



Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12069

Entry Year 2018

Acreage: 1,481

County Dickinson

Management Area: Groveland

Revision Date: 2016-08-20

Stand Examiner: Andrew Church

Legal Description:

T41N R28W Sections 2,3,4,9,11

Identified Planning Goals:

Optimize sustainable timber production while enhancing and protecting wildlife habitat. Protect riparian areas during management activity implementing Best Management Practices guidelines. Respond to Forest Health risks accordingly.

Soil and topography:

A great variety of soils in this compartment. Ranges from muck in the swamps to fine sandy loam to steep rock outcrops. Topography is flat to rolling to steep and rocky.

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

This compartment is a mix of State and Private ownerships. Snowmobiling, hunting, fishing, and trapping are the main recreational use patterns.

Unique Natural Features:

Finn Town Creek, Quarry Creek.

Archeological, Historical, and Cultural Features:

Old, abandoned railroad grade.

Special Management Designations or Considerations:

None Known.

Watershed and Fisheries Considerations:

Wildlife Habitat Considerations:

This compartment is in the Groveland Management Area which has the following featured species: Black bear, northern goshawk, Blackburnian warbler, 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 was part of the Camp Suicide Deeryard historically and is now designated as Conditional Deer Winter Range. Management of uplands near critical winter cover is essential for wintering deer. Lowland conifer and upland pine/hemlock/cedar/spruce/fir stands in this area provide excellent habitat for wintering deer. Lowland conifers and lowland hardwood types also 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 provides 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 thin to discontinuous medium-textured till over bedrock. There is insufficient data to determine the glacial drift thickness. The Cambrian Munising Formation and Archean Granite/Gneiss outcrop beneath the glacial drift. There is not a current economic use for these rocks, but the Granite/Gneiss may have building/dimension stone potential. The abandoned Calumet iron mine is located in Section 8. This compartment was previously leased for metallic exploration and probably iron ore has been removed. A few gravel pits are located in the area and there may be some potential. There is no economic oil and gas production in the UP.

Vehicle Access:

Highway M-69 on the north, snowmobile trail parallel to the highway, Calumet Mine Road to the west, Finn Town Road to

the south, Nurse Carlson to the east, some two-tracks through private. Access is poor to interior portions of compartment.

Survey Needs:

Corners may be needed.

Recreational Facilities and Opportunities:

Hunting, camping, fishing, trapping, hiking, snowmobiling.

Fire Protection:

Fire response will be from Crystal Falls or Norway DNR stations.

Additional Compartment Information:

The following reports from the Inventory are attached:

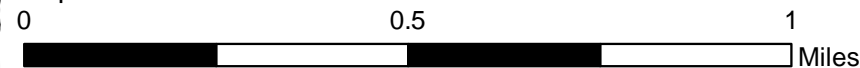
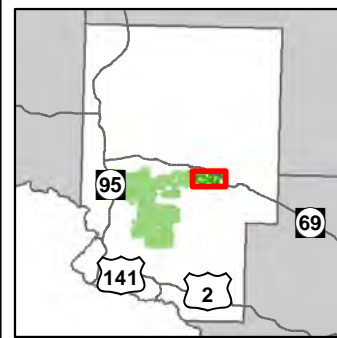
- Total Acres by Cover Type and Age Class
- Cover Type by Harvest Method
- Proposed Treatments – No Limiting Factors
- Proposed Treatments – With Limiting Factors
- Stand Details (Forested and Nonforested)
- Dedicated and Proposed Special Conservation Areas
- Site Condition Details

