



# Compartment Review Presentation

Crystal Falls Forest Management Unit

Compartment 12079

Entry Year 2017

Acreage: 1,667

County Dickinson

Management Area: Cassidy Creek

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**Revision Date:** 2015-08-05

**Stand Examiner:** Andrew Church

**Legal Description:**

T41N R29W Sections 22-24

**Identified Planning Goals:**

Optimize sustainable timber production while enhancing and protecting wildlife habitat. Protect riparian areas during management activity implementing the Best Management Practices guidelines.

**Soil and topography:**

Soils are a mixture of Cathro mucks, fine sandy loams, and rock outcroppings. Terrain is also variable from lowlands to small rolling hills to steep rock outcroppings.

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

Most of this compartment is contiguous State of Michigan ownership with a few private landowners within the boundary. Hunting, trapping, camping, fishing, and cross country skiing are the main recreational use patterns.

**Unique Natural Features:**

Mitchell Creek and West Branch of Sturgeon River. Granite Bedrock Glade ERA.

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

No Archeological, Historical, or Cultural features known.

**Special Management Designations or Considerations:**

Number of high quality natural communities in or near compartment. Granite Bedrock Glade ERA just s. of section 22. Portions of granite bedrock glade occur in southwestern portion of compartment. Granite cliff just s of section 22, dry-mesic northern forest to s of section 22; poor fen to s, submergent marsh just s of section 22; northern wet meadow to s in section 34; granite bedrock glade to sw and n; northern hardwoods swamp; granite cliff - section 10.

**Watershed and Fisheries Considerations:**

Mitchell Creek and the West Branch of the Sturgeon River run through this compartment and are Type I Trout Streams. Minimum buffers should be implemented. Streams, regardless of their size or frequency of flow, are connected to downstream waters and strongly influence their function. Additionally, wetlands and open waters in riparian areas and floodplains are physically, chemically, and biologically integrated with rivers via functions that improve downstream water quality. These systems act as effective buffers to protect downstream waters from pollution and are essential components of river food webs. BMP's should be implemented to control sediment sources from adjacent uplands. Fine sediments such as silt and sand negatively affect natural reproduction of fish, decrease the diversity of aquatic invertebrate and fish taxa, and result in lower overall fish populations.

**Wildlife Habitat Considerations:**

This compartment fall within the historic Sturgeon River Deer Wintering Complex. White-tailed deer was selected as a featured species to manage for critical habitat conditions which include important conifers, primarily hemlock, cedar and white pine, for winter cover, travel corridors and upland dispersal for forage. Forest openings will also be managed to provide important spring and summer forage. Black bear manage for refuge trees, forest openings and mast producing trees and shrubs. Maximizing age class diversity, decreasing stand size and maintaining the conifer component in aspen stands will provide grouse and woodcock. Maintaining mature forest conditions will provide critical habitat for northern goshawk and Blackburnian warbler. Wood duck critical habitat call for mature forest conditions to provide for nesting cavities and open water foraging in riparian corridors, lowland hardwoods, lowland conifers, vernal ponds and drainages.

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

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and minor amounts of medium-textured till. There is insufficient data to determine the glacial drift thickness. The Precambrian Michigamme Formation and Archean granite/gneiss underlie the glacial drift. There is not a current economic use for these rocks, but the granite/gneiss

may have building/dimension stone potential. The Groveland Mine is located approximately three miles to the northwest. This compartment was previously leased for metallic mineral exploration and potential may still exist. Gravel pits are not located in the area, but there may be some potential. A former (inactive) State pit is located in Section 20. There is no economic oil and gas production in the UP.

**Vehicle Access:**

Access is excellent. Many poor forest roads are present within this compartment. The Merriman East Rd., Calumet Mine Rd., and Lyons Lake road are all gravel county roads.

**Survey Needs:**

Some.

**Recreational Facilities and Opportunities:**

Merriman Cross Country Ski Trail on Western side of compartment.

**Fire Protection:**

Fire response will be from the Norway or Crystal Fall DNR stations.

**Additional Compartment Information:**

The following reports from the Inventory are attached:

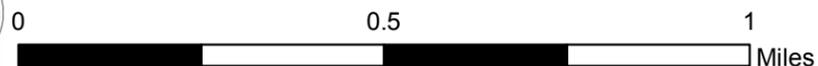
- Total Acres by Cover Type and Age Class
- Cover Type by Harvest Method
- Proposed Treatments – No Limiting Factors
- Proposed Treatments – With Limiting Factors
- Stand Details (Forested and Nonforested)
- Dedicated and Proposed Special Conservation Areas
- Site Condition Details

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

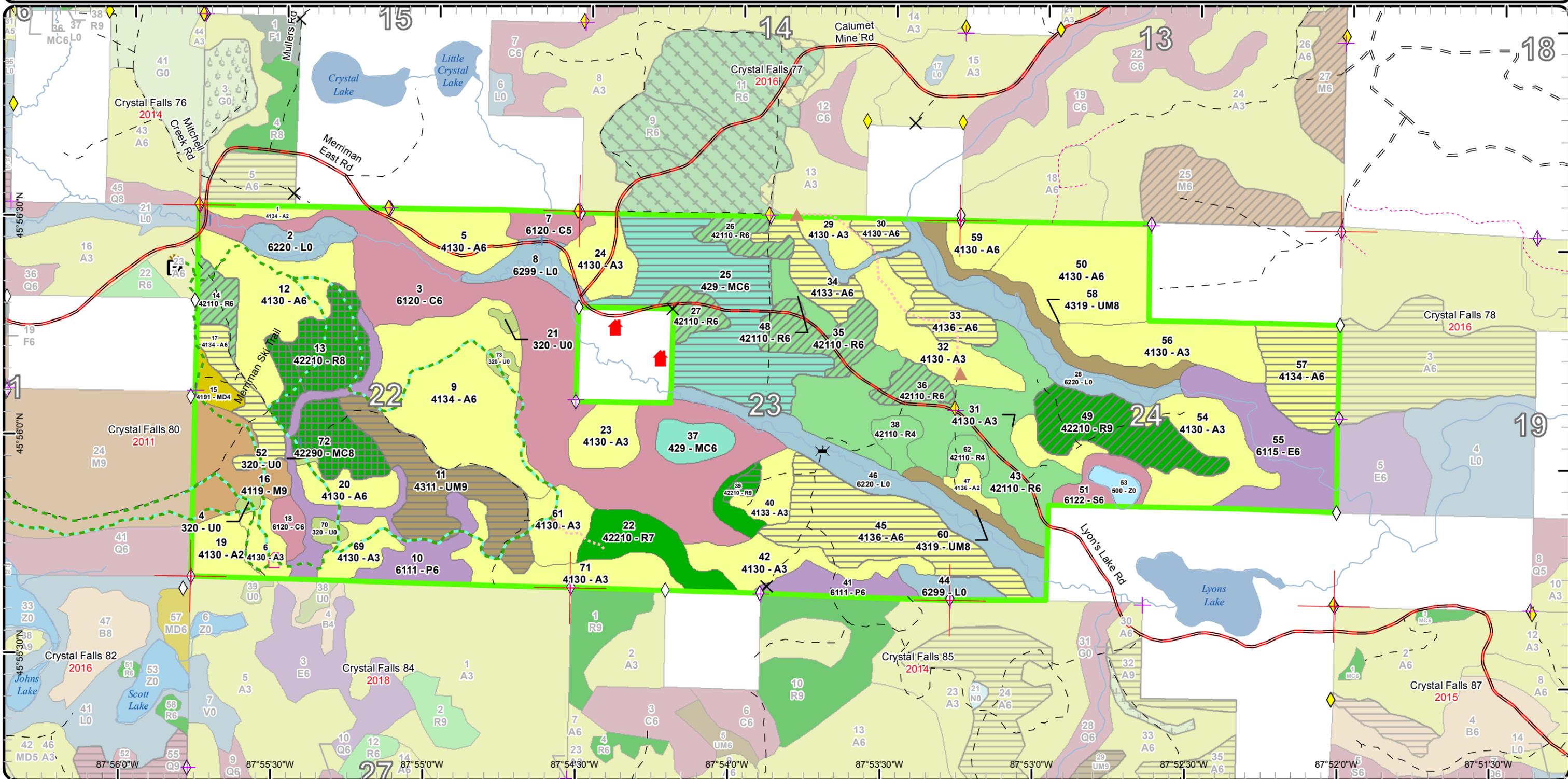
- Base feature information, stand boundaries, cover types, and numbers
- Proposed treatments
- Site condition boundaries
- Details on the road access system

