



**Crystal Falls Forest Management Unit
Compartment Review Presentation
Compartment #101 Entry Year: 2012
Compartment Acreage: 1248 County: Dickinson**

Revision Date: 4/13/2010

Stand Examiner: Otto Jacob

Legal Description: Sections 1 and 2, T40N R30W

Identified Planning Goals ('Management Area' or 'RMU', if applicable): Promote pine succession, especially in the hardwood stands.

Management Goals: On sites where pine is regenerating, encourage the pine succession. Harvest aspen for age distribution. Encourage oak regeneration. Creek corridors should be protected for water quality and for wildlife habitat.

Soil and Topography: Soils are coarser sands near the creeks and finer sands on the bluffs. The topography is very rough with high bluffs and rocky valleys. Soils are often thin over rock, causing doughy conditions.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Privately owned farm lands are to the south of the compartment. Some private forties are within the compartment.

Unique, Natural Features: Deep rock valleys have drainages that feed cold water streams.

Archeological, Historical, and Cultural Features: None known.

Special Management Designations or Considerations: Protect cold water streams.

Watershed and Fisheries Considerations: Protect streams with long rotation forest management adjacent to the streams.

Wildlife Habitat Considerations: Protect riparian corridors and encourage White Pine succession.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of thin to discontinuous glacial sediments over bedrock and minor glacial outwash sand and gravel and postglacial alluvium to the southwest. The Precambrian Chocoy Group and Archean granite/gneiss outcrop at or near the surface. There is not an economic use for these rocks, although some might have dimension stone potential. The compartment is located seven miles southeast of the Groveland Iron mine, and seven miles north of the Vulcan Iron Formation mines to the south. This compartment was previously leased for metallic exploration. A gravel pit is located one mile to the north. Gravel potential appears to be limited. There is no economic oil and gas production in the UP.

Vehicle Access: Good roads around bluffs.

Survey Needs: None

Recreational Facilities and Opportunities: Hiking is very good here. The area has good hunting for many species. Fishing in the nearby trout waters.

Fire Protection: This is a challenge in the bluffs, but access is fair around them.

Additional Compartment Information: Access is controlled mostly by the landowners to the South, but it has been permitted in past.

- **The following reports from the Inventory are attached:**
 - ◆ **Total Acres by Cover Type and Age Class**
 - ◆ **Proposed Treatment Summary**
 - ◆ **Proposed Treatments – No Limiting Factors**
 - ◆ **Proposed Treatments – With Limiting Factors**
 - ◆ **Stand Details (Forested and Nonforested)**
 - ◆ **Dedicated and Proposed Special Conservation Areas**

- **The following information is displayed, where pertinent, on the attached compartment maps:**
 - ◆ **Base feature information, stand boundaries, cover types, and numbers**
 - ◆ **Proposed treatments**
 - ◆ **Details on the road access system**

Cover Type & Treatment Map

Compartment 101
 T40N, R30W, Sec. 01, 02
 County: Dickinson
 Unit: Crystal Falls
 YOE: 2012
 Acres: 1,248 GIS Calculated
 Stand Examiner: Otto Jacob
 Map Revised: 7/28/2010
 Map Phase: Pre-Review

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

Legend

- Buried Cable
- Pipe
- Power
- == Gravel Roads
- - - Poor Dirt Roads
- Trails
- ☼ Snowmobile Trails
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers

Treatments

- ▨ Clearcut (w/Reserves, Patch/Strip)

