



# Compartment Review Presentation

## Crystal Falls Forest Management Unit

Compartment 82

Entry Year 2016

Acreage: 1,234

County Dickinson

Management Area: Groveland

**Revision Date:** 07/22/2014

**Stand Examiner:** Linda Lindberg

**Legal Description:**

T41N,R29W, Sec. 28, 29

**Identified Planning Goals:**

To integrate management with natural area features keeping the integrity of the forest and the unique diversity of the area. Also, adding the recreation feature with the snowmobile trail.

**Soil and topography:**

The soil in this compartment is Dickinson Ssurgo Soils. The topography is rock outcrops to drainages. There are rolling areas with rock and wet intermingled. It is a challenge to manage this area due to the terrain.

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

This whole compartment is state land except one forty in the NW corner. Access to the SE part of the compartment is through private land. This private land has a hunting camp. Rock Lake is in the SE corner and there are cottages on that lake.

**Unique Natural Features:**

There are several lakes in this compartment. Lost lake with a ski trail is at the NE,( Merriman Trail ) Scott Lake is SE of Lost Lake. Little Lost Lake is North of Rock Lake, Rock Lake is in the SE corner. Lake 29 is hidden amongst the rocks in the middle of section 29, and Lost Lake Creek flows north and south through section 28.

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

No Archeological, Historical, or Cultural Features known.

**Special Management Designations or Considerations:**

This area has an ERA which is a Bedrock Glade, which is about 160 acres of "bald" rock outcrops. These are mostly in section 29. There is now also a DHA in the NE corner. This is fairly inaccessible due to the wet nature between the rocky outcrops

**Watershed and Fisheries Considerations:**

**Wildlife Habitat Considerations:**

This area provides unique wildlife habitat requirements associated with both the rocky outcrops and the intersecting wetland associated types. Areas of this compartment were underplanted to hemlock and white pine as part of the Rock Lake Deeryard Restoration agreement.

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

Surface sediments consist of thin to discontinuous glacial till over bedrock. There is insufficient data to determine the glacial drift thickness. The Precambrian Archean granite/gneiss and Chocoy Group outcrops beneath the glacial drift. There is not a current economic use for these rocks, although the granite/gneiss has building stone potential. The Groveland Iron mine is located approximately three miles to the north. This compartment was previously leased for metallic exploration and the potential may still exist. A gravel pit is located one mile to the west, but potential appears to be limited. There is no economic oil and gas production in the UP.

**Vehicle Access:**

The snowmobile trail is the main access through this compartment. There are some trails and logging roads where management has occurred in the past, but rocks cause major issues with access.

**Survey Needs:**

There are very few survey needs due to the contiguous ownership.

**Recreational Facilities and Opportunities:**

As mentioned, the snowmobile trail goes through this compartment.

**Fire Protection:****Additional Compartment Information:**

The following reports from the Inventory are attached:

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

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

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

# Cover Type & Treatment Map

Compartment: 082  
 T41N R29W Sections 28, 29  
 County: Dickinson  
 Unit: Crystal Falls  
 Management Area: Groveland  
 YOE: 2016  
 Acres: 1,234 GIS Calculated  
 Examiner: Linda Lindberg  
 Map Revised: 08/26/2014  
 Map Phase: Pre-Review

**Stand #**  
 23  
**Stocking Density**  
 (4120) - A7  
 Level 3 OI  
 Level 4 Code  
**Cover Type Code**

**Legend**

- Miris Corners
- + Remonumented Section Corners
- ◆ PLSS Corner
- ◆ GPS Point
- Wood Post
- 🚶 Hiking Trails
- 🏂 Ski Trails
- 🚙 Snowmobile Trails
- 🛣 Highway
- 🛣 County Paved Roads
- 🛣 Paved Roads
- 🛣 County Gravel Roads
- 🛣 Gravel Roads
- 🛣 Poor Dirt Roads
- 🛣 County Poor Dirt Roads
- 🛣 Trail (Non-Recreation)
- ⚡ Powerline
- 🌊 Stream
- 🌊 Intermittent Stream
- 🛤 Ski Trail
- 🛤 Hiking Trail
- 🛤 Snowmobile Trail
- 🌊 Lakes and Rivers
- 🌲 State Forest Land

**Treatments**

- Clearcut (w/Reserves, Patch/Strip)
- XXX Selection (Group, Single Tree)
- 🔲 Treatments w/ Site Condition