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

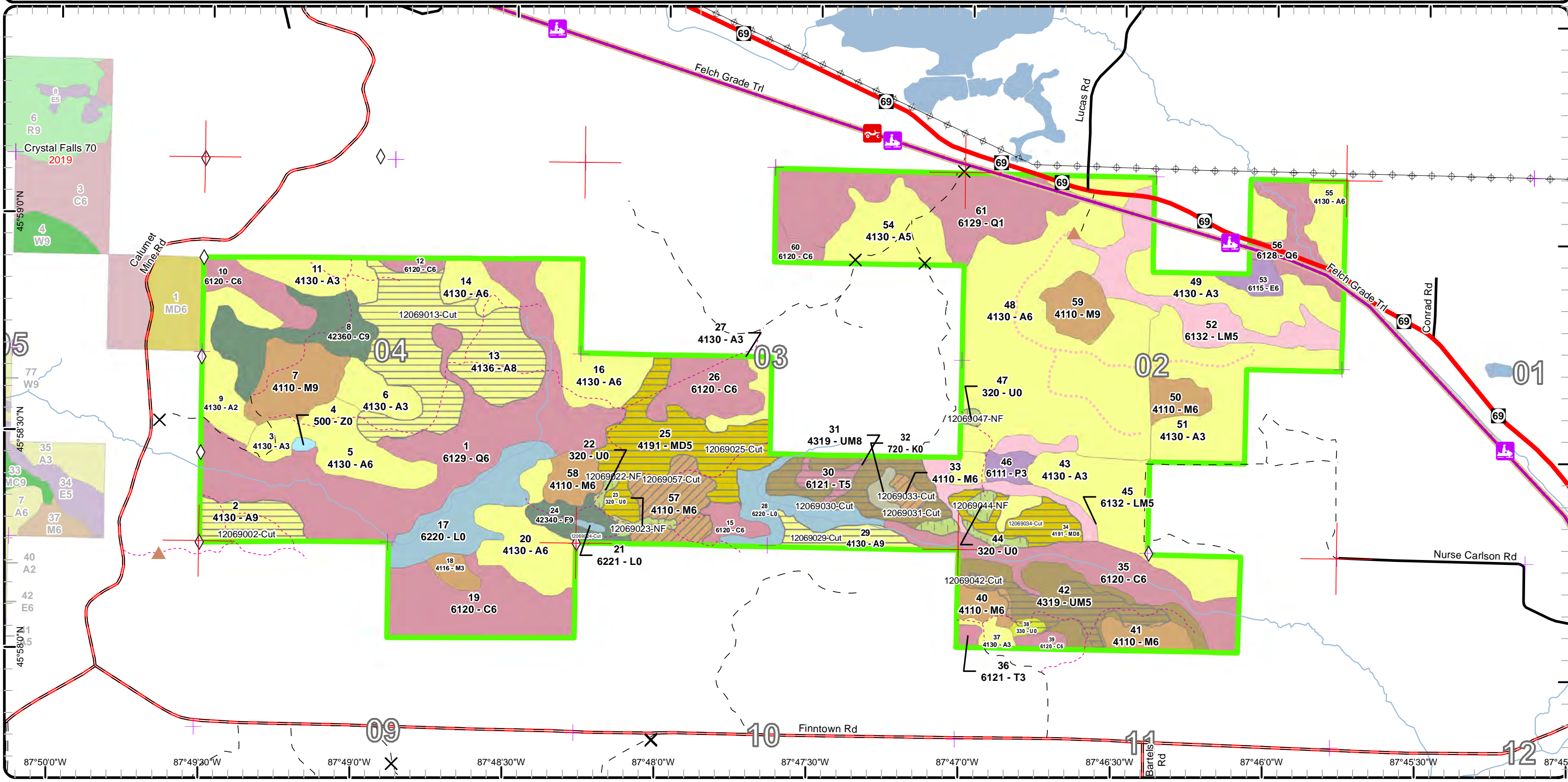
- Base feature information, stand boundaries, cover types, and numbers
- Proposed treatments
- Site condition boundaries
- Details on the road access system

Cover Type & Treatments Map

Compartment: 69
 T41N R28W Sec. 02, 03, 04, 09,
 11
 County: Dickinson
 Unit: Crystal Falls
 Mgmt Area: Groveland
 YOE: 2018
 Acres: 1,481 GIS Calculated
 Examiner: Andrew Church
 Map Revised: 11/21/2016
 Map Phase: Post-Review

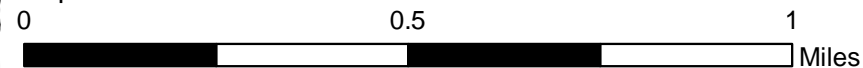
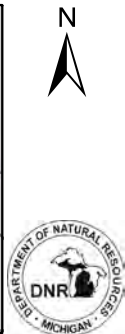
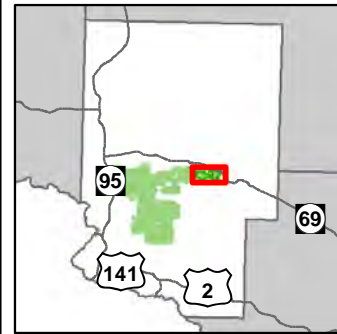


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|--------------------------------|-------------------------------------|-----------------------------------|
| — Miris Corners | — Poor Dirt Roads | ■ 612 - Lowland Coniferous Forest |
| ⊕ Remonumented Section Corners | - - Trail (Non-Recreation) | ■ 613 - Lowland Mixed Forest |
| ◇ Field Grade GPS Corners | ⋯ Closed Roads | ■ 320 - Upland Shrub |
| ✕ Gate | — Rivers | ■ 330 - Low Density Trees |
| ▲ Berms | ⊕ Powerline | ■ 500 - Water |
| 🚙 ORV Routes | ▭ Compartment Boundary | ■ 622 - Lowland Shrub |
| 🛷 Snowmobile Trails | ▭ Clearcut (w/Reserves) | ■ 720 - Exposed Rock |
| ⋯ Designated ORV Route | ▭ Opening Maintenance | ■ 411 - Northern Hardwood |
| ⋯ Designated Snowmobile Trails | ▭ Thinning (Crown, Low, Systematic) | ■ 413 - Aspen |
| — Designated Railtrail | ■ 419 - Mixed Upland Deciduous | ■ 423 - Other Upland Conifers |
| — Highway | ■ 430 - Upland Mixed Forest | ■ 611 - Lowland Deciduous Forest |
| — Paved Roads | | |
| — County Gravel Roads | | |