# Cover Type & Treatments

Compartment: 79  
 T41N R29W 22-24  
 County: Dickinson  
 Unit: Crystal Falls  
 Mgmt Area: Cassidy Creek  
 YOE: 2017  
 Acres: 1667 GIS Calculated  
 Examiner: Andrew Church  
 Map Revised: 8/27/2015  
 Map Phase: Pre-Review

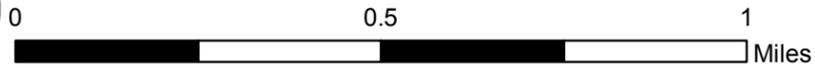
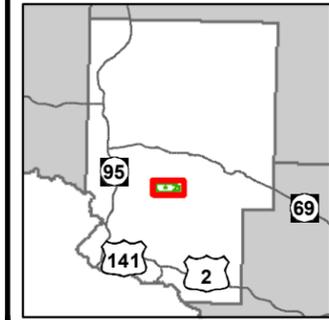


- ✚ Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Miris Corners
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Designated Hiking Pathways
- Designated Ski Trails
- ✕ Gate
- ▲ Berms
- ✚ Bridges
- Culverts
- P Parking Lot
- ✚ Trailhead
- Rivers
- Lakes
- Treatments
- ▭ Clearcut (w/Reserves)
- ▨ Thinning (Crown, Low, Systematic)
- ▩ Seed Tree (w/Reserves)
- Forest Covertype
- 500 - Water
- 411 - Northern Hardwood
- 413 - Aspen
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 429 - Mixed Upland Conifers
- 430 - Upland Mixed Fores
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- Non-Forest Covertype
- 320 - Upland Shrub
- 622 - Lowland Shrub

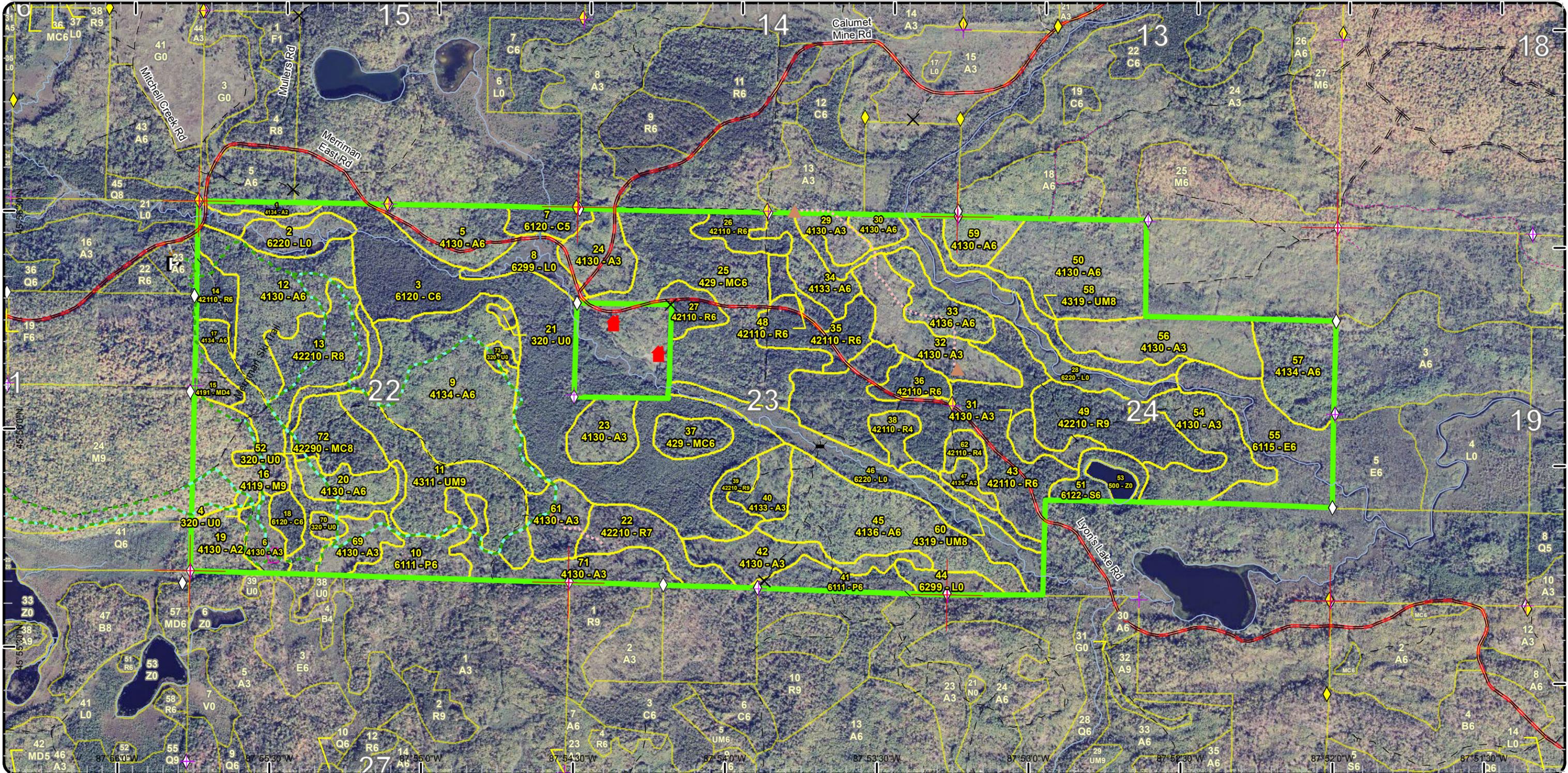


# Stand Boundary Map

Compartment: 79  
 T41N R29W 22-24  
 County: Dickinson  
 Unit: Crystal Falls  
 Mgmt Area: Cassidy Creek  
 YOE: 2017  
 Acres: 1667 GIS Calculated  
 Examiner: Andrew Church  
 Map Revised: 8/27/2015  
 Map Phase: Pre-Review

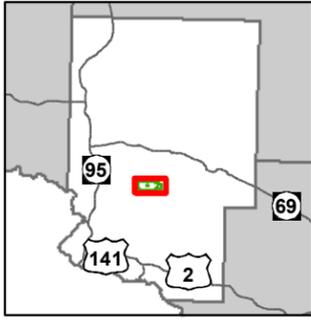
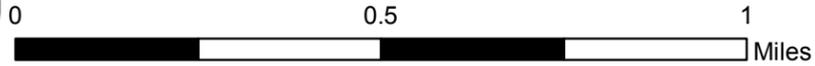


- ✚ Remonumented Section Corners
- ◆ Survey Grade GPS Corners
- ◇ Field Grade GPS Corners
- Miris Corners
- County Gravel Roads
- Gravel Roads
- - Poor Dirt Roads
- - - Trail (Non-Recreation)
- ⋯ Closed Roads
- - - Designated Hiking Pathways
- - - Designated Ski Trails
- ✕ Gate
- ▲ Berms
- ✕ Bridges
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- Stand Boundaries
- Forest Cotype
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- 421 - Planted Pines
- 422 - Natural Pines
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- 430 - Upland Mixed Forests
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- Non-Forest Cotype
- 320 - Upland Shrub
- 500 - Water
- 622 - Lowland Shrub