**Forest Stands**

**Level 3**

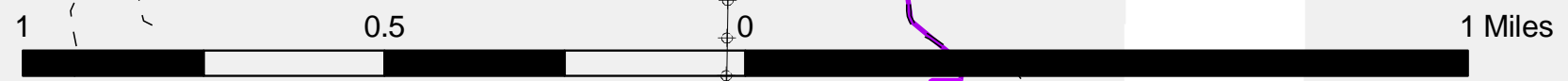
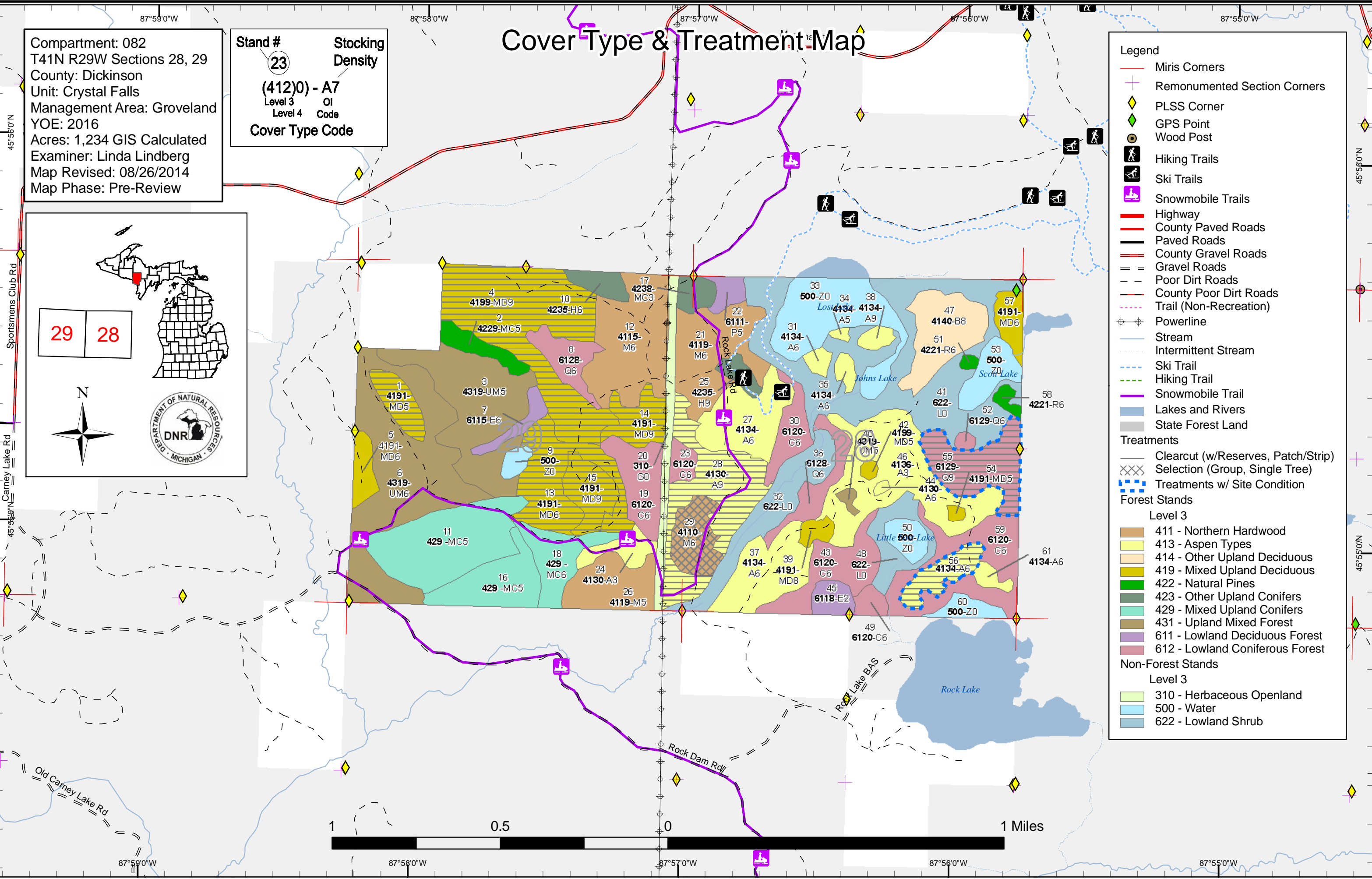
- 411 - Northern Hardwood
- 413 - Aspen Types
- 414 - Other Upland Deciduous
- 419 - Mixed Upland Deciduous
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

