w birch. rolling steep hills with rock ledge. very wet b ash inclusions. areas with dense spruce/fir saplings. far

Comment: W end has heavier component of r pine sawtimber 16 - 22" dbh. very good r pine sapling establishment along old road edges in E end of stand

Proposed Start Date: 10/01/2017

**Total Treatment
Acreage Proposed: 188.1**

Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Ed Rice : Examiner

Compartment: 84

Year of Entry: 2018

Availability for Management

Total Acres	Acres Available	Acres Available With Condition	Acres Not Available	Dominant Site Conditions		
Acres	Available	With Condition	Not Available	2F	2G	2H
549	362	0	187	Aspen		187
93	91	0	2	Bog		2
103	103	0	0	Cedar		
78	38	0	40	Lowland Deciduous	40	
18	18	0	0	Lowland Shrub		
43	43	0	0	Marsh		
109	109	0	0	Mixed Upland Deciduous		
8	0	0	8	Paper Birch	8	
11	0	0	11	Red Pine		11
58	58	0	0	Treed Bog		
9	9	0	0	Upland Conifers		
167	0	0	167	Upland Mixed Forest		167
41	41	0	0	Water		0
1,288	873		414	Total Forested Acres	8	40
	68%		32%	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	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	167	2F: Too steep	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified
Comments: bounded by steep rock ledges and swamp with standing water							
2	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	42	Unspecified	Unspecified	Unspecified	Unspecified
Comments: isolated by lake, large marsh and rock ledge							

Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Ed Rice : Examiner

Compartment: 84

Year of Entry: 2018

3	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	53	Unspecified	Unspecified	Unspecified	Unspecified
Comments: blocked by extremely wet swamps and rock ledge							
4	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	30	Unspecified	Unspecified	Unspecified	Unspecified
Comments: stand bounded by expansive standing water, wet drainages and rock bluffs							
5	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	64	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
6	Unavailable	2F: Too steep	8	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
7	Unavailable	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	11	Unspecified	Unspecified	Unspecified	Unspecified
Comments: small acreage stand surrounded by A3.							
8	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	13	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Report 4 – Site Conditions

Crystal Falls Mgt. Unit

Ed Rice : Examiner

Compartment: 84

Year of Entry: 2018

9	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	27	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							



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
Comments	Potential Old Growth		SCA Removal	4
Comments	Potential Old Growth		SCA Removal	929



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	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.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4136 - Aspen, Mixed Conifer	Sapling Well	181.6	28	Immature	Aspen 2 - 4 sticks tall interspersed with wet drainages - springs with b ash and cedar. heavy tag alder inclusions throughout. scattered log sized w spruce. interspersed rock knobs.
2	42210 - Natural Red Pine	Sawtimber Well	10.7	96	81-110	r pine on rock top. good form
3	6115 - Lowland Ash	Poletimber Well	37.8	47	51-80	extremely wet - standing water. S end is heavier to b ash saplings
4	4140 - Other Upland Deciduous	Poletimber Poor	7.8	64	Unspecified	rock ridge,
5	4130 - Aspen	Poletimber Well	79.6	75	Unspecified	high rock knobs with r pine on the tops. scattered b ash wet swales with cedar. good amount of advanced w pine regen notably in the S end. scattered fir saplings. many w birch snags WLD- Historic eagle nest on west side of stand
8	42390 - Mixed Non-Pine Upland Conifers	Sawtimber Well	9.3	120	81-110	mixed upland cedar and hemlock on rock knobs. very little understory in most areas. rock ledge throughout. extremely poor to no access
9	6120 - Lowland Cedar	Sawtimber Well	60.4	102	51-80	center of stand heavier to tamarack/b spruce. very wet sections of the stand.
10	6118 - Lowland Deciduous with Cedar	Poletimber Well	13.4	51	81-110	extremely wet - standing water with springs/light flow
14	4319 - Mixed Upland Forest	Poletimber Well	166.8	86	81-110	N end of stand has steep rock ravines leading to b ash drainages. E end of stand has experienced heavy mortality due to old age in the upper canopy resulting in extremely dense hazel and r maple saplings 10 - 20' tall. cedar tends to occur in groves. access is extremely poor due to stand being bounded by very wet swamp lands and steep rock faces/ledge.
15	6120 - Lowland Cedar	Poletimber Well	28.6	101	141-170	stand mainly cedar which transitions to heavy tag alder and b ash in the eastern portion
17	4137 - Aspen, Birch	Poletimber Well	30.3	82	81-110	scattered w pine. eagle nest in proximity to stand. broken rock bluff terrain. extremely isolated with no access.
18	6118 - Lowland Deciduous with Cedar	Poletimber Well	26.6	56	81-110	W birch has mostly fallen out. Eagles have built nests both to the North and to the East. . extremely difficult access due to multiple drainages and rock bluffs stand is interspersed with drainages containing high percentages of cedar of all ages. Carney lake is close to the south and the outlet stream to the North.
23	4130 - Aspen	Sapling Well	94.9	25	Immature	very broken terrain, areas of steep rock ledge. stand is just transitioning into poletimber, aspen 1 - 3 sticks tall. interspersed b ash/standing water areas. R pine very scattered along rock tops.

