



**Crystal Falls Forest Management Unit
Compartment Review Presentation
Compartment #114 Entry Year: 2014
Compartment Acreage: 1040 County: Dickinson**

Revision Date: May 7, 2012

Stand Examiner: Linda Lindberg

Legal Description: T42N,R30W Sections 1,8,11,16,24,25,26 and 36 T42N, R30W Section 30

RMU (if applicable): Text

Management Goals: I believe all of these parcels are for sale in the Phase III land deal. Some have been managed and can be again when they mature. There are a few parcels that could be cut this time if we are granted use of the private land to get to the parcels.

Soil and Topography: Rolling uplands to swamps and river bottoms with Carbondale and Cathro soils. Some nearly level to hilly topography with well drained, loamy soils. Some deep draws going to the river.

Ownership Patterns, Development, and Land Use in and Around the Compartment: Most ownership around these stands and parcels is private with a small mixture of industrial land.

Unique, Natural Features: Most of this compartment is river frontage, including one waterfall and a quarry.

Archeological, Historical, and Cultural Features:

Special Management Designations or Considerations: Text

Watershed and Fisheries Considerations: Text

Wildlife Habitat Considerations: This area provide excellent habitat for deer, bear and grouse. Sensitive areas along creeks and lakes should be buffered, providing cover, mature forest conditions and travel corridors.

Mineral Resource and Development Concerns and/or Restrictions: Surface sediments consist of an end moraine of coarse-textured till, medium and coarse-textured glacial till, glacial outwash sand and gravel and postglacial alluvium and thin to discontinuous glacial till over bedrock. The glacial drift thickness varies between 10 and 100 feet. The Cambrian Munising, Precambrian Hemlock and Michigamme Formations,

Randville Dolomite and Archean granite/gneiss and volcanic and sedimentary rocks subcrop below the glacial drift. The Randville (marble) is used as a decorative stone and the granite/gneiss may have dimension stone potential. Groveland iron mine is located to the east. Part of this area was previously leased for metallic exploration and potential may still exist. A feldspar quarry is located in the NW corner of Section 26. Gravel pits are located throughout this area and there is potential. There is no economic oil and gas production in the UP.

Vehicle Access: Main roads get close to most of these parcels but as mentioned earlier, some require access through private land.

Survey Needs: Some corners have been added to these parcels because we have cut in them, but most still are without corners.

Recreational Facilities and Opportunities: Text

Fire Protection: As stated earlier, access is through private.

Additional Compartment Information: Text

- **The following 5 reports from the Operations Inventory System (OIPC) are attached:**
 - ◆ **Cover Type by Age Class**
 - ◆ **Cover Type by Management Objective**
 - ◆ **Compartment Volume Summary**
 - ◆ **Proposed Treatments – No Limiting Factors**
 - ◆ **Proposed Treatments – With Limiting Factors**