**Non-Forest Stands**

**Level 3**

- 310 - Herbaceous Openland
- 500 - Water
- 622 - Lowland Shrub

29 28



# Stand Boundary Map

Compartment: 082  
 T41N R29W Sections 28, 29  
 County: Dickinson  
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Stand # **23**  
 Stacking Density  
**(4120) - A7**  
 Level 3 OI  
 Level 4 Code  
 Cover Type Code

**Legend**

- Miris Corners
- Remonumented Section Corners
- PLSS Corner
- GPS Point
- Wood Post
- Hiking Trails
- Ski Trails
- Snowmobile Trails
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Powerline
- Ski Trail
- Hiking Trail
- Snowmobile Trail
- Stream
- Intermittent Stream
- Stand Boundaries

**Forest Stands**

Level 3

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**Non-Forest Stands**

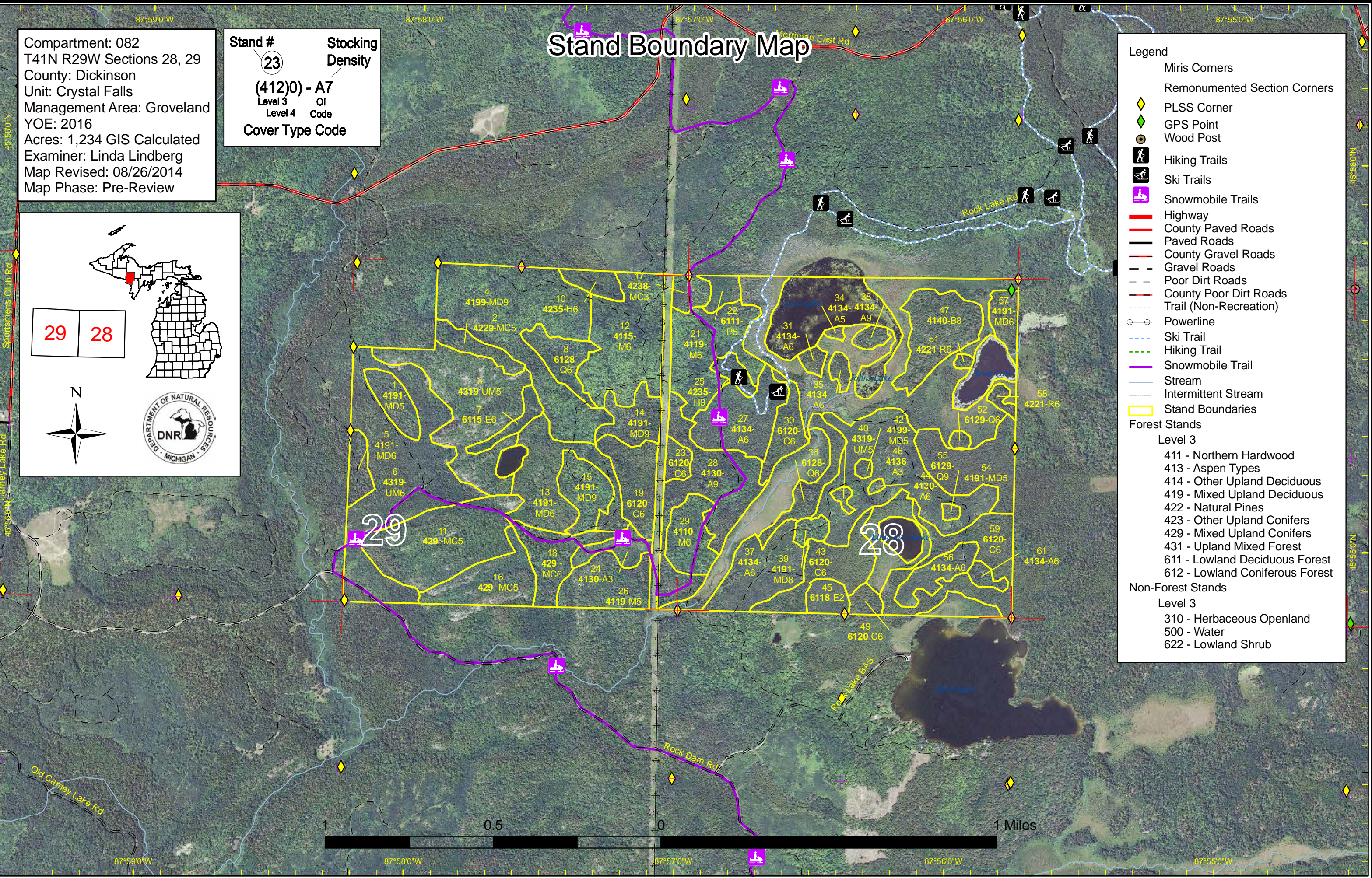
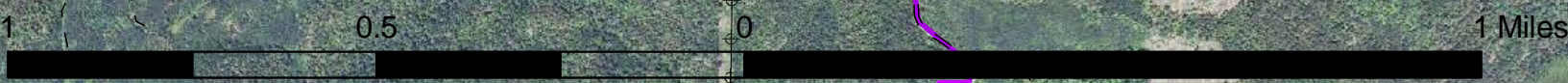
Level 3