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Crystal Falls Mgt. Unit

Report 7 – Forested Stands

Compartment: 84
Year of Entry: 2018

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
26	4191 - Mixed Upland Deciduous with Conifer	Poletimber Well	108.5	82	51-80	high percentage of dead standing w birch. rolling steep hills with rock ledge. very wet b ash inclusions. areas with dense spruce/fir saplings. far W end has heavier component of r pine sawtimber 16 - 22" dbh. very good r pine sapling establishment along old road edges in E end of stand WLD- Historic eagle nest in southwest corner of stand
27	6120 - Lowland Cedar	Poletimber Well	14.4	102	51-80	wet drainages between steep terrain
28	4137 - Aspen, Birch	Poletimber Medium	39.2	82	51-80	S end of stand has higher stocking of r maple/h maple. high rock ledges/knobs. access is extremely poor to non existent.
32	4130 - Aspen	Poletimber Well	63.7	82	81-110	E end has heavy stocking of maple regen. extremely poor access due to rock and water. very old road system into very E edge but beaver floodings over time have obliterated that route.
38	4130 - Aspen	Sapling Well	5.2	6	Immature	cut with adjacent compartment to N. rock knobs
40	4130 - Aspen	Sawtimber Medium	54.1	82	81-110	very steep rock outcrops throughout stand, notably along E edge for access. W spruce in decline. center of stand has small inclusion of r pine sawtimber. scattered w ash poletimber. areas of high mortality/windthrown fir. N edge of stand is extremely steep rock face dropping to marsh below. multiple b ash flooded lowlands throughout. very difficult access. Old road leads up to E edge of stand but a route through the rock faces would have to be located. A b ash/tag alder swamp with flowing creek also would need to be crossed/permitted.



Stand	Cover Type	Acres	Managed Site	General Comments:
6	500 - Water	4.9	No	offshoot of Scott Lake
7	6224 - Treed Bog	11.7	No	bog with tamarack saplings
11	6224 - Treed Bog	2.6	No	semi open with tamarack 20 - 30' tall
13	621 - Floating Aquatic	10.4	No	open marsh with ponded water from old beaver dams
19	500 - Water	18.3	No	east arm of Rock Lake
21	6224 - Treed Bog	44.0	No	center is open leatherleaf bog. edges transition to treed bog with tamarack saplings and tag alder.
22	629 - Mixed non-forested wetland	8.4	No	heavy component of dead standing cedar stubs - water killed from beaver flooding. cattails with standing water
24	6230 - Cattail	35.9	No	flooded swamp, cattails, water dead standing trees.
25	622 - Lowland Shrub	10.1	No	tag alder, ponded water, scattered b ash and cedar
29	6225 - Bog	93.1	No	open marsh with tag alder and small tamarack along edges. Carney Lake outlet creek runs through stand
37	500 - Water	7.8	No	NE end of Carney Lake
41	6230 - Cattail	7.4	No	standing water with cattails - highly stocked dead standing b ash and cedar stubs - water killed by old beaver flowage