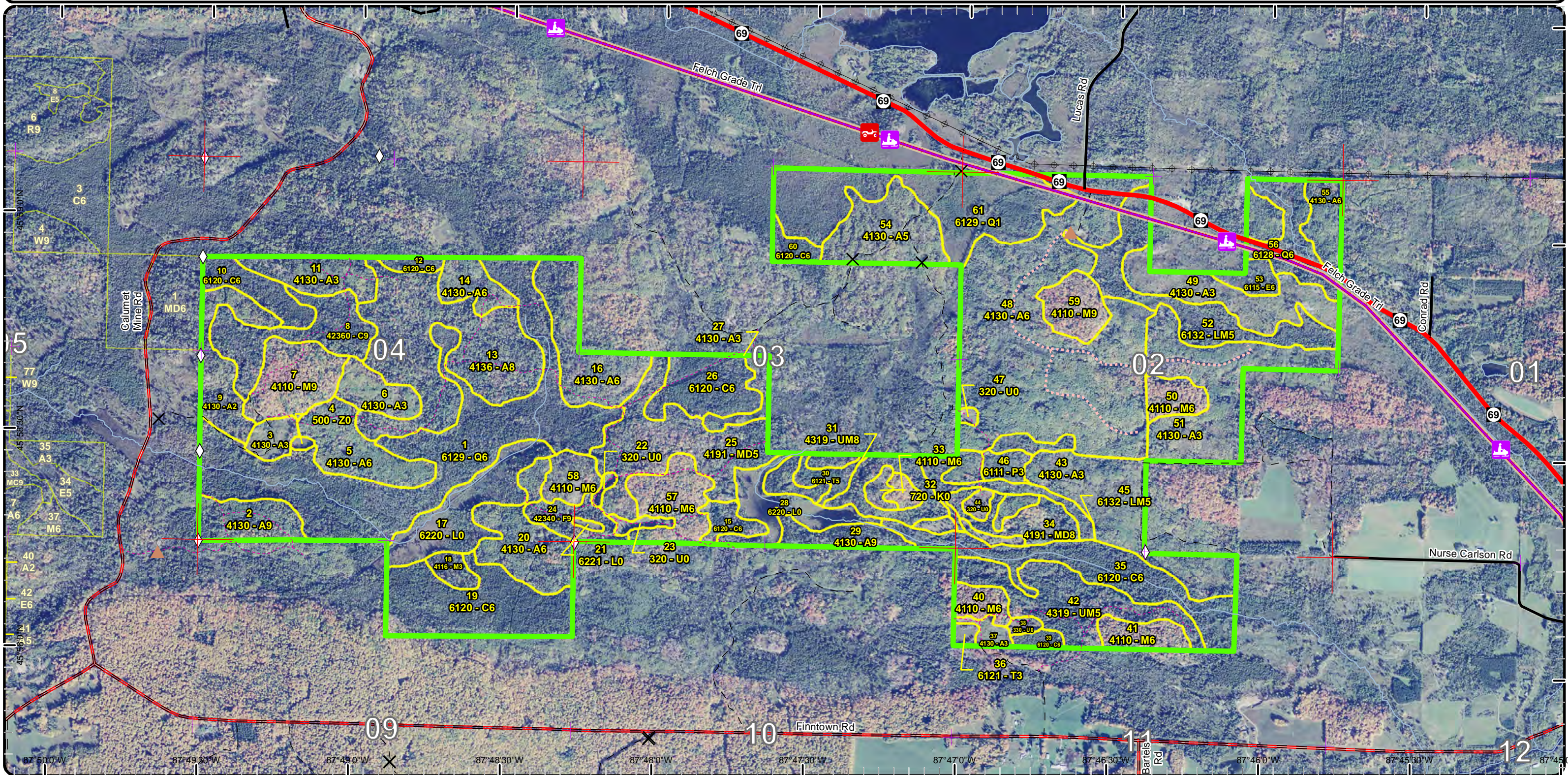


Stand Boundary Map

Compartment: 69
 T41N R28W Sec. 02, 03, 04, 09,
 11
 County: Dickinson
 Unit: Crystal Falls
 Mgmt Area: Groveland
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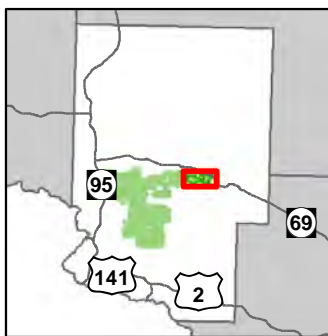
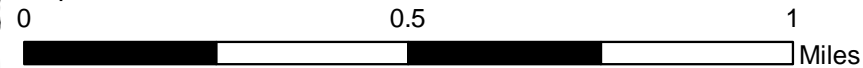


- Miris Corners
- Poor Dirt Roads
- Remonumented Section Corners
- Trail (Non-Recreation)
- Closed Roads
- Rivers
- Powerline
- Compartment Boundary
- Stand Boundaries
- 411 - Northern Hardwood
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 423 - Other Upland Conifers
- 430 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest
- 320 - Upland Shrub
- 330 - Low Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 720 - Exposed Rock