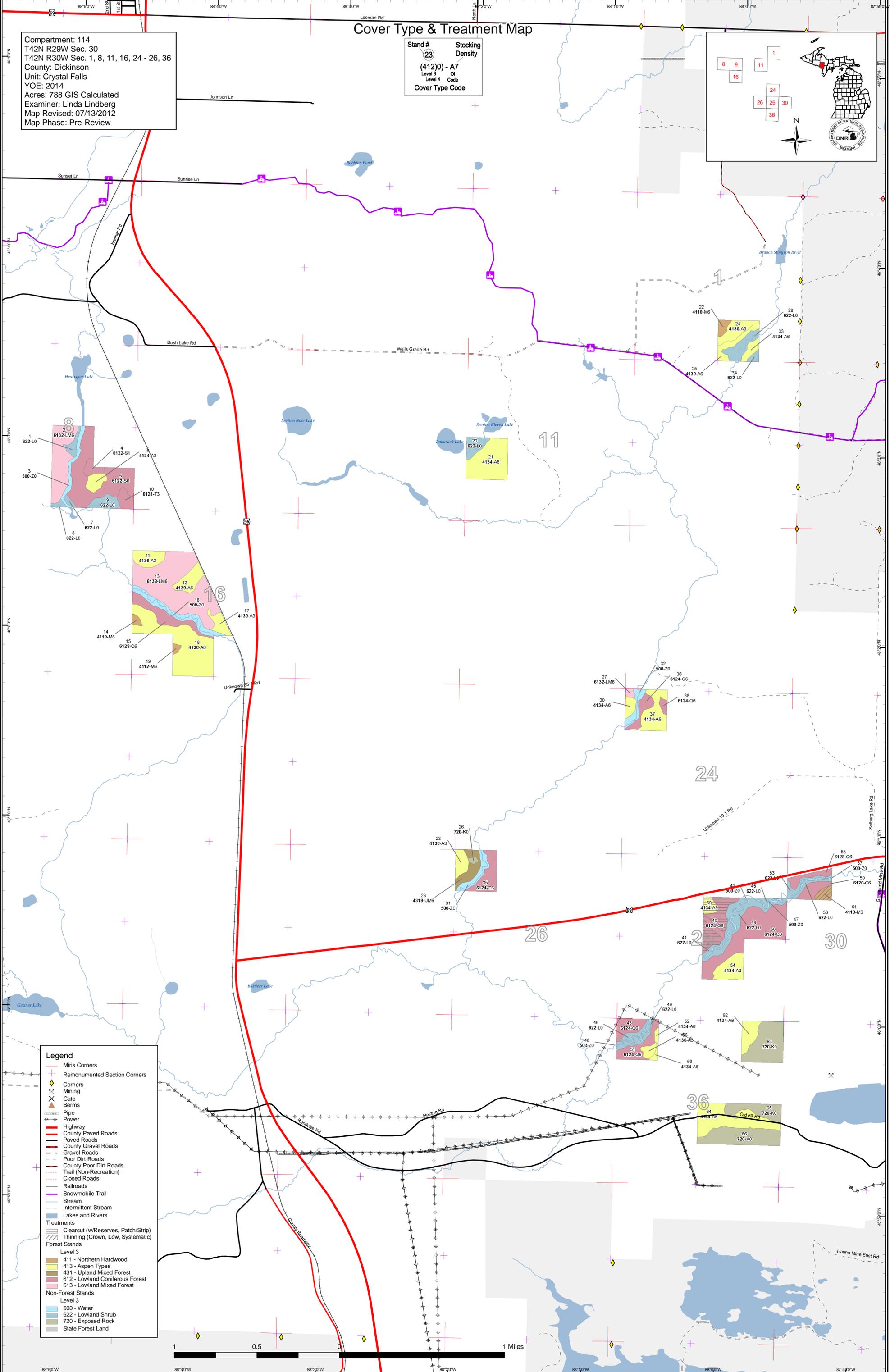
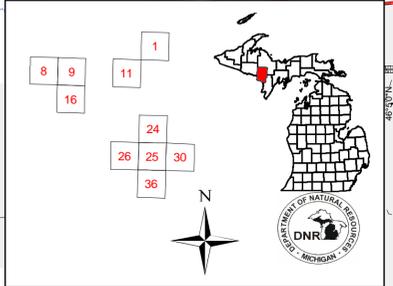
- **The following information is displayed, where pertinent, on the attached compartment maps:**
 - ◆ **Base feature information, stand numbers, cover types**
 - ◆ **Proposed treatments**
 - ◆ **Proposed road access system**
 - ◆ **Suggested potential old growth**

Cover Type & Treatment Map

Compartment: 114
 T42N R29W Sec. 30
 T42N R30W Sec. 1, 8, 11, 16, 24 - 26, 36
 County: Dickinson
 Unit: Crystal Falls
 YO: 2014
 Acres: 788 GIS Calculated
 Examiner: Linda Lindberg
 Map Revised: 07/13/2012
 Map Phase: Pre-Review

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

Stocking
 Density
 OI
 Code



Legend

- Miris Corners
- Remonumented Section Corners
- Corners
- Mining
- Gate
- Berms
- Pipe
- Power
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Closed Roads
- Railroads
- Snowmobile Trail
- Stream
- Intermittent Stream
- Lakes and Rivers
- Treatments
 - Clearcut (w/Reserves, Patch/Strip)
 - Thinning (Crown, Low, Systematic)
- Forest Stands
 - Level 3
 - 411 - Northern Hardwood
 - 413 - Aspen Types
 - 431 - Upland Mixed Forest
 - 612 - Lowland Coniferous Forest
 - 613 - Lowland Mixed Forest
 - Non-Forest Stands
 - Level 3
 - 500 - Water
 - 622 - Lowland Shrub
 - 720 - Exposed Rock
 - State Forest Land