Forest Stands

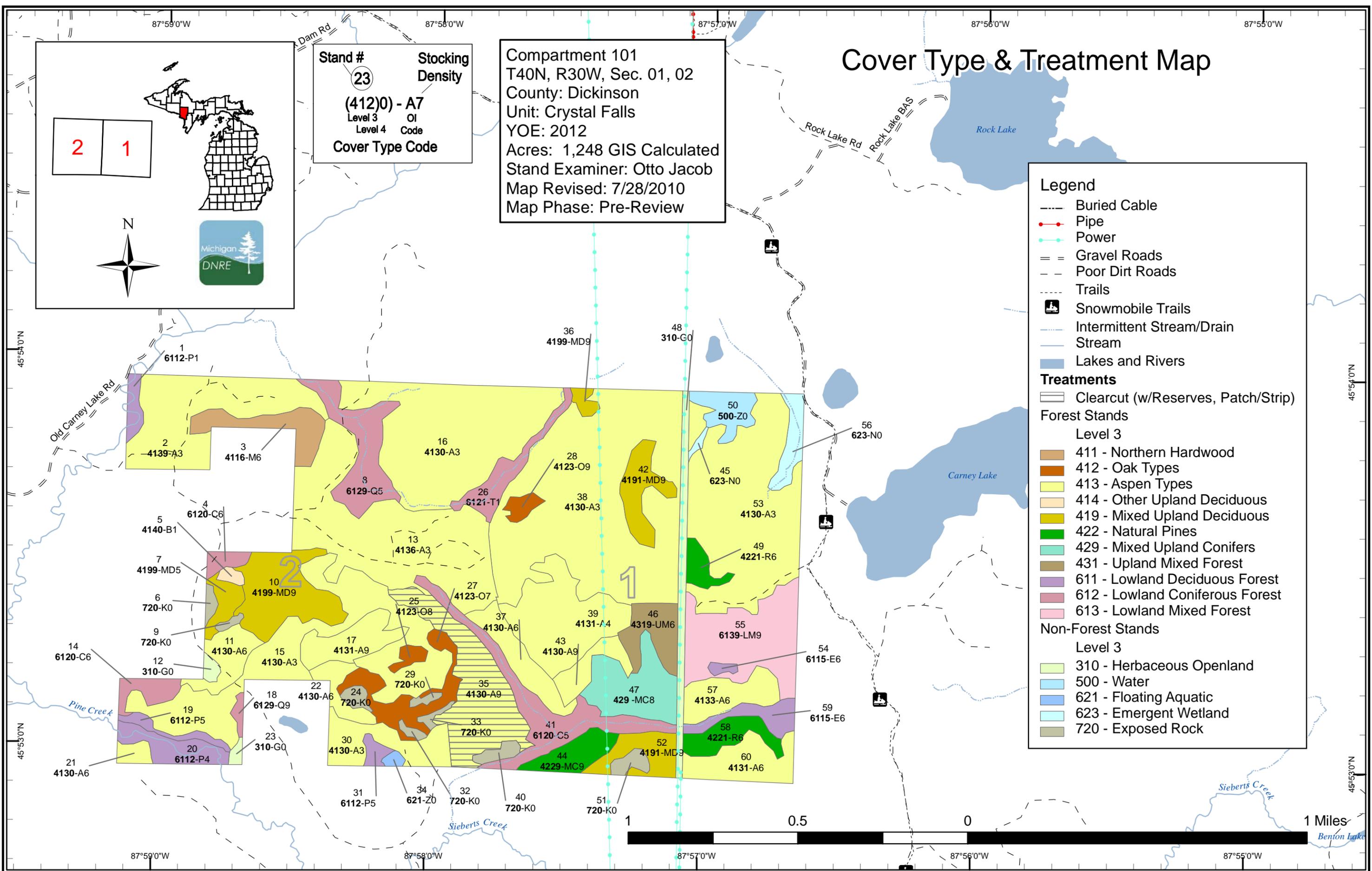
Level 3

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

Non-Forest Stands

Level 3

- 310 - Herbaceous Openland
- 500 - Water
- 621 - Floating Aquatic
- 623 - Emergent Wetland
- 720 - Exposed Rock



Stand Boundary Map

Stand # **(23)** Stocking Density
(412)0 - A7
 Level 3 OI
 Level 4 Code
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Legend

- Miris Corners
- Buried Cable
- Pipe
- Power
- == Gravel Roads
- Poor Dirt Roads
- Trails
- Snowmobile Trails
- Intermittent Stream/Drain
- Stream
- Stand Boundaries