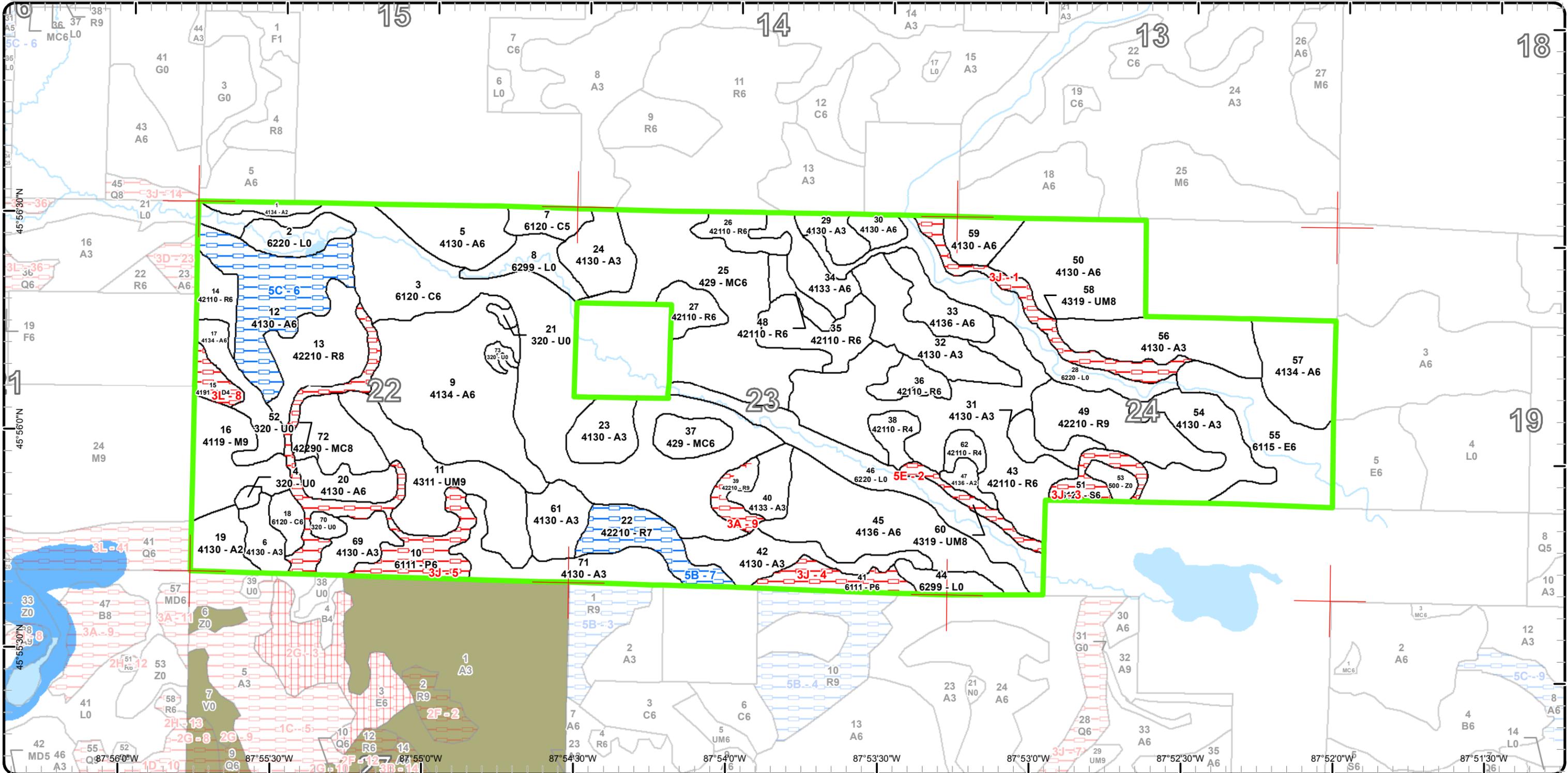


# Special Conservation Areas & Site Conditions Map

Compartment: 79  
 T41N R29W 22-24  
 County: Dickinson  
 Unit: Crystal Falls  
 Mgmt Area: Cassidy Creek  
 YOE: 2017  
 Acres: 1667 GIS Calculated  
 Examiner: Andrew Church  
 Map Revised: 8/27/2015  
 Map Phase: Pre-Review



- Miris Corners
- Stand Boundaries
- Site Condition
- Available w/ Constraints
- Unavailable
- Available Factors W/ Constraints
  - 5B: Maintain for regeneration purposes
  - 5C: Delay treatment for age/size class diversity or exceptional site quality
- Unavailable Factors
  - 3A: Potential old growth / biodiversity
  - 3J: Water quality / BMPs (stream, river, or lake)
  - 3L: Other wildlife concerns
  - 5E: Long-Term Retention Special Conservation Areas
  - Cold Water Streams
  - Cold Water Lakes
  - High Priority Trout Stream Buffer



# Report 1 – Total Acres by Cover Type and Age Class

Crystal Falls Mgt. Unit  
Andrew Church : Examiner

Compartment 79    Year of Entry 2017



## 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          | 122        | 105        | 130        | 27        | 141        | 124        | 33         | 0         | 0          | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 26          | 708         |
| Cedar                       | 0          | 0          | 0          | 0          | 0         | 0          | 0          | 0          | 17        | 161        | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 0           | 178         |
| Lowland Aspen/Balsam Poplar | 0          | 0          | 0          | 0          | 15        | 0          | 0          | 0          | 0         | 46         | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 0           | 61          |
| Lowland Deciduous           | 0          | 0          | 0          | 0          | 0         | 0          | 0          | 0          | 0         | 0          | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 48          | 48          |
| Lowland Shrub               | 120        | 0          | 0          | 0          | 0         | 0          | 0          | 0          | 0         | 0          | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 0           | 120         |
| Lowland Spruce/Fir          | 0          | 0          | 0          | 0          | 0         | 0          | 0          | 0          | 0         | 11         | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 0           | 11          |
| Mixed Upland Deciduous      | 0          | 0          | 0          | 0          | 0         | 0          | 0          | 0          | 0         | 7          | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 0           | 7           |
| Natural Mixed Pines         | 0          | 0          | 0          | 0          | 0         | 0          | 0          | 0          | 0         | 0          | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 21          | 21          |
| Northern Hardwood           | 0          | 0          | 0          | 0          | 0         | 0          | 0          | 0          | 0         | 0          | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 31          | 31          |
| Red Pine                    | 0          | 0          | 0          | 0          | 0         | 0          | 183        | 0          | 0         | 24         | 39        | 0        | 9        | 0        | 0        | 0        | 0        | 34          | 289         |
| Upland Conifers             | 0          | 0          | 0          | 0          | 12        | 0          | 86         | 0          | 0         | 0          | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 0           | 98          |
| Upland Mixed Forest         | 0          | 0          | 0          | 0          | 0         | 0          | 0          | 71         | 8         | 0          | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 0           | 79          |
| Upland Shrub                | 11         | 0          | 0          | 0          | 0         | 0          | 0          | 0          | 0         | 0          | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 0           | 11          |
| Water                       | 5          | 0          | 0          | 0          | 0         | 0          | 0          | 0          | 0         | 0          | 0         | 0        | 0        | 0        | 0        | 0        | 0        | 0           | 5           |
| <b>Total</b>                | <b>136</b> | <b>122</b> | <b>105</b> | <b>130</b> | <b>54</b> | <b>141</b> | <b>393</b> | <b>104</b> | <b>25</b> | <b>249</b> | <b>39</b> | <b>0</b> | <b>9</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>160</b>  | <b>1667</b> |



## Report 2 – Treatment Summary

Crystal Falls Mgt. Unit  
Year of Entry: 2017

Acres of Harvest

Compartment 79  
Total Compartment Acres: 1,667

Commercial Harvest - 455  
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               | 157        | 0         | 0              | 0         | 0           | 0          | 0                 | 0        | 0        | 157         |
| Natural Mixed Pines | 0          | 0         | 0              | 21        | 0           | 0          | 0                 | 0        | 0        | 21          |
| Red Pine            | 3          | 0         | 0              | 34        | 0           | 104        | 0                 | 0        | 0        | 141         |
| Upland Conifers     | 86         | 0         | 0              | 0         | 0           | 0          | 0                 | 0        | 0        | 86          |
| Upland Mixed Forest | 50         | 0         | 0              | 0         | 0           | 0          | 0                 | 0        | 0        | 50          |
| <b>Total</b>        | <b>296</b> | <b>0</b>  | <b>0</b>       | <b>55</b> | <b>0</b>    | <b>104</b> | <b>0</b>          | <b>0</b> | <b>0</b> | <b>455</b>  |