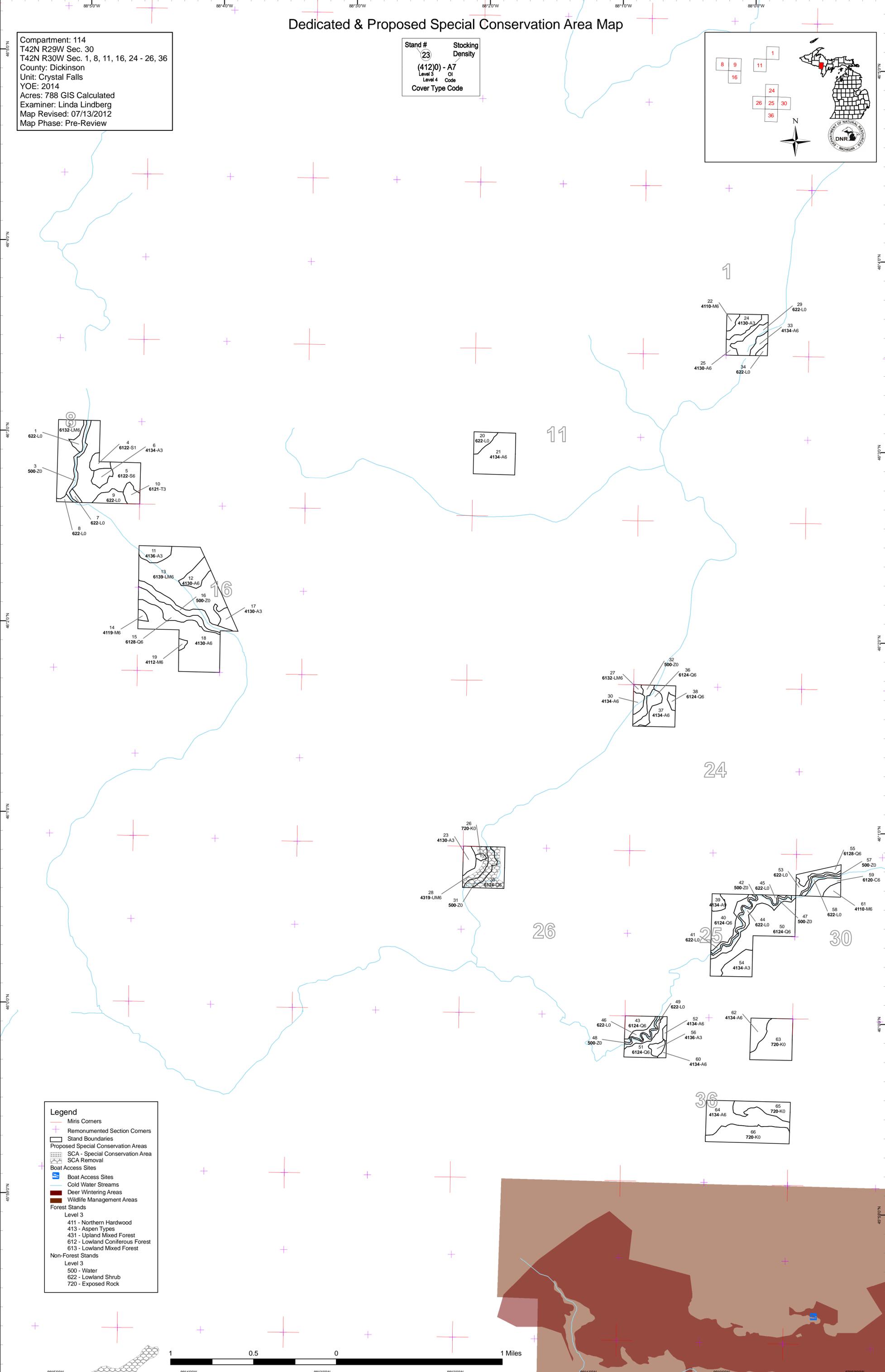
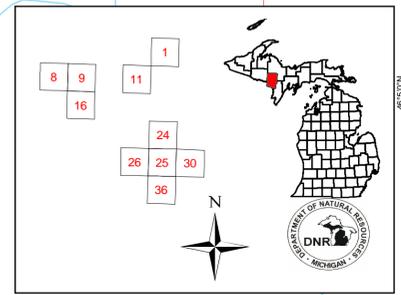