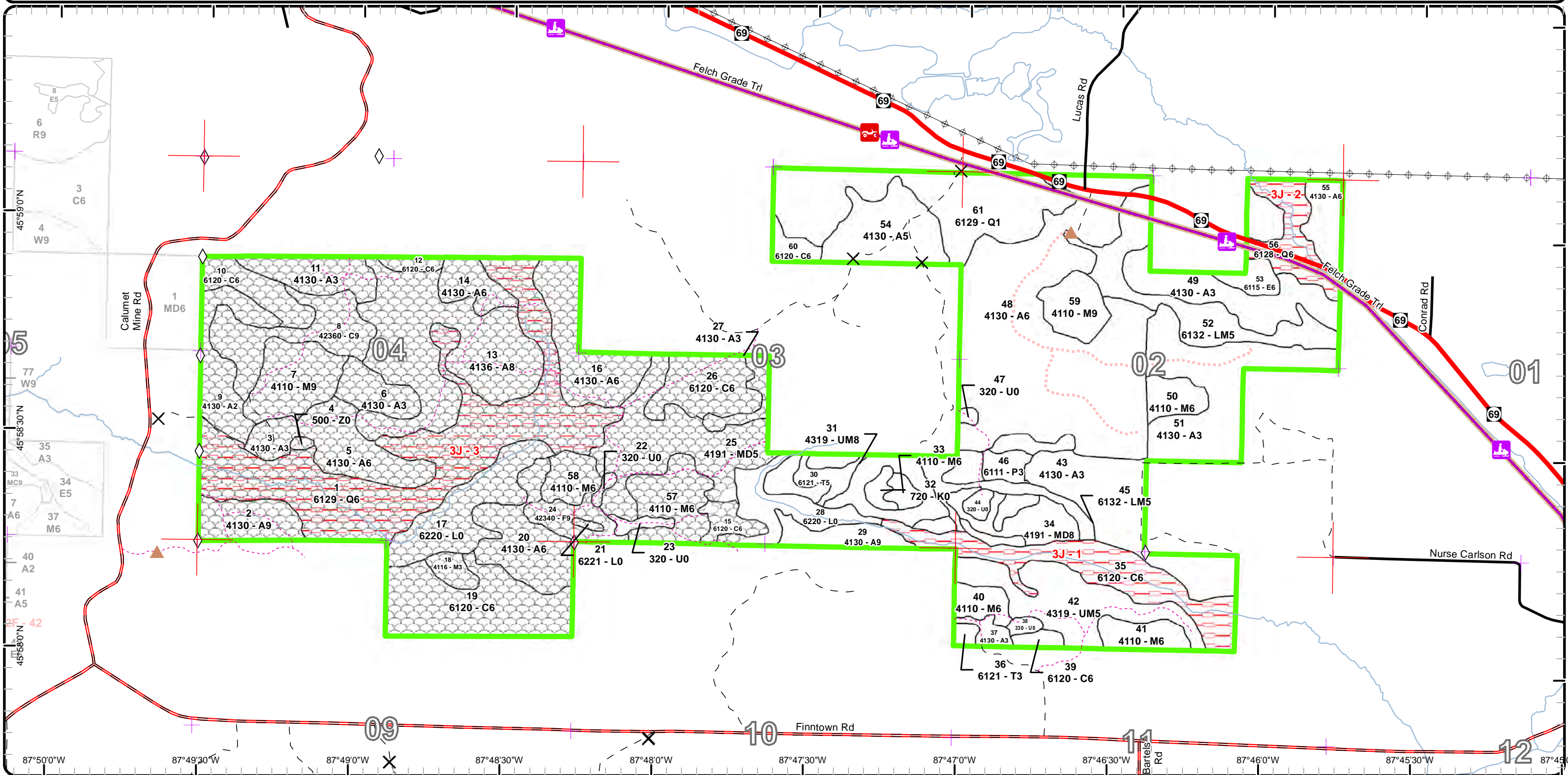


Special Conservation Areas & Site Conditions Map

Compartment: 69
 T41N R28W Sec. 02, 03, 04, 09,
 11
 County: Dickinson
 Unit: Crystal Falls
 Mgmt Area: Groveland
 YOE: 2018
 Acres: 1,481 GIS Calculated
 Examiner: Andrew Church
 Map Revised: 11/21/2016
 Map Phase: Post-Review



- Miris Corners
- + Remonumented Section Corners
- Field Grade GPS Corners
- X Gate
- ▲ Berms
- 🚙 ORV Routes
- 🚙 Snowmobile Trails
- Designated ORV Route
- Designated Snowmobile Trails
- Designated Railtrail
- Highway
- Paved Roads
- County Gravel Roads
- Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Rivers
- + Powerline
- Compartment Boundary
- Unavailable
- 3J: Water quality / BMPs (stream, river, or lake)
- 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	44	69	97	295	31	0	0	114	0	0	0	0	0	0	0	0	0	650
Cedar	0	0	0	0	0	0	0	15	50	17	106	0	0	0	0	0	0	0	188
Exposed Rock	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Low-Density Trees	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Lowland Aspen/Balsam Poplar	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	133	0	0	0	0	0	0	91	223
Lowland Deciduous	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7
Lowland Mixed Forest	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	39	57
Lowland Shrub	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56
Mixed Upland Deciduous	0	0	0	0	0	0	0	0	69	0	0	0	0	0	0	0	0	0	69
Northern Hardwood	0	0	6	0	0	0	0	4	11	43	0	0	0	0	0	0	0	51	115
Tamarack	0	2	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	9
Upland Mixed Forest	0	0	0	0	0	42	0	0	0	0	0	0	0	0	0	0	0	26	68
Upland Shrub	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Upland Spruce/Fir	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	12
Water	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	77	46	75	97	301	73	0	26	281	60	239	0	0	0	0	0	0	207	1481