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29
28

Spokisims Club Rd

Carmey Lake Rd



# Special Conservation Areas & Site Conditions Map

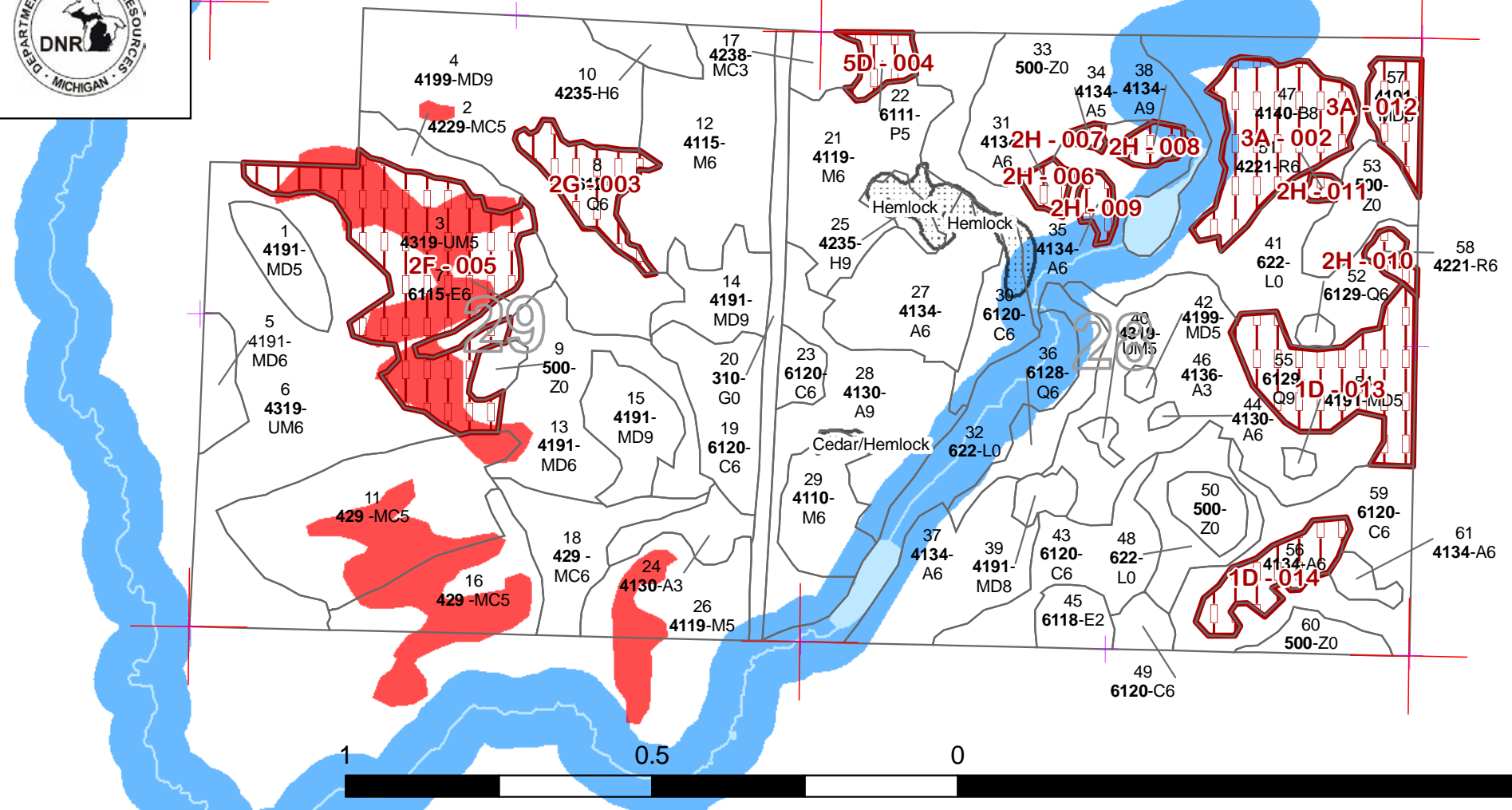
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Stand # **23** Stacking Density  
**(4120) - A7**  
 Level 3 OI  
 Level 4 Code  
**Cover Type Code**