Forest Stands

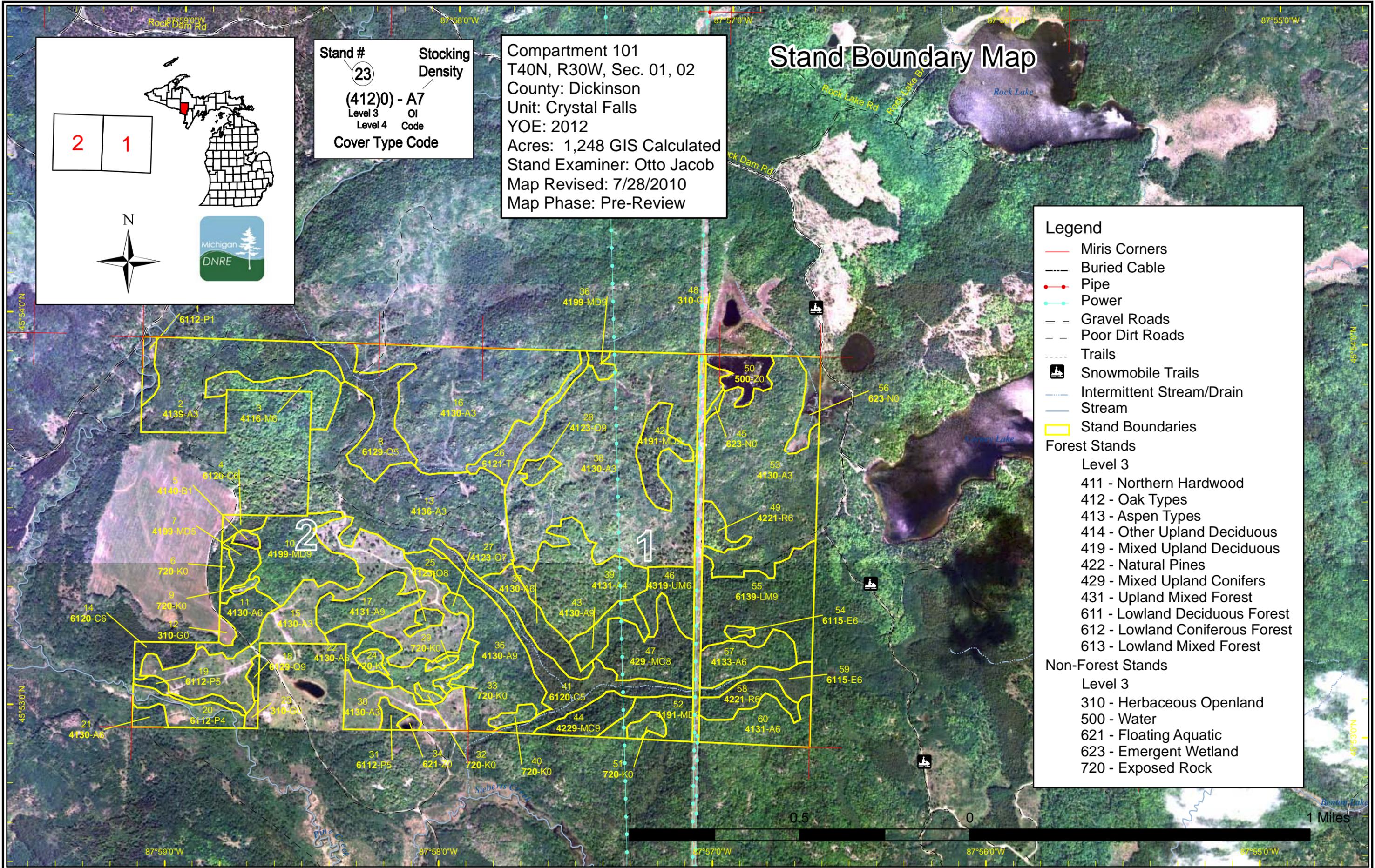
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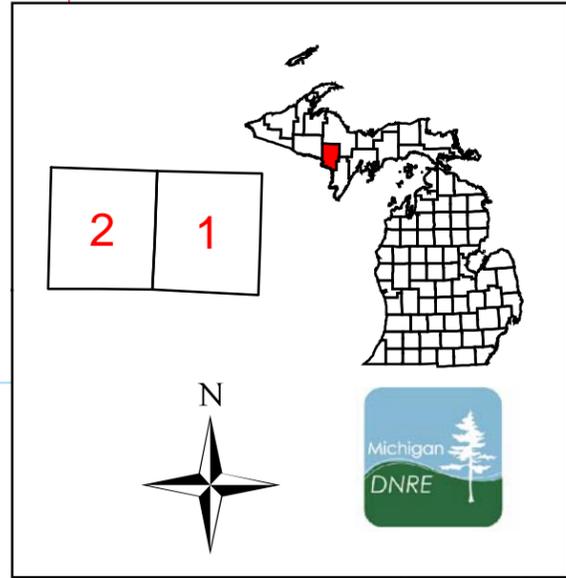
Non-Forest Stands