Report 2 – Treatment Summary

Crystal Falls Mgt. Unit
Year of Entry: 2018

Acres of Harvest

Compartment 69
Total Compartment Acres: 1,481

Commercial Harvest - 278
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	114	0	0	0	0	0	0	0	0	114
Mixed Upland Deciduous	69	0	0	0	0	0	0	0	0	69
Northern Hardwood	0	0	0	0	0	28	0	0	0	28
Tamarack	7	0	0	0	0	0	0	0	0	7
Upland Mixed Forest	49	0	0	0	0	0	0	0	0	49
Upland Spruce/Fir	12	0	0	0	0	0	0	0	0	12
Total	250	0	0	0	0	28	0	0	0	278

Proposed and Next Step Treatments by Method

	Harvest	Site Prep	Planting	Seeding	Burning	Pesticide	Monitoring	Other	Non-Forest Mgt.	Total Acres
Current	278	0	0	0	0	0	0	14	0	292
Next Step	0	0	0	0	0	0	250	0	24	274
Total	278	0	0	0	0	0	250	0	38	566



Stand	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
2	12069002-Cut	18.3	4130 - Aspen	Sawtimber Well	77	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Final harvest using 2" spec. Leave Cedar and Pine. Buffer creek 100 feet.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen, Maple, Spruce, Fir, Tamarack, Birch

Regen:

Other WLD-featured species: black bear, deer, blackburnian warbler Historically part of Camp Suicide Deeryard. Balancing the age classes of aspen to provide early successional habitat through mature aspen forest is a goal in this compartment. 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.

Proposed Start Date: 10/01/2017

13	12069013-Cut	82.9	4136 - Aspen, Mixed Conifer	Sawtimber Medium	75	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Final Harvest using 2" spec. Leave Hemlock, Cedar and Pine if found. Also leave submerchantable conifer and submerchantable cherry. Buffer creek on East side 100 feet.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Aspen, Maple, Spruce, Fir, Birch, Pine

Regen:

Other WLD-featured species: deer, bear, goshawk. Balancing the age classes of aspen to provide early successional habitat through mature aspen forest is a goal in this compartment. Retention of White Pine, hemlock, and cedar component for refuge trees and cover for bear and deer is desirable. 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. Drainages and associated ash should be protected as critical bear habitat. Winter cut spec to provide forage for wintering deer not possible -FRD.

Proposed Start Date: 10/01/2017

22	12069022-NF	1.7	320 - Upland Shrub	Nonstocked		Unspecified	NonForestMgt	Herbaceous/Crop /Grass Planting	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Treat opening. Herbaceous/opening maintenance

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

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
23	12069023-NF	3.1	320 - Upland Shrub	Nonstocked		Unspec ified	NonForestMgt	Herbaceous/Crop /Grass Planting	310 - Herbaceous Openland		Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Treat opening. Herbaceous/opening maintenance

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other

Comment:

Proposed Start Date: 10/01/2017

24	12069024-Cut	12.0	42340 - Upland Spruce/Fir	Sawtimber Well	77	Unspec ified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Final Harvest using 2" spec. Leave Hemlock, Cedar and Pine if found. Also leave submerchantable conifers. Buffer Vernal Pond 100 feet.

Specs:

Next Step

Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable

Aspen, Mixed Hardwoods, Mixed Softwoods, Pine

Regen:

Other WLD-Featured Species: Deer, Bear, Grouse. Balancing the age classes of aspen to provide early successional habitat through mature aspen

Comment: 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.

Proposed Start Date: 10/01/2017

25	12069025-Cut	52.6	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	79	Unspec ified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Final Harvest using 2" spec. Leave Hemlock, Cedar and Pine if found. Also leave submerchantable conifers.

Specs:

Next Step

Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable

Aspen, Mixed Hardwoods, Mixed Softwoods, Pine

Regen:

Other WLD-Featured Species: Deer, Bear, Grouse. Balancing the age classes of aspen to provide early successional habitat through mature aspen

Comment: 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. Drainages and associated ash should be protected as critical bear habitat. Winter cut spec to provide winter deer forage.

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
29	12069029-Cut	12.5	4130 - Aspen	Sawtimber Well	76	Unspecified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Final Harvest using 2" spec. Leave Hemlock, Cedar and Pine if found. Also leave submerchantable conifers. Buffer creek to North 100 feet.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Regen: Aspen, Mixed Hardwoods, Mixed Softwoods, Pine.

Other Comment: WLD-Featured Species: Deer, Bear. 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

30	12069030-Cut	6.6	6121 - Tamarack	Poletimber Medium	65	Unspecified	Harvest	Clearcut with Retention	6121 - Tamarack	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Final Harvest using 2" spec. Leave Hemlock, Cedar and Pine if found. Also leave submerchantable conifers. Winter harvest required.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Regen: Tamarack, Aspen, Mixed Hardwoods, Mixed Softwoods

Other Comment: WLD-featured species: deer, bear, goshawk, other species; moose. Retention of the black spruce component of the stand as winter and summer cover for above named species.