**Legend**

- Miris Corners
- Remonumented Section Corners
- Stand Boundaries
- Site Condition Available
- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)
- Site Condition Type
- Unavailable Factors
  - 1D: Interest Group / Neighbor
  - 2F: Too steep
  - 2G: Too wet (sensitive soils, does not include access issues)
  - 2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)
  - 3A: Potential old growth / biodiversity
  - 5D: Unproductive Forest Land
- Reviewable SCAs
  - Proposed SCA
  - SCA Removal
- Dedicated Special Conservation Areas
  - Cold Water Streams
  - Cold Water Lakes
  - High Priority Trout Stream Buffer
  - Ecological Reference Areas
  - Wildlife Management Areas

29 28



87°59'0"W 87°58'0"W 87°57'0"W 87°56'0"W 87°55'0"W

45°55'0"N 45°56'0"N



	Age Class														Total
	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 +	Uneven Age	
Aspen	0	9	89	30	0	0	0	63	11	0	0	0	0	0	202
Cedar	0	0	0	0	0	0	0	28	74	0	0	0	0	0	102
Hemlock	0	0	0	0	0	0	0	7	5	0	0	0	0	0	13
Herbaceous Openland	16	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Lowland Aspen/Balsam Poplar	0	0	0	0	0	6	0	0	0	0	0	0	0	0	6
Lowland Conifers	0	0	0	0	0	0	43	0	16	0	0	0	0	0	59
Lowland Deciduous	0	0	7	0	0	0	6	0	0	0	0	0	0	0	14
Lowland Shrub	142	0	0	0	0	0	0	0	0	0	0	0	0	0	142
Mixed Upland Deciduous	0	0	0	0	0	0	37	132	14	0	0	0	0	0	183
Natural Mixed Pines	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9
Northern Hardwood	0	0	0	0	0	0	0	0	128	0	0	0	0	0	128
Paper Birch	0	0	0	0	0	0	0	29	0	0	0	0	0	0	29
Red Pine	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
Upland Conifers	0	0	0	0	0	0	52	0	26	0	0	0	0	27	105
Upland Mixed Forest	0	0	0	0	86	0	0	58	2	0	0	0	0	0	146
Water	76	0	0	0	0	0	0	0	0	0	0	0	0	0	76
<b>Total</b>	<b>234</b>	<b>9</b>	<b>96</b>	<b>30</b>	<b>86</b>	<b>6</b>	<b>139</b>	<b>320</b>	<b>286</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>27</b>	<b>1234</b>



## Report 2 – Proposed Treatment Summaries

**Crystal Falls Mgt. Unit**  
**Year of Entry 2016**

**Compartment 082**  
**Total Compartment Acres: 1,234**

### Acres by Treatment Type

Commercial Harvest - 265    Tree Planting - 0    Other - 0  
 Habitat Cut - 0    Opening Maintenance - 0

### Cover Type by Harvest Method

	<i>Clearcut</i>	<i>Selection</i>	<i>Seed Tree</i>	<i>Shelterwood</i>	<i>Thinning</i>	<i>Other - Specify</i>	<i>Total Acres</i>
<b>Aspen Types</b>	58	0	0	0	0	0	58
<b>Lowland Coniferous Forest</b>	30	0	0	0	0	0	30
<b>Mixed Upland Deciduous</b>	159	0	0	0	0	0	159
<b>Northern Hardwood</b>	0	17	0	0	0	0	17
<b>Total</b>	<b>247</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>265</b>