Level 3

- 310 - Herbaceous Openland
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Dedicated & Proposed Special Conservation Area Map



Stand #
23
(412)0 - A7
 Level 3 OI
 Level 4 Code
 Cover Type Code

Compartment 101
 T40N, R30W, Sec. 01, 02
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 Map Revised: 7/28/2010
 Map Phase: Pre-Review

Legend

- Miris Corners
- Stand Boundaries
- Proposed Special Conservation Areas**
- SCA - Special Conservation Area
- SCA Removal
- Dedicated Special Conservation Areas**
- Cold Water Streams
- Boat Access Sites
- Campgrounds
- Ecological Reference Areas
- Forest Stands**
- Level 3
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 414 - Other Upland Deciduous
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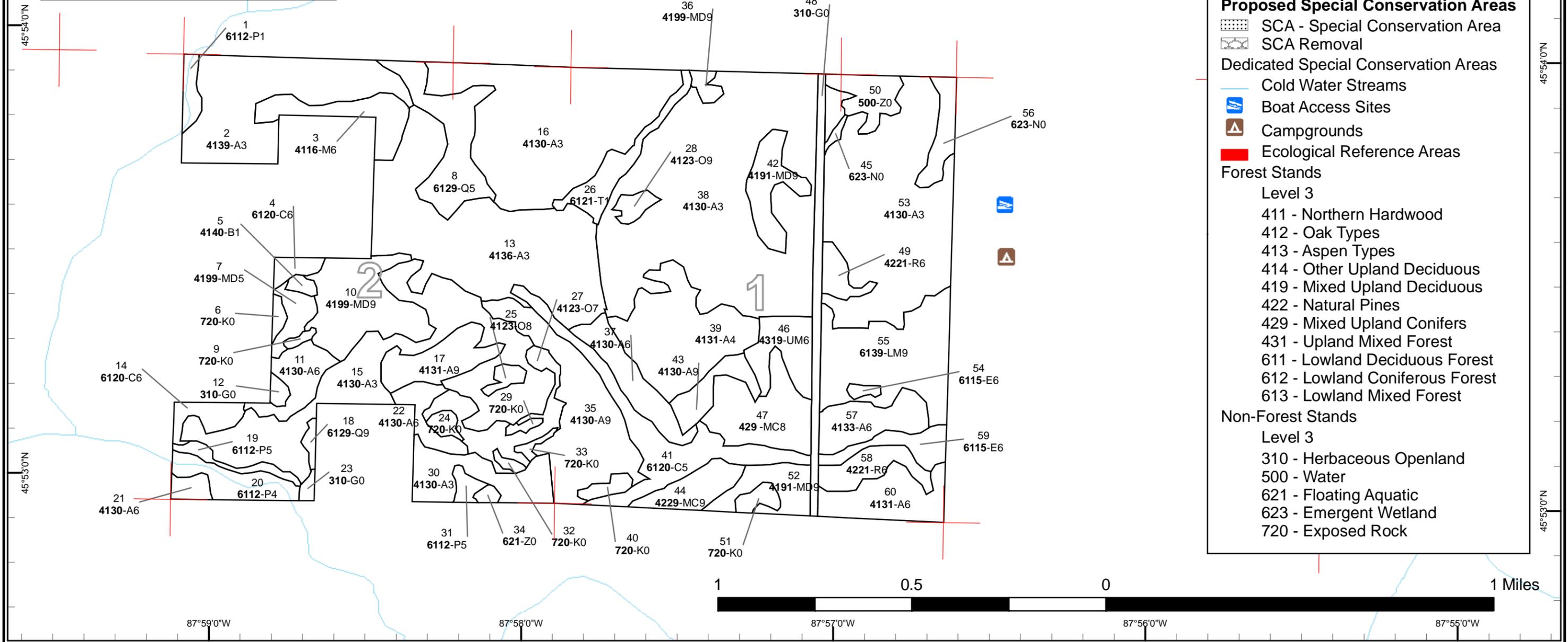