88°50'W 88°40'W 88°30'W 88°20'W 88°10'W 87°50'W

Dedicated & Proposed Special Conservation Area Map

Compartment: 114
 T42N R29W Sec. 30
 T42N R30W Sec. 1, 8, 11, 16, 24 - 26, 36
 County: Dickinson
 Unit: Crystal Falls
 YO: 2014
 Acres: 788 GIS Calculated
 Examiner: Linda Lindberg
 Map Revised: 07/13/2012
 Map Phase: Pre-Review

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



- Legend**
- Miris Corners
 - Remonumented Section Corners
 - Stand Boundaries
 - Proposed Special Conservation Areas
 - SCA - Special Conservation Area
 - SCA Removal
 - Boat Access Sites
 - Boat Access Sites
 - Cold Water Streams
 - Deer Wintering Areas
 - Wildlife Management Areas
 - Forest Stands
 - Level 3
 - 411 - Northern Hardwood
 - 413 - Aspen Types
 - 431 - Upland Mixed Forest
 - 612 - Lowland Coniferous Forest
 - 613 - Lowland Mixed Forest
 - Non-Forest Stands
 - Level 3
 - 500 - Water
 - 622 - Lowland Shrub
 - 720 - Exposed Rock



88°50'W 88°40'W 88°30'W 88°20'W 88°10'W 87°50'W

Table 1 – Total Acres by Cover Type and Age Class

Linda Lindberg : Examiner



	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	34	0	11	33	102	47	0	0	18	5	0	0	0	0	249
Cedar	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8
Exposed Rock	78	0	0	0	0	0	0	0	0	0	0	0	0	0	78
Lowland Conifers	0	0	0	0	0	0	0	0	31	112	0	0	0	0	143
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	109	0	0	0	0	109
Lowland Shrub	74	0	0	0	0	0	0	0	0	0	0	0	0	0	74
Lowland Spruce/Fir	5	0	0	0	0	0	0	0	49	0	0	0	0	0	54
Northern Hardwood	0	0	0	0	0	0	0	0	11	0	0	0	0	0	11
Tamarack	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10
Water	46	0	0	0	0	0	0	0	0	0	0	0	0	0	46
Total	243	0	11	33	102	47	0	0	109	243	0	0	0	0	788



Table 2 – Proposed Treatment Summaries

Crystal Falls Mgt. Unit
Year of Entry 2014

Compartment 114
Total Compartment Acres: 787.9

Acres by Treatment Type

Commercial Harvest - 30	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	5	0	0	0	0	0	5
Lowland Conifers	21	0	0	0	0	0	21
Northern Hardwood	0	0	0	0	4	0	4
Total	25	0	0	0	4	0	30



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
39	12114039-Cut	4.6	4134 - Aspen, Spruce/Fir	High Density Log	91	81-110	Harvest	Clearcut with Reserves	4134 - Aspen, Spruce/Fir	Cmpt. Review Proposal
<u>Prescription</u> Cut all trees 2 inches and greater except red and white pine, oak elm, cherry, hemlock and cedar. Cut all spruce and balsam that is 6 inches and <u>Specs:</u> greater at 4 inches above the stump.										
<u>Other</u> <u>Comments:</u>										
<u>Next</u> Regen check according to certification <u>Steps:</u>										
<u>Proposed</u> <u>Start Date:</u> 10/01/2013										
61	12114061-Cut	4.4	4110 - Sugar Maple Association	High Density Pole	85	111-140	Harvest	Crown Thinning	4110 - Sugar Maple Association	Cmpt. Review Proposal
<u>Prescription</u> Mark trees leaving BA of 80. Leave the best tree in place. Thin around crop trees according to Compleat Marker. Do not mark red and white <u>Specs:</u> pine, hemlock, cedar or elm. Leave legacy trees.										
<u>Other</u> <u>Comments:</u>										
<u>Next</u> Regen survey according to certification <u>Steps:</u>										
<u>Proposed</u> <u>Start Date:</u> 10/01/2013										
Total Treatment Acreage Proposed:		9.0								