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
1	12082001-Cut	11.2	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	77		Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<u>Prescription:</u> Cut all trees 2 inches or more in diameter at breast height. Do not cut oak, elm, cedar, hemlock, red and white pine. <u>Specs:</u> <u>Other</u> <u>Comments:</u> <u>Next</u> Regen survey per certification <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2015										
4	12082004-Cut	79.7	4199 - Other Mixed Upland Deciduous	High Density Log	77		Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<u>Prescription:</u> Cut all trees 2 inches or greater except cherry, oak, elm, cedar, hemlock, red and white pine, sugar and red maple if they are present in the stand. <u>Specs:</u> <u>Other</u> There is a small portion of the Bedrock Glade ERA in this stand and proper protocol will be followed when harvesting this stand because protocol <u>Comments:</u> is not present at this time. <u>Next</u> Regen survey per certification <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2015										
13	12082013-Cut	37.3	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	67		Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<u>Prescription:</u> Cut all trees that are 2 inches or larger at breast height. Do not cut cherry, elm, oak, hemlock, cedar, red and white pine. Also, do not cut red <u>Specs:</u> and sugar maple. <u>Other</u> There are many rocky areas that are inoperable with wet areas at the bottom edge so in the end, about 1/2 of the stand will end up being <u>Comments:</u> harvested. These areas are numerous and cannot be delineated ahead of time due to lack of time to do this. There is also a tiny part of the ERA in this stand that will be taken out as retention or part of ERA. <u>Next</u> Regen check according to certification <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2015										
14	12082014-Cut	14.3	4191 - Mixed Upland Deciduous with Conifer	High Density Log	77	81-110	Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<u>Prescription:</u> Cut all trees 2 inches or more in diameter. Do not cut cherry, elm, oak, cedar, hemlock, red and white pine and red and sugar maple. <u>Specs:</u> <u>Other</u> This stand also has rock and wet and will just be cut in between where operable which means the acreage will be diminished. <u>Comments:</u> <u>Next</u> Regen survey per certification <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2015										





Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
15	12082015-Cut	16.3	4191 - Mixed Upland Deciduous with Conifer	High Density Log	70	81-110	Harvest	Clearcut with Reserves	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal
<p><u>Prescription</u> Cut all trees 2 inches or more in diameter except do not cut oak, elm, cherry, cedar, hemlock, red and white pine and sugar and red maple.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Just one more area with rock, wet and operable areas involved. It is just too hard to delineate the no cut areas out ahead of time due to lack of extra time.</p> <p><u>Next Steps:</u> Regen survey per certification</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>										
28	12082028-Cut	45.9	4130 - Aspen	High Density Log	77	51-80	Harvest	Clearcut with Reserves	4130 - Aspen	Cmpt. Review Proposal
<p><u>Prescription</u> Cut all trees 2 inches or more in diameter except do not cut oak, elm, cedar, cherry, hemlock, red and white pine. There is a hemlock inclusion that was made a SCA that will be taken out of the sale. There are some steep areas in here that may not be operable.</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> There are wet areas in this stand also that will have to be delineated out of sale. The Pine Creek buffer will be taken out of this stand for retention</p> <p><u>Next Steps:</u> Regen check per certification</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>										
29	12082029-Cut	17.4	4110 - Sugar Maple Association	High Density Pole	85	111-140	Harvest	Single Tree Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal
<p><u>Prescription</u> Mark trees to 80 BA. There are areas in this stand that are steep and you will need to mark perpendicular to the steep area to get up and down the hill. Leave best tree in place regardless of species. Leave trees can be used as the best tree in place including red and white pine, cedar, hemlock, oak and elm. There is ash in this stand. Canopy gaps will help with regeneration eventhough there is some ash regen present. .</p> <p><u>Specs:</u></p> <p><u>Other Comments:</u> Part of this stand will be in the Pine Creek buffer and will be retention.</p> <p><u>Next Steps:</u> Regen survey per certification</p> <p><u>Proposed Start Date:</u> 10/01/2015</p>										

**Total Treatment  
Acreage Proposed: 222.1**

S  
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a  
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d

Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
55 12082055-Cut	30.1	6129 - Mixed Coniferous Lowland Forest	High Density Log	65		Harvest	Clearcut with Reserves	6129 - Mixed Coniferous Lowland Forest	Cmpt. Review Proposal

Prescription Cut all trees 2 inches or greater except, cedar, hemlock, white pine

Specs: There will be areas marked out for retention and to help with regeneration.

Other Comment: A small part of this stand was included in the DHA and will need to be either taken out of the DHA will need adjustment.

Next Steps: Regen check per certification

Proposed Start Date: 10/01/2015

Limiting Factor 1D: Interest Group / Neighbor

56 12082056-Cut	12.5	4134 - Aspen, Spruce/Fir	High Density Pole	77		Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
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Prescription Cut all trees 2 inches or greater except do not cut oak, elm, cherry, red and white pine, sugar maple and red maple if present in the stand. There are some steep areas here also to deal with.