### Proposed and Next Step Treatments by Method

|              | Harvest    | Site Prep  | Planting  | Seeding  | Burning  | Pesticide | Monitoring | Other    | Non-Forest Mgt. | Total Acres |
|--------------|------------|------------|-----------|----------|----------|-----------|------------|----------|-----------------|-------------|
| Current      | 455        | 0          | 0         | 0        | 0        | 0         | 0          | 0        | 0               | 455         |
| Next Step    | 0          | 144        | 86        | 0        | 0        | 86        | 343        | 0        | 0               | 660         |
| <b>Total</b> | <b>455</b> | <b>144</b> | <b>86</b> | <b>0</b> | <b>0</b> | <b>86</b> | <b>343</b> | <b>0</b> | <b>0</b>        | <b>1115</b> |



| S<br>t<br>a<br>n<br>d | Treatment<br>Name | Acres | Stand<br>CoverType        | Size<br>Density   | Stand<br>Age | BA<br>Range | Treatment<br>Type | Treatment<br>Method        | Cover Type<br>Objective | Age<br>Structure | Approval<br>Status |
|-----------------------|-------------------|-------|---------------------------|-------------------|--------------|-------------|-------------------|----------------------------|-------------------------|------------------|--------------------|
| 11                    | 12079011-Cut      | 49.8  | 4311 - Pine, Aspen<br>Mix | Sawtimber<br>Well | 61           | 81-110      | Harvest           | Clearcut with<br>Retention | 413 - Aspen             | Even-Aged        | Proposal           |

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

Prescription Final harvest using 2" spec. Leave Pine, Cedar, Hemlock, Oak if found for Wildlife values.

Specs:

Next Step

Treatments:

Acceptable Maple, Spruce, Fir

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

|    |              |      |                             |                     |    |       |         |                             |                             |           |          |
|----|--------------|------|-----------------------------|---------------------|----|-------|---------|-----------------------------|-----------------------------|-----------|----------|
| 13 | 12079013-Cut | 25.7 | 42210 - Natural<br>Red Pine | Sawtimber<br>Medium | 97 | 51-80 | Harvest | Seed Tree with<br>Retention | 42210 - Natural<br>Red Pine | Even-Aged | Proposal |
|----|--------------|------|-----------------------------|---------------------|----|-------|---------|-----------------------------|-----------------------------|-----------|----------|

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

Prescription Target Residual BA of 10-20 sq. ft. of Red Pine. Cut all other species using 2" spec EXCEPT Cedar, Hemlock, Oak and Marked Pine. Mark

Specs: leave trees along ski trail for aesthetics.

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

Treatments:

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

Regen:

Other Next steps: Aggressive scarification via dozer. Treatment will encourage Red Pine. Expect Aspen/Fir regen on East side of stand. Old next step comments:

Proposed Start Date: 10/1 /2016

|    |               |     |                             |                     |    |       |         |                             |                             |           |          |
|----|---------------|-----|-----------------------------|---------------------|----|-------|---------|-----------------------------|-----------------------------|-----------|----------|
| 13 | 12079013-Cutx | 7.9 | 42210 - Natural<br>Red Pine | Sawtimber<br>Medium | 97 | 51-80 | Harvest | Seed Tree with<br>Retention | 42210 - Natural<br>Red Pine | Even-Aged | Proposal |
|----|---------------|-----|-----------------------------|---------------------|----|-------|---------|-----------------------------|-----------------------------|-----------|----------|

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

Prescription Target Residual BA of 20-40 sq. ft. of Mixed Pine favoring White Pine. Cut all other species using 2" spec EXCEPT Cedar, Hemlock, Oak and

Specs: Marked Pine. Mark leave trees along ski trail for aesthetics.

Next Step

Treatments:

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

Regen:

Other Next steps: Aggressive scarification via dozer. Expect Mixed Pine/Spruce/Fir. Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

|    |              |      |                             |                    |    |             |         |                        |                             |           |          |
|----|--------------|------|-----------------------------|--------------------|----|-------------|---------|------------------------|-----------------------------|-----------|----------|
| 14 | 12079014-Cut | 10.9 | 42110 - Planted<br>Red Pine | Poletimber<br>Well | 55 | 141-<br>170 | Harvest | Systematic<br>Thinning | 42210 - Natural<br>Red Pine | Even-Aged | Proposal |
|----|--------------|------|-----------------------------|--------------------|----|-------------|---------|------------------------|-----------------------------|-----------|----------|

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

Prescription Thin for access removing 1/3rd of the total volume from stand. Leave Aspen unless needed for access.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016



| S<br>t<br>a<br>n<br>d | Treatment<br>Name | Acres | Stand<br>CoverType          | Size<br>Density    | Stand<br>Age | BA<br>Range     | Treatment<br>Type | Treatment<br>Method        | Cover Type<br>Objective     | Age<br>Structure | Approval<br>Status |
|-----------------------|-------------------|-------|-----------------------------|--------------------|--------------|-----------------|-------------------|----------------------------|-----------------------------|------------------|--------------------|
| 17                    | 12079017-Cut      | 17.8  | 4134 - Aspen,<br>Spruce/Fir | Poletimber<br>Well | 55           | Unspec<br>ified | Harvest           | Clearcut with<br>Retention | 4134 - Aspen,<br>Spruce/Fir | Even-Aged        | Proposal           |

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

Prescription Final Harvest using 2" spec. Leave Cedar, White Pine, Hemlock, Oak if found. Also leave Spruce and Fir less than 6" on the stump.

Specs:

Next Step

Treatments:

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

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

|    |              |      |                                |                    |    |             |         |          |                            |           |          |
|----|--------------|------|--------------------------------|--------------------|----|-------------|---------|----------|----------------------------|-----------|----------|
| 25 | 12079025-Cut | 86.2 | 429 - Mixed Upland<br>Conifers | Poletimber<br>Well | 55 | 141-<br>170 | Harvest | Clearcut | 4211 - Planted<br>Red Pine | Even-Aged | Proposal |
|----|--------------|------|--------------------------------|--------------------|----|-------------|---------|----------|----------------------------|-----------|----------|

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

Prescription Final Harvest using 2" spec. Leave Cedar, Hemlock, Oak if found. Low stumps and chipping required to facilitate planting operations. 300 foot

Specs: buffer on Mitchell Creek. WLD to interplant Oak once plantation established.

Next Step ; Pesticide, Aerial; SitePrep, Trenching; Planting, Replant; Monitoring, Artificial Regen(3yr)

Treatments:

Acceptable Planted Red Pine

Regen:

Other Recommend starting over plantation with proper site prep techniques and spacing.

Comment: Next steps: Herbicide, trench, plant to Red Pine on a 6X8 foot spacing.

Move Comp 77 to FY 2017 to coincide with planting operations in Comp 79. Old next step comments:

Proposed Start Date: 10/1 /2016

|    |              |      |                             |                    |    |             |         |                        |                            |           |          |
|----|--------------|------|-----------------------------|--------------------|----|-------------|---------|------------------------|----------------------------|-----------|----------|
| 26 | 12079026-Cut | 11.5 | 42110 - Planted<br>Red Pine | Poletimber<br>Well | 55 | 171-<br>200 | Harvest | Systematic<br>Thinning | 4211 - Planted<br>Red Pine | Even-Aged | Proposal |
|----|--------------|------|-----------------------------|--------------------|----|-------------|---------|------------------------|----------------------------|-----------|----------|

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

Prescription Thin for access removing 1/3rd of stand volume. Leave all Aspen unless needed for access.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

|    |              |      |                             |                    |    |             |         |                        |                            |           |          |
|----|--------------|------|-----------------------------|--------------------|----|-------------|---------|------------------------|----------------------------|-----------|----------|
| 27 | 12079027-Cut | 10.4 | 42110 - Planted<br>Red Pine | Poletimber<br>Well | 55 | 171-<br>200 | Harvest | Systematic<br>Thinning | 4211 - Planted<br>Red Pine | Even-Aged | Proposal |
|----|--------------|------|-----------------------------|--------------------|----|-------------|---------|------------------------|----------------------------|-----------|----------|

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

Prescription Thin for access removing 1/3rd of stand volume. Leave all Aspen unless needed for access.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016



| S<br>t<br>a<br>n<br>d | Treatment<br>Name | Acres | Stand<br>CoverType | Size<br>Density    | Stand<br>Age | BA<br>Range     | Treatment<br>Type | Treatment<br>Method        | Cover Type<br>Objective | Age<br>Structure | Approval<br>Status |
|-----------------------|-------------------|-------|--------------------|--------------------|--------------|-----------------|-------------------|----------------------------|-------------------------|------------------|--------------------|
| 30                    | 12079030-Cut      | 6.5   | 4130 - Aspen       | Poletimber<br>Well | 55           | Unspec<br>ified | Harvest           | Clearcut with<br>Retention | 413 - Aspen             | Even-Aged        | Proposal           |

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

Prescription Final Harvest using 2" spec. Leave Cedar, Hemlock, Oak, White Pine, and Cherry if found. Buffer Sturgeon River 300 feet.