Table 1 – Total Acres by Cover Type and Age Class



	Age Class														Total	
	Non-Forested	1-9	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	104	257	100	117	0	0	30	0	75	45	0	0	0	97	824
Cedar	0	0	0	0	0	0	0	0	0	4	42	0	0	0	0	46
Exposed Rock	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
Herbaceous Openland	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
Lowland Aspen/Balsam Poplar	0	0	0	5	0	0	0	5	0	3	0	0	0	0	13	26
Lowland Conifers	0	0	0	0	0	0	0	0	28	0	0	0	0	0	2	30
Lowland Deciduous	0	0	0	0	0	0	0	10	0	2	0	0	0	0	0	11
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	47	0	0	0	0	47
Marsh	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Mixed Upland Deciduous	0	0	0	0	0	0	0	3	0	49	0	0	0	0	20	73
Natural Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13
Northern Hardwood	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	16
Oak	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	26
Paper Birch	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Red Pine	0	0	0	0	0	0	0	0	0	6	0	0	0	0	12	19
Tamarack	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	13
Upland Conifers	0	0	0	0	0	0	0	0	0	28	0	0	0	0	0	28
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	16
Water	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Total	60	104	257	107	117	0	0	73	57	183	134	0	0	0	157	1248



Table 2 – Proposed Treatment Summaries

Crystal Falls Mgt. Unit
Year of Entry 2012

Compartment 101
Total Compartment Acres: 1248

Acres by Treatment Type

Commercial Harvest - 47	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 0	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

		Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen		47	0	0	0	0	0	47
	Total	47	0	0	0	0	0	47

**Table 3 -- Treatments Prescribed
with No Limiting Factor**

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	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
35	12101035-Cut	47.1	4130 - Aspen	High Density Log	81	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal

Prescription clear cut all species except Pine, Hemock, Oak and Cedar, if found.

Specs:

Other May have problems with slope and bare rock.

Comments:

Next Check regen.

Steps:

**Total Treatment
Acreage Proposed: 47.1**

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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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Prescription
Specs:

Other
Comment:

Next
Steps:

Limiting Factor and No
Treatment Reason

Total Treatment
Acreage Proposed: 0

Stand	Crystal Falls Mgt. Unit		5 – Forested Stands			Compartment: 101	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
1	6112 - Lowland Aspen	Low Density Sapling	4.8	21			Pine Creek buffer.
2	4139 - Aspen, Mixed Deciduous	High Density Sapling	57.4	Uneven Age			There appears to be 3 age classes. Unusual patches of thick hardwood regen.
3	4116 - Mixed N. Hardwood - Aspen	High Density Pole	16.4	70			Steep N slope with 90% mortality on w birch. Hdwd has low ba on east side of std with clumps of large aspen.. Hdwd poor and multi stemmed.
4	6120 - Lowland Cedar	High Density Pole	4.1	84			
5	4140 - Other Upland Deciduous	Low Density Sapling	1.9	20			
7	4199 - Other Mixed Upland Deciduous	Medium Density Pole	6.9	Uneven Age			Rocky top of a high bluff.
8	6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	27.7	70			Areas of pure tag alders scattered around the stand.
10	4199 - Other Mixed Upland Deciduous	High Density Log	34.1	84	81-110		There is a small, wet hardwood patch in the middle of this stand. There are small aspen inclusions of mini clearcuts about 25 years old.
11	4130 - Aspen	High Density Pole	13.4	37			Trace of Autumn Olive. Intermittent drainage parallel to and N. of the road through the stand.
13	4136 - Aspen, Mixed Conifer	High Density Sapling	100.0	25			
14	6120 - Lowland Cedar	High Density Pole	7.5	90			
15	4130 - Aspen	High Density Sapling	82.0	5			
16	4130 - Aspen	High Density Sapling	95.8	14			Many rock knolls with deciduous and conifer mixed residual were left after this stand was cut.
17	4131 - Aspen, Oak	High Density Log	17.6	Uneven Age			
18	6129 - Mixed Coniferous Lowland Forest	High Density Log	1.9	Uneven Age			
19	6112 - Lowland Aspen	Medium Density Pole	4.6	66			transition zone to trout stream
20	6112 - Lowland Aspen	Low Density Pole	13.4	Uneven Age			Pine creek corridor. Has patches of aspen amid the tag alder.