Other Comment: Access to this is through private to the south.

Next Steps: Regen survey per certification

Proposed Start Date: 10/01/2015

Limiting Factor 1D: Interest Group / Neighbor

**Total Treatment  
Acreage Proposed: 42.5**

## Report 5 – Site Conditions

Crystal Falls Mgt. Unit  
Linda Lindberg : Examiner

Compartment 082  
Year of Entry 2016

### Availability for Management

Total Acres	Acres		Dominant Site Conditions	Dominant Site Conditions							
	Available	Not Available		No	5D	3A	2H	2G	2F	1D	
202	178	24	<b>Aspen</b>	178			11				12
102	102		<b>Cedar</b>	102							
13	13		<b>Hemlock</b>	13							
5		5	<b>Lowland Aspen/Balsam Poplar</b>		5						
58	15	43	<b>Lowland Conifers</b>	15				14			30
14	14		<b>Lowland Deciduous</b>	14							
182	174	9	<b>Mixed Upland Deciduous</b>	174		9					
9	9		<b>Natural Mixed Pines</b>	9							
128	128		<b>Northern Hardwood</b>	128							
29		29	<b>Paper Birch</b>			29					
4		4	<b>Red Pine</b>				4				
105	105		<b>Upland Conifers</b>	105							
146	88	58	<b>Upland Mixed Forest</b>	88					58		
997	826	172	Total Forested Acres	826	5	38	15	14	58		42
	83%	17%	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
002	Not Available	<b>3A: Potential old growth / biodiversity</b>	29	2F: Too steep	2G: Too wet (sensitive soils, does not include access issues)		
<b>Comments:</b> Rocky ground, with wetland to cross to get there. It is part of the new DHA							
003	Not Available	<b>2G: Too wet (sensitive soils, does not include access issues)</b>	14	1C: Other dept or div proc/practices			
<b>Comments:</b> There is hemlock along with the cedar here which we do not harvest							

## Report 5 – Site Conditions

Crystal Falls Mgt. Unit  
Linda Lindberg : Examiner

Compartment 082  
Year of Entry 2016

004	<b>Not Available</b>	<b>5D: Unproductive Forest Land</b>	6	No Limiting Factor	No Limiting Factor
<b>Comments:</b> There isn't enough volume to go after					
005	<b>Not Available</b>	<b>2F: Too steep</b>	58	3B: Threatened, endangered, and special concern species/communities	
<b>Comments:</b> Rock/ see topography map. ERA Granite Bedrock Glade					
006	<b>Not Available</b>	<b>2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)</b>	3		
<b>Comments:</b>					
007	<b>Not Available</b>	<b>2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)</b>	1		
<b>Comments:</b>					
008	<b>Not Available</b>	<b>2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)</b>	4		
<b>Comments:</b>					
009	<b>Not Available</b>	<b>2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)</b>	3		
<b>Comments:</b>					

Report 5 – Site Conditions

Crystal Falls Mgt. Unit  
Linda Lindberg : Examiner

Compartment 082  
Year of Entry 2016

010	Not Available	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	3
<b>Comments:</b>			
011	Not Available	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	1
<b>Comments:</b>			
012	Not Available	3A: Potential old growth / biodiversity	9
<b>Comments:</b>			
013	Not Available	1D: Interest Group / Neighbor	30
<b>Comments:</b> Access to this side of the compartment is through private land and will most likely be granted			
014	Not Available	1D: Interest Group / Neighbor	13
<b>Comments:</b> This needs access through private land and more than likely will be obtained.			



**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>Cedar/Hemlock</b> <b>Comments</b>	Habitat Areas or Corridors	Other Habitat Area	<b>SCA</b>	1.6
<b>Hemlock</b> <b>Comments</b>	Habitat Areas or Corridors	Other Habitat Area	<b>SCA</b>	5.2
<b>Hemlock</b> <b>Comments</b> plant white pine and hemlock	Habitat Areas or Corridors	Other Habitat Area	<b>SCA</b>	6.7