S t a n d	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
40	12114040-Cut	20.6	6124 - Lowland Spruce-Fir	High Density Pole	90	51-80	Harvest	Patch or Strip Clearcut	6124 - Lowland Spruce-Fir	Cmpt. Review Proposal
<u>Prescription</u> Cut all trees that are 2 inches or larger except patches marked with red paint. <u>Specs:</u> <u>Other</u> Cut during frozen conditions <u>Comment:</u> <u>Next</u> Regen check per certification <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2013 <u>Limiting Factor and No</u> 2F: Too steep <u>Treatment Reason</u> Access may be difficult through Plum Crrek due to steep terrain and no road to state land										
40	12114040-Cut	20.6	6124 - Lowland Spruce-Fir	High Density Pole	90	51-80	Harvest	Patch or Strip Clearcut	6124 - Lowland Spruce-Fir	Cmpt. Review Proposal
<u>Prescription</u> Cut all trees that are 2 inches or larger except patches marked with red paint. <u>Specs:</u> <u>Other</u> Cut during frozen conditions <u>Comment:</u> <u>Next</u> Regen check per certification <u>Steps:</u> <u>Proposed</u> <u>Start Date:</u> 10/01/2013 <u>Limiting Factor and No</u> 2F: Too steep <u>Treatment Reason</u> Access may be difficult through Plum Crrek due to steep terrain and no road to state land										
Total Treatment Acreage Proposed:		41.1								

**Out of YOE -- Treatments
Prescribed with No Limiting Factor**

Year of Entry: 2014



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
12091001-Cut	31.4	4110 - Sugar Maple Association	High Density Log	87		Harvest	Single Tree Selection	4110 - Sugar Maple Association	Cmpt. Review Proposal - Incomplete

Prescription: Mark trees to 80 BA leaving best tree in place according to the Compleat Marker but focusing on White Ash to avoid Emerald Ash borer devastation. Create canopy gaps for regeneration

Other Comments:

Next Steps: Regen check according to certification

Proposed Start Date: 10/01/2013

Total Treatment Acreage Proposed: 31.4



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	6132 - Mixed Lowland Forest with Cedar	High Density Pole	31.2	90		This is also the river buffer to the W. branch of the Sturgeon river
4	6122 - Black Spruce	Low Density Sapling	5.0	7		This was cut to show that these stands can regenerate and I really did not see successful regeneration here compared to other sites I have seen with a different stand treatment or that were blown down.
5	6122 - Black Spruce	High Density Pole	48.8	87		
6	4134 - Aspen, Spruce/Fir	High Density Sapling	6.5	7		
10	6121 - Tamarack	High Density Sapling	5.9	7		
11	4136 - Aspen, Mixed Conifer	High Density Sapling	10.5	22		
12	4130 - Aspen	High Density Pole	10.8	40	51-80	
13	6139 - Mixed Lowland Forest	High Density Pole	76.2	92	51-80	This stand does run into aspen, ash and lowland brush and isn't overly full of volume.
14	4119 - Mixed Northern Hardwoods	High Density Pole	2.0	85	81-110	
15	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	15.5	92	51-80	River buffer
17	4130 - Aspen	High Density Sapling	6.8	2		This stand was cut by Louisiana Pacific because they thought they owned it.
18	4130 - Aspen	High Density Pole	58.2	40	51-80	
19	4112 - Maple, Beech, Cherry Association	High Density Pole	1.6	85	81-110	
21	4134 - Aspen, Spruce/Fir	High Density Pole	33.1	40	51-80	
22	4110 - Sugar Maple Association	High Density Pole	3.5	85	81-110	
23	4130 - Aspen	High Density Sapling	6.9	7		
24	4130 - Aspen	High Density Sapling	10.3	7		