Stand	Crystal Falls Mgt. Unit		5 – Forested Stands			Compartment: 101
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012
						General Comments:
21	4130 - Aspen	High Density Pole	3.9	66		
22	4130 - Aspen	High Density Pole	8.5	66		Lower part of cliff, 20% talus.
25	4123 - Red Oak	Medium Density Log	3.0	66		Log sized oak only about 40 ft tall on rock knob. Saplings are on North face. The clct in adjacent stand cut aspen out of this std.
26	6121 - Tamarack	Low Density Sapling	13.2	71		This would have been an L type, but it had a few too many little trees.
27	4123 - Red Oak	Low Density Log	19.0	66		Upper third of cliff and crest. Stunted oak 20 to 40 ft tall. Thirty percent bare rock or talus.
28	4123 - Red Oak	High Density Log	3.8	66		Rock top left from surrounding clct.
30	4130 - Aspen	High Density Sapling	21.8	5		
31	6112 - Lowland Aspen	Medium Density Pole	3.1	81		This stand is a buffer around a vernal pond. Tag alder predominates on West side.
35	4130 - Aspen	High Density Log	47.1	81	111-140	
36	4199 - Other Mixed Upland Deciduous	High Density Log	3.0	63		Rock top uncut from surrounding clct.
37	4130 - Aspen	High Density Pole	17.1	63		Very steep West facing hillside.
38	4130 - Aspen	High Density Sapling	160.8	14		
39	4131 - Aspen, Oak	Low Density Pole	45.3	90		Small cattail marsh on south end of the stand. Aspen was partially removed from stand about 5 years ago.
41	6120 - Lowland Cedar	Medium Density Pole	34.2	90		Creek valley with big rocks and thin soils.
42	4191 - Mixed Upland Deciduous with Conifer	High Density Log	15.0	80		
43	4130 - Aspen	High Density Log	10.4	80		Big old aspen in final stages of decay with nice oak poles coming into canopy. Rough terrain with drainages and steep mounds.
44	42290 - Natural Mixed Pine	High Density Log	12.5	Uneven Age		Very steep 300 foot North Slope. Shallow soils.



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Crystal Falls Mgt. Unit

5 – Forested Stands

Compartment: 101
Year of Entry: 2012

Inventory Method: IFMAP

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
46	4319 - Mixed Upland Forest	High Density Pole	15.5	80		Very rocky with a drainage through the middle.
47	429 - Mixed Upland Conifers	Medium Density Log	28.1	80		Very rugged topography. Heavy conifer regen on North side. Drainage through the North third of the stand oriented E and W.
49	42210 - Natural Red Pine	High Density Pole	6.4	80		
52	4191 - Mixed Upland Deciduous with Conifer	High Density Log	13.6	Uneven Age		Steep North slope with half of site bare rock.
53	4130 - Aspen	High Density Sapling	103.4	31		
54	6115 - Lowland Ash	High Density Pole	1.6	80		
55	6139 - Mixed Lowland Forest	High Density Log	47.4	90		
57	4133 - Aspen, Mixed Pine	High Density Pole	17.9	80		East and West oriented 30 foot rock ridges with a mix of species.
58	42210 - Natural Red Pine	High Density Pole	12.3	Uneven Age		20 foot rock knobs with stubby pines on top. The rest of the stand has a mix of sizes .
59	6115 - Lowland Ash	High Density Pole	9.9	63		Nearly pure Black ash with a creek running down the center. The edges of the stand have heavy spruce and fir regeneration.
60	4131 - Aspen, Oak	High Density Pole	21.5	Uneven Age		Stand is being replaced by red maple poles, well stocked. Pines are regenerating in low canopy.



Stand	Cover Type	Acres	Gen Cmts:
6	720 - Exposed Rock	1.9	
9	720 - Exposed Rock	1.3	
12	310 - Herbaceous Openland	2.0	
23	310 - Herbaceous Openland	1.5	
24	720 - Exposed Rock	2.7	
29	720 - Exposed Rock	1.4	
32	720 - Exposed Rock	1.4	
33	720 - Exposed Rock	1.6	
34	621 - Floating Aquatic	1.5	
40	720 - Exposed Rock	3.4	
45	623 - Emergent Wetland	1.1	
48	310 - Herbaceous Openland	15.6	
50	50 - Water	11.3	
51	720 - Exposed Rock	3.7	
56	623 - Emergent Wetland	9.2	



7 – 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.

Inventory Method: IFMAP

Stand	SCA Type	SCA Name	Acres	Comments
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8 – DEDICATED CONSERVATION AREA DETAILS

* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

ERA = Ecological Reference Area
 HCVA = High Conservation Value Area
 SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Concentrated Recreation Area	Facilities that are designed and maintained for routine or heavy recreational use, including State Parks, State Forest campgrounds, motorized and non-motorized trails, trailheads, staging areas and public access sites.