## 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	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
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	Habitat Area	An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
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	Crystal Falls Mgt. Unit		Report 8 – Forested Stands			Compartment: 082 Year of Entry: 2016	
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	
1	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	11.2	77			
2	42290 - Natural Mixed Pine	Medium Density Pole	9.3	80			
3	4319 - Mixed Upland Forest	Medium Density Pole	57.8	72			
4	4199 - Other Mixed Upland Deciduous	High Density Log	79.7	77			
5	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	7.9	85			
6	4319 - Mixed Upland Forest	High Density Pole	86.4	46			
7	6115 - Lowland Ash	High Density Pole	6.5	65			
8	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	13.8	86			
10	42350 - Upland Hemlock	High Density Pole	7.3	75	81-110		
11	429 - Mixed Upland Conifers	Medium Density Pole	52.3	65			
12	4115 - Y.Birch, Hemlock NH	High Density Pole	48.8	85	51-80		
13	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	37.3	67			
14	4191 - Mixed Upland Deciduous with Conifer	High Density Log	14.3	77	81-110		
15	4191 - Mixed Upland Deciduous with Conifer	High Density Log	16.3	70	81-110		
16	429 - Mixed Upland Conifers	Medium Density Pole	25.8	85			
17	42380 - Non Pine Upland Conifer, Mixed Deciduous	High Density Sapling	6.8	Uneven Age	51-80		
18	429 - Mixed Upland Conifers	High Density Pole	19.9	Uneven Age			This stand was cut last time
19	6120 - Lowland Cedar	High Density Pole	20.7	86	81-110		



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## Crystal Falls Mgt. Unit

## Report 8 – Forested Stands

Compartment: 082  
Year of Entry: 2016

Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
4119 - Mixed Northern Hardwoods	High Density Pole	37.9	85	51-80	
6111 - Lowland Balsam Poplar	Medium Density Pole	5.6	54		
6120 - Lowland Cedar	High Density Pole	5.2	86		
4130 - Aspen	High Density Sapling	9.0	10		
42350 - Upland Hemlock	High Density Log	5.3	85		
4119 - Mixed Northern Hardwoods	Medium Density Pole	23.8	85	51-80	
4134 - Aspen, Spruce/Fir	High Density Pole	29.8	34		
4130 - Aspen	High Density Log	45.9	77	51-80	
4110 - Sugar Maple Association	High Density Pole	17.4	85	111-140	
6120 - Lowland Cedar	High Density Pole	12.6	86		
4134 - Aspen, Spruce/Fir	High Density Pole	3.2	84		
4134 - Aspen, Spruce/Fir	Medium Density Pole	1.2	85		
4134 - Aspen, Spruce/Fir	High Density Pole	3.4	85		
6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	13.1	68		
4134 - Aspen, Spruce/Fir	High Density Pole	29.5	22		
4134 - Aspen, Spruce/Fir	High Density Log	3.7	84		
4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	4.4	84		
4319 - Mixed Upland Forest	Medium Density Pole	1.8	84		



S t a n d	Crystal Falls Mgt. Unit		Report 8 – Forested Stands			Compartment: 082 Year of Entry: 2016	
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	
42	4199 - Other Mixed Upland Deciduous	Medium Density Pole	1.6	80			
43	6120 - Lowland Cedar	High Density Pole	23.7	76			
44	4130 - Aspen	High Density Pole	1.0	77			
45	6118 - Lowland Deciduous with Cedar	Medium Density	7.5	22			
46	4136 - Aspen, Mixed Conifer	High Density Sapling	59.5	22			
47	4140 - Other Upland Deciduous	Medium Density Log	29.4	77	51-80		
49	6120 - Lowland Cedar	High Density Pole	4.7	76	81-110		
51	42210 - Natural Red Pine	High Density Pole	1.3	80			
52	6129 - Mixed Coniferous Lowland Forest	High Density Pole	1.7	84			
54	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	1.4	77			
55	6129 - Mixed Coniferous Lowland Forest	High Density Log	30.1	65			
56	4134 - Aspen, Spruce/Fir	High Density Pole	12.5	77			
57	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	8.7	77			
58	42210 - Natural Red Pine	High Density Pole	2.9	77			
59	6120 - Lowland Cedar	High Density Pole	35.2	89			
61	4134 - Aspen, Spruce/Fir	High Density Pole	3.6	77			



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
9	50 - Water	3.9	Unspecified	Unspecified	
20	3102 - Grass	15.7	Unspecified	Unspecified	
32	622 - Lowland Shrub	31.0	Unspecified	Unspecified	
33	50 - Water	43.5	Unspecified	Unspecified	
41	622 - Lowland Shrub	97.0	Unspecified	Unspecified	
48	622 - Lowland Shrub	14.4	Unspecified	Unspecified	
50	50 - Water	8.1	Unspecified	Unspecified	
53	50 - Water	13.7	Unspecified	Unspecified	
60	50 - Water	6.8	Unspecified	Unspecified	