Specs:

Next Step

Treatments:

Acceptable Spruce/Fir/Maple

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

|    |              |      |                                |                    |    |                 |         |                            |             |           |          |
|----|--------------|------|--------------------------------|--------------------|----|-----------------|---------|----------------------------|-------------|-----------|----------|
| 33 | 12079033-Cut | 18.7 | 4136 - Aspen,<br>Mixed Conifer | Poletimber<br>Well | 55 | Unspec<br>ified | Harvest | Clearcut with<br>Retention | 413 - Aspen | Even-Aged | Proposal |
|----|--------------|------|--------------------------------|--------------------|----|-----------------|---------|----------------------------|-------------|-----------|----------|

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

Prescription Final Harvest using 2" spec. Leave Cedar, White Pine, Cherry, Hemlock, Oak if found. Buffer Sturgeon River 300 feet.

Specs:

Next Step

Treatments:

Acceptable Maple/Fir/Spruce

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

|    |              |      |                             |                    |    |        |         |                            |             |           |          |
|----|--------------|------|-----------------------------|--------------------|----|--------|---------|----------------------------|-------------|-----------|----------|
| 34 | 12079034-Cut | 17.1 | 4133 - Aspen,<br>Mixed Pine | Poletimber<br>Well | 55 | 81-110 | Harvest | Clearcut with<br>Retention | 413 - Aspen | Even-Aged | Proposal |
|----|--------------|------|-----------------------------|--------------------|----|--------|---------|----------------------------|-------------|-----------|----------|

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

Prescription Final Harvest using 2" spec. Leave Cedar, White Pine, Cherry, Hemlock, Oak if found.

Specs:

Next Step

Treatments:

Acceptable Aspen/Spruce/Fir/Maple

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

|    |              |      |                             |                    |    |             |         |                        |                            |           |          |
|----|--------------|------|-----------------------------|--------------------|----|-------------|---------|------------------------|----------------------------|-----------|----------|
| 35 | 12079035-Cut | 23.0 | 42110 - Planted<br>Red Pine | Poletimber<br>Well | 55 | 171-<br>200 | Harvest | Systematic<br>Thinning | 4211 - Planted<br>Red Pine | Even-Aged | Proposal |
|----|--------------|------|-----------------------------|--------------------|----|-------------|---------|------------------------|----------------------------|-----------|----------|

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

Prescription Thin for access removing 1/3rd of stand volume.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016



| S<br>t<br>a<br>n<br>d | Treatment<br>Name | Acres | Stand<br>CoverType          | Size<br>Density    | Stand<br>Age | BA<br>Range | Treatment<br>Type | Treatment<br>Method    | Cover Type<br>Objective    | Age<br>Structure | Approval<br>Status |
|-----------------------|-------------------|-------|-----------------------------|--------------------|--------------|-------------|-------------------|------------------------|----------------------------|------------------|--------------------|
| 36                    | 12079036-Cut      | 10.1  | 42110 - Planted<br>Red Pine | Poletimber<br>Well | 55           | 171-<br>200 | Harvest           | Systematic<br>Thinning | 4211 - Planted<br>Red Pine | Even-Aged        | Proposal           |

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

Prescription Thin for access removing 1/3rd of stand volume.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

|    |              |     |                             |                   |     |             |         |                            |              |           |          |
|----|--------------|-----|-----------------------------|-------------------|-----|-------------|---------|----------------------------|--------------|-----------|----------|
| 39 | 12079039-Cut | 3.1 | 42210 - Natural<br>Red Pine | Sawtimber<br>Well | 110 | 111-<br>140 | Harvest | Clearcut with<br>Retention | 4130 - Aspen | Even-Aged | Proposal |
|----|--------------|-----|-----------------------------|-------------------|-----|-------------|---------|----------------------------|--------------|-----------|----------|

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

Prescription Final Harvest using 2" spec. Leave Pine, Cedar, Hemlock, Oak if found.

Specs:

Next Step

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

Treatments:

Acceptable Aspen, Spruce, Fir, Pine, Maple

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

|    |              |      |                                |                    |    |                 |         |                            |             |           |          |
|----|--------------|------|--------------------------------|--------------------|----|-----------------|---------|----------------------------|-------------|-----------|----------|
| 45 | 12079045-Cut | 63.5 | 4136 - Aspen,<br>Mixed Conifer | Poletimber<br>Well | 58 | Unspec<br>ified | Harvest | Clearcut with<br>Retention | 413 - Aspen | Even-Aged | Proposal |
|----|--------------|------|--------------------------------|--------------------|----|-----------------|---------|----------------------------|-------------|-----------|----------|

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

Prescription .Final Harvest using 2" spec. Leave Cedar, White Pine, Cherry, Hemlock, Oak if found. Buffer Sturgeon River 300 feet.

Specs:

Next Step

Treatments:

Acceptable Maple, Spruce, Fir

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

|    |              |      |                             |                   |    |             |         |                |                             |           |          |
|----|--------------|------|-----------------------------|-------------------|----|-------------|---------|----------------|-----------------------------|-----------|----------|
| 49 | 12079049-Cut | 38.5 | 42210 - Natural<br>Red Pine | Sawtimber<br>Well | 95 | 111-<br>140 | Harvest | Crown Thinning | 42210 - Natural<br>Red Pine | Even-Aged | Proposal |
|----|--------------|------|-----------------------------|-------------------|----|-------------|---------|----------------|-----------------------------|-----------|----------|

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

Prescription Crown thin. Target 80-90 RBA. Favor Large crowned supercanopy White Pines for Wildlife.

Specs:

Next Step

Treatments:

Acceptable

Regen:

Other Old next step comments:

Comment:

Proposed Start Date: 10/1 /2016

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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 |
|-----------------|-------|--------------------------|-----------------|-----------|-------------|----------------|-------------------------|----------------------|---------------|-----------------|
| 57 12079057-Cut | 33.2  | 4134 - Aspen, Spruce/Fir | Poletimber Well | 66        | Unspecified | Harvest        | Clearcut with Retention | 413 - Aspen          | Even-Aged     | Proposal        |

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

Prescription Final Harvest using 2" spec. Leave Cedar, Hemlock, Oak, and Pine if found. Also leave submerchantable conifer and Ash. Buffer any stream  
Specs: found within stand 100 feet each side. Buffer Sturgeon River 300 feet.

Next Step  
Treatments:

Acceptable Maple/Fir  
Regen:

Other Bump up treatment to FY 16 (Oct 1 2015) to be managed with harvest in Comp 78 Stand #3 to East. Old next step comments:  
Comment:

Proposed Start Date: 10/1 /2015

|                 |      |                            |                  |    |       |         |                          |                             |          |          |
|-----------------|------|----------------------------|------------------|----|-------|---------|--------------------------|-----------------------------|----------|----------|
| 72 12079072-Cut | 21.4 | 42290 - Natural Mixed Pine | Sawtimber Medium | 97 | 51-80 | Harvest | Seed Tree with Retention | 429 - Mixed Upland Conifers | Two-Aged | Proposal |
|-----------------|------|----------------------------|------------------|----|-------|---------|--------------------------|-----------------------------|----------|----------|

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

Prescription Target Residual BA of 20-40 sq. ft. of Mixed Pine favoring White Pine. Cut all other species using 2" spec EXCEPT: Cedar, Hemlock, Oak and  
Specs: Marked Pine. Mark some leave tree along the ski trail for aesthetics.