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
25	4130 - Aspen	High Density Pole	8.4	82	51-80	Buffer along river
27	6132 - Mixed Lowland Forest with Cedar	High Density Pole	1.7	91		
28	4319 - Mixed Upland Forest	High Density Pole	9.8	90	51-80	river buffer
30	4134 - Aspen, Spruce/Fir	High Density Pole	4.4	87		
33	4134 - Aspen, Spruce/Fir	High Density Pole	4.8	81	51-80	too small and not good access
35	6124 - Lowland Spruce-Fir	High Density Pole	14.6	82	51-80	
36	6124 - Lowland Spruce-Fir	High Density Pole	7.6	91	51-80	
37	4134 - Aspen, Spruce/Fir	High Density Pole	18.3	39		
38	6124 - Lowland Spruce-Fir	High Density Pole	2.3	91		
39	4134 - Aspen, Spruce/Fir	High Density Log	4.6	91	81-110	This stand is silviculturally ready to cut but the access is not good. I contacted the adjacent landowner to the west 10 years ago and he did not want to move his yard around to grant access and the access from the highway just doesn't seem to be viable. They ended up cutting to the east but now it is regenerated and probably would not be feasible for the acreage.
40	6124 - Lowland Spruce-Fir	High Density Pole	23.7	90	51-80	This is the buffer for the west branch of the Sturgeon River
43	6124 - Lowland Spruce-Fir	High Density Pole	10.0	87	51-80	
50	6124 - Lowland Spruce-Fir	High Density Pole	49.8	90	51-80	
51	6124 - Lowland Spruce-Fir	High Density Pole	12.8	90	51-80	
52	4134 - Aspen, Spruce/Fir	High Density Pole	1.2	50		
54	4134 - Aspen, Spruce/Fir	High Density Sapling	14.4	35		
55	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	6.4	87	51-80	

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Crystal Falls Mgt. Unit

5 – Forested Stands

Compartment: 114
Year of Entry: 2014

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
56	4136 - Aspen, Mixed Conifer	High Density Sapling	3.8	5		
59	6120 - Lowland Cedar	High Density Pole	7.9	90	81-110	
60	4134 - Aspen, Spruce/Fir	High Density Pole	1.4	50		
61	4110 - Sugar Maple Association	High Density Pole	4.4	85	111-140	
62	4134 - Aspen, Spruce/Fir	High Density Pole	10.1	50		This stand is undivided interest and for sale in Phase III
64	4134 - Aspen, Spruce/Fir	High Density Pole	34.7	50		This stand is undivided interest and is in the Phase III land sale



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	6220 - Alder/willow	4.3	No	Unspecified	
3	50 - Water	7.0	No	Unspecified	West Branch of the Sturgeon River
7	6220 - Alder/willow	1.7	No	Unspecified	
8	6220 - Alder/willow	1.6	No	Unspecified	
9	622 - Lowland Shrub	7.8	N/A	Unspecified	
16	50 - Water	14.9	No	Unspecified	
20	6220 - Alder/willow	7.5	No	Unspecified	
26	720 - Exposed Rock	1.2	No	Unspecified	
29	6220 - Alder/willow	10.7	No	Unspecified	
31	50 - Water	7.8	No	Unspecified	North Branch of the Sturgeon with a nice waterfall
32	50 - Water	6.3	No	Unspecified	North Branch of the Sturgeon
34	6220 - Alder/willow	2.1	No	Unspecified	
41	6220 - Alder/willow	7.7	No	Unspecified	
42	50 - Water	4.2	No	Unspecified	West Branch of the Sturgeon river
44	6220 - Alder/willow	12.9	No	Unspecified	
45	6220 - Alder/willow	1.6	No	Unspecified	
46	6220 - Alder/willow	4.1	No	Unspecified	
47	50 - Water	1.6	No	Unspecified	West branch of the Sturgeon river



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
48	50 - Water	2.5	No	Unspecified	West branch of the Sturgeon river
49	6220 - Alder/willow	4.4	No	Unspecified	
53	6220 - Alder/willow	4.3	No	Unspecified	along the West branch of the Sturgeon river
57	50 - Water	1.9	No	Unspecified	West Branch of the Sturgeon River
58	6220 - Alder/willow	2.8	No	Unspecified	river buffer
63	720 - Exposed Rock	30.7	No	Unspecified	Part of Groveland Mine area
65	720 - Exposed Rock	16.7	No	Unspecified	Part of Groveland mine area
66	720 - Exposed Rock	29.9	No	Unspecified	Part of the Groveland Mine area



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.

Stand	SCA Type	SCA Name	Acres	Comments
multiple - see	SCA Removal	12114_SCARemoval	24.4	Due to acreage being for sale, POG designation was removed



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	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.