Proposed Start Date: 10/01/2017

31	12069031-Cut	25.5	4319 - Mixed Upland Forest	Sawtimber Medium	77	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Final Harvest using 2" spec. Leave Hemlock, Cedar and Pine if found. Also leave submerchantable conifers. Buffer creek 100 feet. Winter harvest required.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Regen: Aspen, Mixed Hardwoods, Mixed Softwoods, Pine

Other Comment: Balancing the age classes of aspen to provide early successional habitat through mature aspen forest is a goal in this compartment. 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, and grouse. Winter cut spec to provide winter deer forage.

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
33	12069033-Cut	4.1	4110 - Sugar Maple Association	Poletimber Well	65	111- 140	Harvest	Low Thinning	411 - Northern Hardwood	Uneven- Aged	Draft Field Boundary

Habitat Cut: No**Site Condition:**

Prescription Thin targeting 80 sq. ft. residual BA
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other WLD-featured species: deer, bear, 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, and grouse.
Comment:

Proposed Start Date: 10/01/2017

34	12069034-Cut	16.1	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Medium	79	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Final Harvest using 2" spec. Leave Hemlock, Cedar and Pine if found. Also leave submerchantable conifers. Winter harvest required. Buffer creek 100 feet.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Aspen, Mixed Hardwood, Mixed Softwood
Regen:

Other black bear, northern goshawk, 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. 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, and grouse. Trees showing potential for nesting bird, and providing nesting and denning cavities should be retained.
Comment:

Proposed Start Date: 10/01/2017

42	12069042-Cut	23.9	4319 - Mixed Upland Forest	Poletimber Medium	43	Unspec ified	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription Final Harvest using 2" spec. Leave Cedar, Hemlock, Pine.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable Aspen, Mixed Conifers, Mixed Hardwoods
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

44	12069044-NF	7.9	320 - Upland Shrub	Nonstocked	0	Unspec ified	NonForestMgt	Herbaceous/Crop /Grass Planting	310 - Herbaceous Openland		Draft Field Boundary
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Habitat Cut: No**Site Condition:**

Prescription WLD- Treat openings. Herbaceous/opening maintenance
Specs:

Next Step
Treatments:

Acceptable
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
47 12069047-NF	1.3	320 - Upland Shrub	Nonstocked	0	Unspecified	NonForestMgt	Herbaceous/Crop /Grass Planting	310 - Herbaceous Openland		Draft Field Boundary

Habitat Cut: No

Site Condition:

Prescription WLD- Treat opening. Herbaceous/opening maintenance
Specs:

Next Step
Treatments:

Acceptable
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

57 12069057-Cut	23.7	4110 - Sugar Maple Association	Poletimber Well	80	111-140	Harvest	Low Thinning	411 - Northern Hardwood	Uneven-Aged	Draft Field Boundary
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Habitat Cut: No

Site Condition:

Prescription Thin to 80 BA. Leave Cedar, Pine, Hemlock if found.
Specs:

Next Step NonForestMgt, Other - Specify
Treatments:

Acceptable
Regen:

Other WLD-featured species: deer, bear. 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, and grouse. Was old opening-retain as breakout area after treatment. as No winter cut-FRD.
Comment:

Proposed Start Date: 10/01/2017

**Total Treatment
Acreage Proposed: 292.2**

Report 4 – Site Conditions

Crystal Falls Mgt. Unit
Andrew Church : Examiner

Compartment: 69
Year of Entry: 2018

Availability for Management

Total	Acres	Acres Avail	Acres
Acres	Available	With Condition	Not Available

Dominant Site Conditions

3J

650	650	0	0	Aspen	
188	142	0	46	Cedar	46
4	4	0	0	Exposed Rock	
2	2	0	0	Low-Density Trees	
6	6	0	0	Lowland Aspen/Balsam Poplar	
223	69	0	155	Lowland Conifers	155
7	7	0	0	Lowland Deciduous	
57	57	0	0	Lowland Mixed Forest	
56	56	0	0	Lowland Shrub	
69	69	0	0	Mixed Upland Deciduous	
115	115	0	0	Northern Hardwood	
9	9	0	0	Tamarack	
68	68	0	0	Upland Mixed Forest	
14	14	0	0	Upland Shrub	
12	12	0	0	Upland Spruce/Fir	
1	1	0	0	Water	
1,481	1,280		200	Total Forested Acres	200
	86%		14%	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)	46	Unspecified	Unspecified	Unspecified	Unspecified
Comments: Finntown Creek within stand							
2	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	22	1C: Other dept or div proc/practices	Unspecified	Unspecified	Unspecified
Comments: Quarry Creek buffers and Cedar harvesting restraints.							

Report 4 – Site Conditions

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3	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	133	1C: Other dept or div proc/practices	Unspecified	Unspecified	Unspecified
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Comments:
Tributary to West Branch of Sturgeon RMZ and Cedar harvesting restraints.