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

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

Other Next steps: Aggressive scarification via dozer. This treatment will encourage a mix of White Pine, Spruce, and Fir. Retention along lowland  
Comment: transition zone. Old next step comments:

Proposed Start Date: 10/1 /2016

**Total Treatment**  
**Acreage Proposed: 455.5**

## Report 5 – Site Conditions

Crystal Falls Mgt. Unit  
Andrew Church : Examiner

Compartment: 79  
Year of Entry: 2017

### Availability for Management

| Total<br>Acres | Acres<br>Available | Acres Avail    |     | Acres<br>Not Available      | Dominant Site Conditions |    |    |    |    |    |    |  |
|----------------|--------------------|----------------|-----|-----------------------------|--------------------------|----|----|----|----|----|----|--|
|                |                    | With Condition |     |                             | 5B                       | 5C | 3A | 3D | 3J | 3L | 5E |  |
| 708            | 657                | 51             | 0   | Aspen                       |                          | 51 |    | 0  |    |    |    |  |
| 178            | 178                | 0              | 0   | Cedar                       |                          |    |    |    |    |    |    |  |
| 61             | 0                  | 0              | 61  | Lowland Aspen/Balsam Poplar |                          |    |    |    | 61 |    |    |  |
| 48             | 48                 | 0              | 0   | Lowland Deciduous           |                          |    |    |    |    |    |    |  |
| 120            | 120                | 0              | 0   | Lowland Shrub               |                          |    |    |    |    |    |    |  |
| 11             | 0                  | 0              | 11  | Lowland Spruce/Fir          |                          |    |    |    | 11 |    |    |  |
| 7              | 0                  | 0              | 7   | Mixed Upland Deciduous      |                          |    |    |    |    | 7  |    |  |
| 21             | 21                 | 0              | 0   | Natural Mixed Pines         |                          |    |    |    |    |    |    |  |
| 31             | 31                 | 0              | 0   | Northern Hardwood           |                          |    |    |    |    |    |    |  |
| 288            | 258                | 24             | 6   | Red Pine                    | 24                       |    | 6  | 0  |    |    |    |  |
| 99             | 99                 | 0              | 0   | Upland Conifers             |                          |    |    |    |    |    |    |  |
| 78             | 50                 | 0              | 29  | Upland Mixed Forest         |                          |    |    |    | 21 |    | 8  |  |
| 11             | 11                 | 0              | 0   | Upland Shrub                |                          |    |    |    |    |    |    |  |
| 5              | 5                  | 0              | 0   | Water                       |                          |    |    |    |    |    |    |  |
| 1,667          | 1,478              | 75             | 114 | Total Forested Acres        | 24                       | 51 | 6  | 0  | 93 | 7  | 8  |  |
|                | 89%                | 4%             | 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                     | 3J: Water quality / BMPs (stream, river, or lake) | 21    | 5E: Long-Term Retention                           | Unspecified          | Unspecified          | Unspecified          |
| <b>Comments:</b>                                     |                                 |   |       |   |                      |                      |                      |
| 2  | Unavailable                     | 5E: Long-Term Retention                           | 8     | 3J: Water quality / BMPs (stream, river, or lake) | Unspecified          | Unspecified          | Unspecified          |
| <b>Comments:</b><br>No cut buffer to Mitchell Creek. |                                 |   |       |   |                      |                      |                      |

## Report 5 – Site Conditions

Crystal Falls Mgt. Unit  
Andrew Church : Examiner

Compartment: 79  
Year of Entry: 2017

|   |                    |   |    |                            |   |             |             |
|---|--------------------|---|----|----------------------------|---|-------------|-------------|
| 3   | <b>Unavailable</b> | <b>3J: Water quality / BMPs<br/>(stream, river, or lake)</b>                                | 11 | Unspecified                | Unspecified                                 | Unspecified | Unspecified |
| <b>Comments:</b><br>Buffer to Moon Lake and some vernal ponds on West side of stand   |                    |   |    |                            |   |             |             |
| 4   | <b>Unavailable</b> | <b>3J: Water quality / BMPs<br/>(stream, river, or lake)</b>                                | 15 | 5E: Long-Term<br>Retention | Unspecified                                 | Unspecified | Unspecified |
| <b>Comments:</b><br>Stream through middle of stand. No-cut buffer along North side of stand.  |                    |   |    |                            |   |             |             |
| 5   | <b>Unavailable</b> | <b>3J: Water quality / BMPs<br/>(stream, river, or lake)</b>                                | 46 | 5E: Long-Term<br>Retention | 3G: Other Influence<br>zones - See comments | Unspecified | Unspecified |
| <b>Comments:</b><br>Stream located in several different parts of stand. No-cut buffers included from adjacent harvests.   |                    |   |    |                            |   |             |             |
| 6   | <b>Available</b>   | <b>5C: Delay treatment for<br/>age/size class diversity or<br/>exceptional site quality</b> | 51 | Unspecified                | Unspecified                                 | Unspecified | Unspecified |
| <b>Comments:</b><br>Recommend no harvest because stand is healthy and will gain volume next rotation.   |                    |   |    |                            |   |             |             |
| 7   | <b>Available</b>   | <b>5B: Maintain for<br/>regeneration purposes</b>   | 24 | Unspecified                | Unspecified                                 | Unspecified | Unspecified |
| <b>Comments:</b><br>This stand should be managed for the Pine/Aspen advanced regeneration in the understory. The timing is not right to remove overstory and release the understory this YOE. |                    |   |    |                            |   |             |             |
| 8   | <b>Unavailable</b> | <b>3L: Other wildlife<br/>concerns</b>  | 7  | Unspecified                | Unspecified                                 | Unspecified | Unspecified |
| <b>Comments:</b>  |                    |   |    |                            |   |             |             |

## Report 5 – Site Conditions

Crystal Falls Mgt. Unit  
Andrew Church : Examiner

Compartment: 79  
Year of Entry: 2017

|   |             |   |   |                                      |             |             |             |
|---|-------------|---|---|--------------------------------------|-------------|-------------|-------------|
| 9 | Unavailable | 3A: Potential old growth / biodiversity | 6 | 1C: Other dept or div proc/practices | Unspecified | Unspecified | Unspecified |
|---|-------------|---|---|--------------------------------------|-------------|-------------|-------------|

**Comments:**

Old growth stand condition favorable to WLD

Mgt. Unit

Compartment: #Type!

Year of Entry:



## Report 6 – 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 |
|-----------------|--------------|-------------|----------------|-------|
| <b>Comments</b> |              |             |                |       |

**Report 7 – 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 Lake            | A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.  |
| SCA               | Cold Water Stream          | A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.  |
| SCA               | Riparian Area              | A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.   |
| 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     | 4134 - Aspen, Spruce/Fir                   | Sapling Medium    | 5.5   | 15        | Immature    | Majority of this stand is within the 300 foot stream buffer.   |
| 3     | 6120 - Lowland Cedar                       | Poletimber Well   | 161.4 | 84        | Unspecified | Mostly Cedar with pockets of pure Tamarack and Spruce scattered within stand.  |
| 5     | 4130 - Aspen                               | Poletimber Well   | 26.4  | 50        | 81-110      | Most of Spruce/Fir in overstory has fallen out of stand due to budworm. This is an offsite Aspen stand. Much of the Quaking Aspen is breaking up and poor quality. The Bigtooth Aspen seems to be much healthier. Several different Aspen ages were observed. The ages and diameters are greatest on the East side of stand. |
| 6     | 4130 - Aspen                               | Sapling Well      | 10.9  | 5         | Unspecified | Many different species in supercanopy left unharvested from last treatment. Small rock outcroppings throughout. A couple inaccessible areas due to rock and water.   |
| 7     | 6120 - Lowland Cedar                       | Poletimber Medium | 9.6   | 78        | 81-110      | Tributary to Mitchell Creek runs through middle of stand.  |
| 9     | 4134 - Aspen, Spruce/Fir                   | Poletimber Well   | 89.4  | 40        | Unspecified | Some budworm damage observed on understory Fir. Aspen is varying densities.  |
| 10    | 6111 - Lowland Balsam Poplar               | Poletimber Well   | 45.8  | 87        | Unspecified | Stream comes and goes at various places throughout stand. Small Cedar pocket on East side of stand. Veins of young swamp hardwoods are also present. Some steep hillsides and bare rock faces exist as well.   |
| 11    | 4311 - Pine, Aspen Mix                     | Sawtimber Well    | 49.8  | 61        | 81-110      | Small drainage in middle of stand. Most of Birch has fallen out of stand. Budworm damage evident on Spruce/Fir. Varying ages, species, and structure of trees. Thick Spruce/Fir understory.  |
| 12    | 4130 - Aspen                               | Poletimber Well   | 51.3  | 49        | Unspecified | Scattered supercanopy Pines found throughout stand. Strip of older Aspen near creek within buffer. Parts of stand have planted Red Pine in understory. Stand should gain volume next rotation.   |
| 13    | 42210 - Natural Red Pine                   | Sawtimber Medium  | 33.6  | 97        | 51-80       | Many different sizes and species of trees represented. Large overstory Pines with thick polestand in understory naturally filling in openings of canopy. Understory is being suppressed by large canopied Pines. Budworm damage present on the Spruce/Fir. Eastern side of stand is heavier to Aspen/Fir.                    |
| 14    | 42110 - Planted Red Pine                   | Poletimber Well   | 10.9  | 55        | 141-170     | Poor form Red Pine plantation. Parts of plantation are overtopped by Aspen and have been suppressed for several years. Many holes or gaps within stand. Approximately 3.6 acres are pure Pine plantation.  |
| 15    | 4191 - Mixed Upland Deciduous with Conifer | Poletimber Poor   | 7.4   | 84        | 1-50        | Harvested 2000. Many trees left unharvested when last treated. Aspen in understory is not fully stocked.   |
| 16    | 4119 - Mixed Northern Hardwoods            | Sawtimber Well    | 31.2  | 89        | 81-110      | Entire stand is a seep. Most likely wet year round. A few conifers within stand. Thinned in 2005.  |



| Stand | Level 4 Cover Type          | Size Density    | Acres | Stand Age | BA Range    | General Comments:   |
|-------|-----------------------------|-----------------|-------|-----------|-------------|---|
| 17    | 4134 - Aspen, Spruce/Fir    | Poletimber Well | 17.8  | 55        | Unspecified | Very diverse stand. Mix of conifer, mixed hardwoods, and Aspen. Some scattered supercanopy Pines found throughout stand. The North of road in stand has planted Red Pine in understory of large Aspen.  |
| 18    | 6120 - Lowland Cedar        | Poletimber Well | 7.0   | 76        | Unspecified | Healthy young Cedar stand.  |
| 19    | 4130 - Aspen                | Sapling Medium  | 15.0  | 25        | Unspecified | Many trees in overstory left unharvested from last treatment. As a result, stand is about 70% of full stocking level. Small wet Black Ash drainage along South side of stand.   |
| 20    | 4130 - Aspen                | Poletimber Well | 13.8  | 37        | Unspecified | Healthy Aspen stand.  |
| 22    | 42210 - Natural Red Pine    | Sawtimber Poor  | 24.2  | 89        | 1-50        | Large diameter Pine stand where other species were removed in 1999. Birch, Cedar, Hemlock and Maple within stand are inaccessible and growing amongst the rocks. Rock wall on South side of stand. Small drainages exist. Wetter to the East. Understory of White Pine and Aspen is growing well and should be released when the time is right. |
| 23    | 4130 - Aspen                | Sapling Well    | 17.4  | 16        | Immature    | Large supercanopy Pines found throughout stand.   |
| 24    | 4130 - Aspen                | Sapling Well    | 20.5  | 25        | Immature    | Trees starting to reach pole size.  |
| 25    | 429 - Mixed Upland Conifers | Poletimber Well | 86.2  | 55        | 141-170     | Poor quality plantation due to improper site prep and poor spacing. Many splits, forks, and poor form. Stocking level varies greatly throughout stand. Aspen overtopping much of this Pine plantation and suppressing the Red Pine. Small Spruces strip within plantation.  |
| 26    | 42110 - Planted Red Pine    | Poletimber Well | 11.5  | 55        | 171-200     | Poor quality plantation due to improper site prep and poor spacing. Many splits, forks, and poor form.  |
| 27    | 42110 - Planted Red Pine    | Poletimber Well | 10.4  | 55        | 171-200     | Poor quality plantation due to improper site prep and poor spacing. Many splits, forks, and poor form. Stocking level varies greatly throughout stand.  |
| 29    | 4130 - Aspen                | Sapling Well    | 9.7   | 15        | Immature    |   |
| 30    | 4130 - Aspen                | Poletimber Well | 6.5   | 55        | Unspecified | Aspen in decline and starting to break up. The overstory Spruce has almost completely fallen out of stand due to budworm issues.  |
| 31    | 4130 - Aspen                | Sapling Well    | 9.4   | 15        | Unspecified | Lowland pocket within stand. The Pine is in supercanopy of the Aspen sapling stand. This stand was part of the original Red Pine plantation but has converted.  |
| 32    | 4130 - Aspen                | Sapling Well    | 32.2  | 15        | Immature    | Healthy Aspen stand. Some Pines left in overstory from last harvest. Most of this stand was part of the original Red Pine plantation.   |



|    | Level 4<br>Cover Type           | Size<br>Density    | Acres | Stand<br>Age | BA<br>Range | General<br>Comments:   |
|----|---------------------------------|--------------------|-------|--------------|-------------|--|
| 33 | 4136 - Aspen, Mixed<br>Conifer  | Poletimber<br>Well | 18.7  | 55           | Unspecified | White Pine in stand is severely damaged by weevil. Poor quality Aspen.   |
| 34 | 4133 - Aspen, Mixed<br>Pine     | Poletimber<br>Well | 17.1  | 55           | 81-110      | Mostly Aspen, but there are portions of poor quality plantation within stand. Some parts of stand were harvested in 2000 leaving an Aspen understory. Stocking level varies greatly.   |
| 35 | 42110 - Planted Red<br>Pine     | Poletimber<br>Well | 23.0  | 55           | 171-200     | Poor form plantation due to improper site prep and poor spacing. Many splits, forks, and poor form. Stocking level varies greatly throughout stand. Portions of this stand had the Aspen removed in 2000.  |
| 36 | 42110 - Planted Red<br>Pine     | Poletimber<br>Well | 10.1  | 55           | 171-200     | Poor form plantation due to improper site prep and poor spacing. Many splits and forks. Stocking level varies greatly throughout stand. Portions of this stand has had the Aspen removed in the year 2000.   |
| 37 | 429 - Mixed Upland<br>Conifers  | Poletimber<br>Well | 12.3  | 38           | 81-110      | Aspen starting to reach merchantability. Some very large diameter Pines in supercanopy.  |
| 38 | 42110 - Planted Red<br>Pine     | Poletimber<br>Poor | 8.2   | 55           | 1-50        | This stand was part of the original Red Pine plantation. The Aspen was harvested in 2000. Stand will convert from planted Pine to Aspen.<br>FRD & WLD comment from last YOY: "suggest leaving RP/Aspen to mature and final harvest in 40-50 years and reestablish RP."   |
| 39 | 42210 - Natural Red<br>Pine     | Sawtimber<br>Well  | 8.9   | 110          | 111-140     | Large diameter Pine stand. More Aspen to North.  |
| 40 | 4133 - Aspen, Mixed<br>Pine     | Sapling Well       | 12.4  | 14           | Immature    | The regenerating Aspen stand is almost as tall at the planted 55 year old Red Pine. Stand should be managed as Aspen.  |
| 41 | 6111 - Lowland Balsam<br>Poplar | Poletimber<br>Well | 15.3  | 38           | Unspecified | Trace amounts of Sugar Maple and Pine. Stream through middle of stand. More Black Ash to East. Upland Aspen on South side of stand. The uplands should be managed with neighboring compartment.  |
| 42 | 4130 - Aspen                    | Sapling Well       | 25.8  | 5            | Immature    | Many different species in supercanopy left unharvested from last treatment. Small rock outcroppings throughout. A couple inaccessible areas due to rock and water. Harvested 2010.   |
| 43 | 42110 - Planted Red<br>Pine     | Poletimber<br>Well | 95.2  | 55           | 111-140     | The Aspen was removed with a harvest in 2001. The resulting plantation now has a range of stocking levels. The Pine is of poor form and quality due to inadequate site prep and spacing.<br>FRD & WLD comment from last YOY: "suggest leaving RP/Aspen to mature and final harvest in 40-50 years and reestablish RP." |
| 45 | 4136 - Aspen, Mixed<br>Conifer  | Poletimber<br>Well | 63.5  | 58           | Unspecified | Aspen tops starting to break up. Large scattered Pines found throughout stand. Budworm damage evident on the Spruce/Fir. Wetter to East.   |