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
	Potential Old Growth		SCA Removal	703
Comments Conditional Winter Range, not deer yard				



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	6129 - Mixed Coniferous Lowland Forest	Poletimber Well	132.5	92	Unspecified	Pockets of Tamarack scattered throughout. Much Cedar and Ash.
2	4130 - Aspen	Sawtimber Well	18.3	77	Unspecified	Portions of stand are younger Aspen. Small hardwood pocket along South line. Aspen is large diameter and in decline. Small lowland inclusion in SW corner.
3	4130 - Aspen	Sapling Well	7.6	7	Immature	Cut in 2009
5	4130 - Aspen	Poletimber Well	26.7	36	Unspecified	Very healthy Aspen stand. Scattered supercanopy Pines throughout.
6	4130 - Aspen	Sapling Well	13.6	15	Unspecified	
7	4110 - Sugar Maple Association	Sawtimber Well	26.1	93	81-110	Thinned 2001. Rocky terrain.
8	42360 - Upland Cedar	Sawtimber Well	31.6	90	141-170	Thick upland Cedar stand. The wetter areas in stand are Black Ash and Cedar.
9	4130 - Aspen	Sapling Medium	23.4	22	Unspecified	Many pockets of unharvested timber from last treatment. Wet areas mixed with rocky areas. Pines, Oaks, Spruce, Fir, Aspen all represented in supercanopy layer.
10	6120 - Lowland Cedar	Poletimber Well	15.3	65	Unspecified	More Black Ash and Tag Alder to West
11	4130 - Aspen	Sapling Well	19.0	22	Immature	Many Cedar and Pines in supercanopy. Terrain is rocky with shallow soils.
12	6120 - Lowland Cedar	Poletimber Well	3.8	88	Unspecified	
13	4136 - Aspen, Mixed Conifer	Sawtimber Medium	82.9	75	Unspecified	Much of Spruce/Fir has died out of stand. Aspen and Birch in decline. Terrain varies from rock outcroppings to sloping valleys.
14	4130 - Aspen	Poletimber Well	12.2	38	Unspecified	Healthy Aspen stand. Scattered supercanopy trees retained from last harvest. Small Cedar pocket in middle of stand.
15	6120 - Lowland Cedar	Poletimber Well	7.3	89	Unspecified	Cedar stand with small upland inclusions.
16	4130 - Aspen	Poletimber Well	33.9	36	Unspecified	Rocky, shallow soils. Trees are healthy and growing well. Some older Aspen along edge.
18	4116 - Mixed N. Hardwood - Aspen	Sapling Well	5.8	13	Immature	Overstory fell apart due to old age and insect infestation. Aspen, Maple, Pines in supercanopy make up approx. 10 BA. Manage for current sapling layer established as part of normal forest succession.



Stand	Crystal Falls Mgt. Unit		Report 7 – Forested Stands			Compartment: 69 Year of Entry: 2018	
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	
19	6120 - Lowland Cedar	Poletimber Well	50.0	79	Unspecified		
20	4130 - Aspen	Poletimber Well	30.8	44	Unspecified	Supercanopy Pines throughout. Small lowland drainages are present. Healthy Aspen stand with sapling spruce/fir in understory.	
24	42340 - Upland Spruce/Fir	Sawtimber Well	12.0	77	Unspecified	Much mortality on the Spruce and Fir due to Spruce Budworm.	
25	4191 - Mixed Upland Deciduous with Conifer	Poletimber Medium	52.6	79	Unspecified	Much mortality on Spruce/Fir from Spruce budworm. Many windthrown trees due to shallow rocky soils. Small pockets of poor quality hardwoods are present. Understory is full of 1-2 stick conifers. Over time, much Aspen has fallen out of the stand due to old age. Edges of stand are fully stocked while middle has poor stocking. Stand is situated on E-W rock outcropping.	
26	6120 - Lowland Cedar	Poletimber Well	24.9	90	Unspecified	Much of Cedar is on NW side of trail.	
27	4130 - Aspen	Sapling Well	7.0	38	Unspecified	Wet to South. Middle portion of stand unharvested.	
29	4130 - Aspen	Sawtimber Well	12.5	76	Unspecified	Steep rock ridge running east-west. Access from private. Aspen in decline. Much small spruce/fir. Difficult operability.	
30	6121 - Tamarack	Poletimber Medium	6.6	65	Unspecified	Stand surrounded by rock. Tamarack growing well particularly on edges.	
31	4319 - Mixed Upland Forest	Sawtimber Medium	25.5	77	51-80	Many different ages of Aspen. Areas within stand are 5" DBH, while other areas 16" DBH. Budworm damage evident. Larger diameter Aspen in decline, while the younger Aspen is healthy. Rocky areas within stand make operability difficult.	
33	4110 - Sugar Maple Association	Poletimber Well	4.1	65	111-140	Young hardwood stand situated on rock top. Heavy sedge layer in understory.	
34	4191 - Mixed Upland Deciduous with Conifer	Sawtimber Medium	16.1	79	51-80	Large diameter overstory Aspen with thick 2-3 stick Spruce/Fir understory. Many small openings in and around stand. Aspen in decline. Spruce Budworm evident. Small hardwood pocket on East side of stand did not make minimum mapping standards.	
35	6120 - Lowland Cedar	Poletimber Well	45.7	92	Unspecified	Finntown creek runs through middle of stand.	
36	6121 - Tamarack	Sapling Well	2.4	6	Immature	Regenerating well for being harvested only 5 years ago. Even mix of Tamarack and Spruce. Supercanopy Cedar on edges.	
37	4130 - Aspen	Sapling Well	4.4	6	Immature		
39	6120 - Lowland Cedar	Poletimber Well	3.5	92	Unspecified		