|    | Level 4<br>Cover Type          | Size<br>Density     | Acres | Stand<br>Age | BA<br>Range | General<br>Comments:   |
|----|--------------------------------|---------------------|-------|--------------|-------------|--|
| 47 | 4136 - Aspen, Mixed<br>Conifer | Sapling<br>Medium   | 5.2   | 7            | Immature    | Many species retained in overstory from last harvest. This is the reason stand is not fully stocked with Aspen saplings.   |
| 48 | 42110 - Planted Red<br>Pine    | Poletimber<br>Well  | 7.5   | 55           | 111-140     | The Aspen was removed with a harvest in 2001. The resulting plantation now has a range of stocking levels. The Pine is of poor form and quality due to inadequate site prep and spacing.   |
| 49 | 42210 - Natural Red<br>Pine    | Sawtimber<br>Well   | 38.5  | 95           | 111-140     | Higher quality Pine on East side of stand. White Pine has very poor form due to weevil. Much lower stocking to West. Far Eastern side of stand has Aspen in understory.  |
| 50 | 4130 - Aspen                   | Poletimber<br>Well  | 57.1  | 25           | 81-110      | Wetter to South.   |
| 51 | 6122 - Black Spruce            | Poletimber<br>Well  | 11.4  | 80           | Unspecified | strip of timber following edges of wetlands and Moon lake  |
| 54 | 4130 - Aspen                   | Sapling Well        | 37.4  | 27           | Immature    | Some small wet areas within stand. Scattered supercanopy Pines mixed throughout. Mature buffer strip containing Pine, Spruce, Fir along North side of stand bordering river.   |
| 55 | 6115 - Lowland Ash             | Poletimber<br>Well  | 48.0  | 77           | 51-80       | WET. West Branch of Sturgeon runs through stand.   |
| 56 | 4130 - Aspen                   | Sapling Well        | 37.7  | 5            | 81-110      | Harvested 2010   |
| 57 | 4134 - Aspen,<br>Spruce/Fir    | Poletimber<br>Well  | 33.2  | 66           | Unspecified | Spruce/Fir dying due to budworm. Mostly uplands situated on top of small rock outcroppings with lowlands surrounding the rocks. Several drainages exist. Timber quality is poor.   |
| 58 | 4319 - Mixed Upland<br>Forest  | Sawtimber<br>Medium | 20.7  | 66           | Unspecified | Buffer along West Branch of Sturgeon River   |
| 59 | 4130 - Aspen                   | Poletimber<br>Well  | 13.0  | 35           | 81-110      | Scattered supercanopy Pines throughout. Aspen is starting to reach merchantability.  |
| 60 | 4319 - Mixed Upland<br>Forest  | Sawtimber<br>Medium | 7.8   | 78           | 51-80       | Stand is within the no-cut buffer from last harvests.  |
| 61 | 4130 - Aspen                   | Sapling Well        | 17.8  | 16           | Immature    | Harvested 1999. Mix of many different species in supercanopy left unharvested from last treatment. Aspen is very healthy.  |
| 62 | 42110 - Planted Red<br>Pine    | Poletimber<br>Poor  | 5.7   | 55           | 1-50        | This stand was part of the original Red Pine plantation. The Aspen was harvested in 2001. Will convert from a planted Pine stand to Aspen over time.<br><br>FRD & WLD comment from 2005: "suggest leaving RP/Aspen to mature and final harvest in 40-50 years and reestablish RP." |
| 69 | 4130 - Aspen                   | Sapling Well        | 13.6  | 5            | Immature    | Many different species in supercanopy left unharvested from last treatment. Small rock outcroppings throughout. A couple inaccessible areas due to rock and water. Harvested 2010.   |

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Crystal Falls Mgt. Unit

Report 8 – Forested Stands

Compartment: 79  
Year of Entry: 2017



| Stand | Level 4 Cover Type         | Size Density     | Acres | Stand Age | BA Range | General Comments:  |
|-------|----------------------------|------------------|-------|-----------|----------|--|
| 71    | 4130 - Aspen               | Sapling Well     | 29.6  | 5         | Immature | Many different species in supercanopy left unharvested from last treatment. Small rock outcroppings throughout. A couple inaccessible areas due to rock and water. Harvested 2010. |
| 72    | 42290 - Natural Mixed Pine | Sawtimber Medium | 21.4  | 97        | 51-80    | Thick understory of Spruce/Fir growing in canopy gaps. Budworm damage evident. Aspen is in decline.  |



| Stand | Cover Type                | Acres | Managed Site | General Comments:   |
|-------|---------------------------|-------|--------------|---|
| 2     | 6220 - Alder/willow       | 14.1  | No           |   |
| 4     | 320 - Upland Shrub        | 2.0   | No           | OPIC - FMD: OI Stand Year Origin was 1990   |
| 8     | 6299 - Lowland Shrub (OI) | 14.1  | No           | OPIC - FMD: OI Stand Year Origin was  |
| 21    | 320 - Upland Shrub        | 1.8   | No           | OPIC - FMD: Merriman ski trail through this stand; moving into A6 from A3   |
| 28    | 6220 - Alder/willow       | 38.2  | No           | OPIC - FMD: OI Stand Year Origin was 2000   |
| 44    | 6299 - Lowland Shrub (OI) | 9.9   | No           | OPIC - FMD: OI Stand Year Origin was  |
| 46    | 6220 - Alder/willow       | 43.7  | No           |   |
| 52    | 320 - Upland Shrub        | 1.2   | No           | OPIC - FMD: OI Stand Year Origin was 1978   |
| 53    | 500 - Water               | 5.4   | No           | MOON LAKE   |
| 70    | 320 - Upland Shrub        | 3.4   | No           | <p>OPIC - FMD: There are some rock outcrops here that may not be cuttable, thereby leaving some acres uncut; pre-review 8-15-05: mark birch reserve trees throughout; leave 3 stick and less spruce; reserve WP, RP, cedar, oak, hemlock; protect trail = no winter harvest, no slash left on trail or within 20'; have logger scarify where possible; a nest tree is flagged in yellow and written "Do Not Cut" on it (see Monica for GPS coord); also avoid swale (GPS coord from Monica); will accept aspen/fir as alternative regeneration. We will scarify after harvesting.</p> <p>Slash piles must be very low within 100 feet from trail, (flag trail prior to harvest.), delay scarification decision until Nov. 14,2005 (to be reviewed by district staff.) (2005, post review). Per J. Ferris 11-16-05: within 100 ft of trail, leave 30 birch seed trees/acre (~1 every 40 ft); within this buffer slash reduced to &lt;12" tall; outside buffer, leave 10 seed trees/ac (~1 every 66 ft); leave all WP, RP, hemlock, cedar. Inoperable rock outcrops and some other areas would not be treated. Post harvest scarification w/anchor chains; notmuch evidence of deer browsing; birch should regenerate well if we get adequate scarification. Post- review : White birch seed tree harvest leaving many more trees than normal. Within 100' of the trail leave 30 birchseed trees per acre (approx. 1 tree per 40').Within this buffer slash should be reduced to less than 12" in height. Outside the 100' buffer leave 10 seed trees per acre (approx. 1 tree every 66') Leave all white and red pine, hemlock, and cedar throughout the stand. The inoperable rock outcrops will be left uncut. On the attached map image included (see the compartment file) Shaded out areas would not be treated. This is a rough approximation. There may be more small rock knobs that would not be cut as well. Post harvest scarification to encourage birch regeneration should be done with anchor chains. This will also create favorable condition for white pine to seed in. There is not much aspen in the stand and most of that .... was on the west end. Birch should regen well if we can get adequet scarification. ...not much evidence of deer browsing. (2005 post review)</p> |
| 73    | 320 - Upland Shrub        | 2.5   | No           | OPIC - FMD: Merriman ski trail through this stand; moving into A6 from A3   |