Stand	Crystal Falls Mgt. Unit		Report 7 – Forested Stands			Compartment: 69 Year of Entry: 2018
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
40	4110 - Sugar Maple Association	Poletimber Well	8.1	88	81-110	Thinned 2010. Rocky ground with poor quality trees.
41	4110 - Sugar Maple Association	Poletimber Well	11.2	88	81-110	Thinned 2010. Rocky terrain with poor quality trees.
42	4319 - Mixed Upland Forest	Poletimber Medium	42.2	43	Unspecified	Much mortality due to budworm. Aspen in decline. Very patchy stand. Was an unforested opening at one point but has now grown in. Most of volume is on edges of stand. Supercanopy Pines throughout. Some small drainages exist within stand.
43	4130 - Aspen	Sapling Well	55.5	15	Unspecified	Cut 2001 "Foster Burbs" t-sale. Small drainages throughout. Scattered mixed conifers present as well.
45	6132 - Mixed Lowland Forest with Cedar	Poletimber Medium	17.8	71	Unspecified	This stand is a series of drainages. Aspen/Spruce/Fir on edges where it is drier. Cedar, Ash in wet areas.
46	6111 - Lowland Balsam Poplar	Sapling Well	5.9	31	Immature	Supercanopy Tamarack, Ash, and BAM throughout. Small upland inclusion holding Spruce/Fir/BAM.
48	4130 - Aspen	Poletimber Well	163.7	36	Unspecified	Many drainages throughout stand. These drainages hold Black Ash and Tag Alder. Some areas of stand have high quality Aspen. Small upland Hemlock/Cedar stand along road did not meet minimum mapping criteria.
49	4130 - Aspen	Sapling Well	32.0	5	Immature	Rocky terrain. Aspen regenerating well in most spots. Scattered supercanopy Cedar and Pines. Small drainages throughout.
50	4110 - Sugar Maple Association	Poletimber Well	9.8	81	81-110	Thinned in 1996
51	4130 - Aspen	Sapling Well	55.3	20	Immature	Many wet areas throughout.
52	6132 - Mixed Lowland Forest with Cedar	Poletimber Medium	39.0	71	Unspecified	Wet drain.
53	6115 - Lowland Ash	Poletimber Well	6.7	71	Unspecified	
54	4130 - Aspen	Poletimber Medium	32.2	39	Unspecified	Rocky terrain. System of drains throughout.
55	4130 - Aspen	Poletimber Well	19.4	38	Unspecified	Thick Spruce/Fir understory. Rocky terrain.
56	6128 - Lowland Coniferous, Mixed Deciduous	Poletimber Well	22.2	72	Unspecified	Mix of rock and water. Rugged terrain. Uplands within stand are rock outcroppings. Cedar growing on rocks and in the lowlands. Maneuverability is an issue. Quarry Creek runs through middle of stand.
57	4110 - Sugar Maple Association	Poletimber Well	23.7	80	111-140	Stand is situated on somewhat rocky terrain. Many splits, forks, defects. Heavy sedge understory.

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Crystal Falls Mgt. Unit

Report 7 – Forested Stands

Compartment: 69
Year of Entry: 2018



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
58	4110 - Sugar Maple Association	Poletimber Well	10.8	72	51-80	Unique stand of Ash. Low stocking. Situated on top of rock outcropping. Supercanopy Pines throughout.
59	4110 - Sugar Maple Association	Sawtimber Well	15.4	75	81-110	Situated on rocky outcroppings. Heavy to Basswood. Thinned 2002.
60	6120 - Lowland Cedar	Poletimber Well	5.8	86	Unspecified	
61	6129 - Mixed Coniferous Lowland Forest	Sapling Poor	68.7	51	Unspecified	Very wet. Few merchantable trees. A couple small upland inclusions. Stand growing better on far Eastern and Western reaches of stand.



Stand	Cover Type	Acres	Managed Site	General Comments:
4	500 - Water	1.1	No	OPIC - FMD: SC=deer yard
17	6220 - Alder/willow	33.5	No	OPIC - FMD: There are pockets of solid hardwood in this stand but quality is poor; this should be treated even aged/hard shelterwood in denser hardwood areas to promote seedlings in next entry- visited with Jim Ferris 3-6-06; SC=deer yard 1978 map
21	6221 - Fen	1.1	No	
22	320 - Upland Shrub	1.7	No	
23	320 - Upland Shrub	3.1	No	
28	6220 - Alder/willow	21.5	No	OPIC - FMD: OI Stand Year Origin was 1969
32	720 - Exposed Rock	3.7	No	
38	330 - Low-Density Trees	2.3	No	OPIC - FMD: OI Stand Year Origin was 1924
44	320 - Upland Shrub	7.9	No	OPIC - FMD: OI Stand Year Origin was 1969
47	320 - Upland Shrub	1.3	No	OPIC - FMD: Moving to A6